Ministerstvo zahraničních věcí
České republiky

Ministry of Foreign Affairs
of the Czech Republic

ANNEXES
OF THE FINAL REPORT
OF EVALUATION

Using biomass for development of rural areas in Bosnia and Herzegovina

BA-2016-006-FO-23030

November 2021

eval

CZECH REPUBLIC
DEVELOPMENT COOPERATION

Content

Annex A: Executive summary in Czech

Účel evaluace

Hlavním cílem je poskytnout konkrétní a proveditelná doporučení založená na objektivních a konzistentních zjištěních a závěrech, která budou použita pro ověření udržitelnosti a účinnosti vynaložených prostředků, včetně relevance prováděcího postupu (veřejná zakázka) a tematického zaměření (obnovitelné zdroje energie) na intervenci v Bosně a Hercegovině (BiH) (2016 - 2021). Závěry a doporučení z nezávislého hodnocení budou dále sloužit jako podklad pro rozhodování o optimálním obnovitelném zdroji energie v podobných případech v energetickém sektoru v Bosně a Hercegovině nebo jinde. Cílem hodnocení je rovněž ověřit udržitelnost, potenciál a relevanci využívání biomasy v Bosně a Hercegovině v dlouhodobém horizontu. Hodnocení zkoumá, do jaké míry tento projekt skutečně přispěl ke zvýšení výroby energie z obnovitelných přírodních zdrojů a k vybudování související infrastruktury, která by tuto energii zpřístupnila veřejnosti.

Hodnocení se zaměřuje především na 4 demonstrační projekty změny palivové základny financované Českou rozvojovou agenturou (ČRA) v rámci výstupu 1.3 projektu *Využití biomasy pro rozvoj venkovských oblastí v Bosně a Hercegovině* realizovaného UNDP. Při hodnocení byla použita **hodnotící kritéria OECD-DAC** s důrazem na dopad, udržitelnost a potenciál replikovatelnosti a hodnocena **viditelnost** a **aplikace průřezových témat** české rozvojové spolupráce.

Stručný popis hodnocené intervence a kontextu evaluace

Projekt *Využití biomasy pro rozvoj venkovských oblastí v Bosně a Hercegovině* byl zaměřen na zlepšení životní úrovně místních obyvatel prostřednictvím dlouhodobého snižování emisí CO2 v celé Bosně a Hercegovině zvýšením podílu obnovitelné energie v energetickém mixu Bosny a Hercegoviny. Tento výsledek přímo souvisí s cílem udržitelného rozvoje (SDG) 7 (Dostupná a čistá energie), konkrétně s cílem SDG 7.2: Zvýšení podílu obnovitelné energie v celosvětovém energetickém mixu do roku 2030. Projekt zahrnoval tři výstupy/složky. Dva softové komponenty zahrnovaly vypracovanou politiku udržitelného využívání biomasy v Bosně a Hercegovině promítnutou do legislativy a využití v praxi (výstup 1.1) a zvýšení kvality a dostupnosti dřevní biomasy pro účely vytápění přijetím a využitím zdokonalených metod zpracování biomasy (výstup 1.2). V rámci výstupu 1.3 *(Počet realizovaných infrastrukturních projektů v oblasti OZE se zvýšil díky novým podnikatelským modelům a finančním schématům pro investice do biomasy*) ČRA vypsala výběrové řízení a financovala modernizaci topných systémů ve čtyřech modernizovaných veřejných budovách: mateřské školky v Ljubuški a Novi Travnik, nemocnice sv. Lukáše v Doboji a v Centru pro staré a nemohoucí osoby v Mostaru. Tyto čtyři projekty realizovaly firmy vybrané ČRA. Dohled vykonávala ČRA se svými oborovými experty. Přechod z lehkých a těžkých topných olejů na dřevěné pelety by měl vést k finančním úsporám a snížení emisí CO2. Dálkové monitorování provozu a regulace systému umožní vytápění budov na požadovanou teplotu.

Identifikace evaluačního týmu

Evaluaci realizoval evaluační tým nezávislé poradenské společnosti **4G eval s.r.o.** se sídlem v Praze, která se specializuje na poskytování komplexních služeb v oblasti monitoringu a evaluace, sociálního rozvoje, environmentálního managementu a vodohospodářství. Evaluace realizované společností 4G eval s.r.o. jsou v souladu s Etickým kodexem IDEAS, Etickými pokyny pro evaluace UNEG, s Etickým kodexem evaluátorů přijatým Českou evaluační společností (ČES) a řídí se Formálními standardy pro realizaci evaluací ČES. Společnost 4G eval působí po celém světě pro celou řadu klientů, včetně Ministerstva zahraničních věcí ČR, EBRD, UNDP, UNICEF, Světové banky, českých a mezinárodních nevládních organizací a soukromého sektoru.

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Nejdůležitější zjištění a závěry, ve vazbě na zadání evaluace

Evaluační kritéria		Hodnocení
Relevance		Spíše vysoká
Soudržnost/Koherence		Spíše vysoká
Efektivita		Spíše vysoká
Efektivnost		Spíše nízká
Pravděpodobnost dopadů		Vysoká
Udržitelnost a replikovatelnost		Spíše nízká
Průřezová témata	Řádná správa věcí veřejných	Spíše nízká
	Životní prostředí a klima	Vysoká
	Genderová rovnost	Spíše nízká
Vnější prezentace ZRS ČR		Vysoká

Relevance

Čtyři demonstrační projekty výměny otopných systémů (součást výstupu 1.3 projektu) byly propojeny se (softovými) složkami realizovanými UNDP v rámci Dohody o sdílení nákladů třetí stranou mezi ČRA a UNDP podepsané v roce 2016. Jejich demonstrační potenciál není zohledněn v použitých výběrových kritériích. Byly vypracovány obecné podnikatelské plány, ale mechanismus financování (ve formě revolvingového fondu) nebyl ze strany EPEEF RS a EPF FBiH akceptován. Čtyři infrastrukturní projekty by sice mohly stále plnit svou roli demonstrace potenciálně ziskových investic, ale nebyly vypracovány konkrétní obchodní modely a na jejich propagaci nebyly vyčleněny rozpočtové prostředky.

V zadávací dokumentaci chyběla jejich vazba na zbývající složky a potenciální přínos k projektu, stejně jako účel. Hlavním kontrolním dokumentem byly technické specifikace příslušných zakázek spolu s dalšími relevantními přílohami příslušných zakázek. Přestože nebyly v kontextu projektu relevantní jako demonstrace, přinesly 3 projekty funkční výměny paliva ekologické, finanční a provozní přínosy, které ocenili jak zaměstnanci veřejných budov, tak "majitelé" těchto rozpočtových organizací. Česká technologie instalovaná v Mostaru přestala fungovat krátce po začátku předchozí topné sezóny. Přesto by Mostar stejně jako Doboj, Ljubuški, Novi Travnik výměnu paliva doporučil. Doboj, Ljubuški a Novi Travnik by doporučily také využití instalovaných technologií. I když projekty výměny paliva nakonec nebyly koncipovány jako demonstrační, tři fungující technologie mají pro přímé příjemce velký význam.

Soudržnost/Koherence

Projekt je v souladu s prioritami ZRS ČR a příslušnými plány a strategiemi Bosny a Hercegoviny. Vnitřní soudržnost je slabá. Neexistuje synergie mezi částí výstupu 1.3 (demonstrační projekty ČRA na změnu paliva) a softovými složkami projektu. Nedochází sice k překryvům, ale ani ke komplementaritě či adicionalitě s ostatními projekty ČRA. (ČRA doporučila, že pro budoucí projekty, na nichž se podílí více realizačních partnerů, se předpokládají konkrétní opatření ke zlepšení vnitřní provázanosti - pracovní skupinu a každoroční setkání se zúčastněnými stranami).

Vnější koherence je rovněž slabá. Neexistuje žádná synergie ani komplementarita s projekty financovanými jinými dárci nebo institucemi, s výjimkou projektu UNDP, v jehož rámci byly čtyři budovy vybrané pro výměnu otopných systémů modernizovány a pro jejichž výběr byl použit EMIS.

Realizaci ovlivnila nedostatečná reakce realizátora výměny otopného systému v Centru pro staré a nemohoucí osoby v Mostaru na odstranění závad na systému; topný systém v Mostaru je mimo provoz od první poloviny minulé topné sezóny. Přesto panuje celková spokojenost s koordinací ze strany ČRA. Počáteční neshody mezi ČRA a realizátorem projektu nemocnice v Doboji byly nakonec vyřešeny vysokými pokutami a projekt byl úspěšně dokončen. Spolupráce s UNDP v Bosně a Hercegovině byla oceněna jak ze strany ČRA, tak ze strany českého velvyslanectví a UNDP a bude pravděpodobně pokračovat.

České odborné znalosti v oblasti OZE jsou oceňovány na centrální i místní úrovni. Částečně je to dáno současným projektem a zapojením českých expertů do softových složek, ale také úspěšně realizovanými

předchozími projekty a kontakty mezi institucemi a experty obou zemí. Poptávka po české expertíze existuje, byly identifikovány potenciální příležitosti.

Efektivita (hospodárnost)

Výpočty ukazují, že česká technologie instalovaná v Mostaru je nejméně efektivní z hlediska nákladů. Stejně důležitá kritéria kvality a bezporuchovosti provozu platí pro technologie instalované ve zbývajících 3 projektech výměny paliva. Systém v Mostaru není funkční. V říjnu 2021, poté, co se o problému dozvěděla ČRA, navštívila projekt společně se smluvním expertem.

Kapacita tří funkčních systémů je plně využita. Investice do technologie na pelety je sice vyšší než do tradičních topných systémů, ale provozní náklady jsou mnohem nižší (úspora paliva a času obsluhy) a mohly by se dále snížit díky větším skladům, které umožňují nakupovat pelety za nižší ceny před topnou sezónou. Faktory, které různé zúčastněné strany uvedly jako podpůrné nebo brzdící realizaci projektu, naznačují význam spolupráce s UNDP a dobrých pracovních vztahů s místními partnery, o čemž svědčí jejich příspěvky. Místní partneři také uvádějí výhodu místních realizátorů a dodavatelů, kteří jsou přístupní v případě problémů s technologií. Kdy a jak bude situace v Mostaru vyřešena a systém opraven, není jasné. ČRA nyní situaci vyhodnocuje.

Předběžné výpočty ukazují, že přibližně 80 %, tj. 49 884 104 Kč, z celkových nákladů projektu bylo financováno z prostředků ZRS ČR, což je přibližně dvojnásobek původně odhadované částky.

Efektivnost (účelnost)

Projekt nedosáhl plánovaného výsledku, zejména kvůli nerealistickým očekáváním na začátku projektu. V průběhu realizace nebyly plány a cílové hodnoty upraveny. Specifikace dlouhodobých výsledků byla doložena s několika nedostatky, např. důsledky zpoždění v realizaci a nepřijetí finančních schémat. Technické specifikace byly splněny u všech 4 projektů výměny paliva. U realizace v Doboji došlo k velkým zpožděním. ČRA je přičítá nevhodnému výběru subdodavatele a velikosti realizačního týmu. Hodnotitelé vidí hlavní příčinu v nerealistickém harmonogramu tohoto rozsáhlého a složitého projektu. Zatímco kontejnerové systémy v Ljubuškách, Novém Travniku a Mostaru slouží jedné budově, systém v Doboji zahrnuje přibližně 12 budov a instalaci 7 předávacích stanic. Informace o problémech a navrhovaných řešeních z Doboje však nebyly realizátorem systematicky uváděny. K určitým zpožděním došlo také v Mostaru. Informace o konečných nákladech projektů jsou k dispozici jen částečně, protože projekt stále není uzavřen.

Pravděpodobnost dopadů

Přínos projektu k projektovému cíli byl minimální, částečně v důsledku vnějších faktorů, které realizátoři nemohli ovlivnit. Hodnocení se zaměřilo na dopady 4 projektů výměny paliva.

Pozitivní dopady na životní prostředí (včetně bezpečnosti a ochrany zdraví při práci) v nemocnici a dvou mateřských školách jsou evidentní. Lepší kvalita ovzduší v budovách se změněným palivem a v jejich okolí, lepší tepelná pohoda, snadnější obsluha a vyšší bezpečnost (žádné úniky LTO) jsou přínosem pro uživatele budov (pacienti v nemocnici, děti v mateřských školách, technické služby a další personál, žáci a zaměstnanci základní hudební školy v Novém Travniku). Za předpokladu, že úspory za palivo budou využity na zlepšení stavu v obcích, lze očekávat i finanční dopady. Zlepšení životního prostředí má také sociální dopady. Děti jsou údajně méně nemocné a mateřské školy navštěvuje více dětí. To přináší rodičům úsporu času. Nebyly zjištěny žádné negativní dopady.

Udržitelnost a replikovatelnost

Strategie odchodu (*exit strategy*) včetně rizik pro udržitelnost/jejich zmírnění byla v projektové dokumentaci zahrnuta pouze částečně, přičemž hlavní důraz byl kladen na pokrytí nákladů na palivo a zajištění školení a udržení obsluhy. Jak bylo zjištěno během terénní návštěvy, systém v Mostaru je mimo provoz již od krátkého období po oficiálním předání v lednu 2021. Tyto informace nejsou ve zprávách o projektu k dispozici. Posouzení ekonomické nebo environmentální udržitelnosti a přínosů systémů, které měly prokázat výhody přístupu spočívajícího v kombinaci modernizace a výměny paliva a vést k replikaci, nejsou v projektové dokumentaci obsaženy.

Z hodnocení vyplývá, že (s výjimkou Mostaru, který lze hodnotit až po provozu první nebo lépe druhé topné sezóny po opravě) by nové otopné systémy mohly fungovat bez větších oprav po dobu 10 let nebo déle, pokud jsou řádně provozovány a udržovány. Replikovatelnost je možná pouze v případě, že nové systémy budou financovány z grantů. Replikovatelnost na komerční bázi nebylo možné posoudit z důvodu absence obchodního modelu včetně finanční analýzy.

Průřezové principy

Hodnocení jednotlivých průřezových témat podle nástrojů certifikované metodiky hodnocení průřezových principů ZRS ČR: Princip životního prostředí - projekt přispěl k vysokému zlepšení využívání OZE a kvality ovzduší v okolí čtyř objektů. Princip dobré správy - projekt do určité míry přispěl k zapojení a účasti zainteresovaných stran a k odpovědnosti a transparentnosti partnerů projektu a dalších aktérů. Zásada rovnosti žen a mužů -projekt do určité míry přispěl k rovným příležitostem žen a mužů v rozhodovacím procesu v přijímajících organizacích (čtyři objekty) a při využívání výsledků projektu.

Viditelnost (vnější prezentace)

Zviditelnění zajistili realizátoři včetně UNDP a realizátorů 4 demonstračních projektů výměny paliva podle Metodického pokynu České rozvojové agentury k vnější prezentaci Zahraniční rozvojové spolupráce České republiky. Prostředky komunikace zahrnují tištěné materiály, billboardy, informace sdílené na webu, propagační film.

Důležitá doporučení

Doporučení	Stupeň závažnosti	Adresát	Odůvodnění/doporučení pro implementaci
Projektová a programová doporučení			
Obnova topného systému v Mostaru	1	AQUA GAS	Zajišti provoz systému (systém je v záruce)
Externí technický monitoring by měl být proveden během zkušebního provozu a před poslední platbou realizátorovi.	1	ČRA	Zajišťuje provoz systému (ČRA informovala, že je plánováno u nových projektů v energetickém sektoru)
Uzavřít s realizátorem dohodu o pozáručním servisu v případě, že jsou příjemci s plněním spokojeni.	2	Nemocnice Doboj, Minicipality - NT, Ljubuski	Zvyšuje dlouhodobou spolehlivost provozu teplárny
Využít demonstrační potenciál tří fungujících projektů výměny paliva.	2	ZÚ	Přispěje k replikaci výměny otopných systémů
Zařadit záložní generátor pro napájení elektronické regulační jednotky pro budoucí projekty v lokalitách s nespolehlivou dodávkou elektrické energie, aby nedocházelo k přepínání na LTO.	2	ČRA	Zvyšuje kvalitu provozu soustavy
Přehodnotit částku, kterou musí IRCON zaplatit na pokutách.	2	ČRA	Zvyšuje motivaci budoucích uchazečů
Pokračující podpora sektoru OZE v Bosně a Hercegovině.	1	MZV, ČRA	Přispívá ke zlepšení kvality ovzduší v mnoha oblastech Bosny a Hercegoviny a k dekarbonizaci vytápění
Procesní a systémová doporučení			
Realizátoři evaluace mají k dispozici kompletní příslušnou dokumentaci.	1	ČRA	Zvyšuje kvalitu evaluace
Usilovat o vnitřní soudržnost intervencí	1	ČRA	Zvyšuje součinnost v rámci projektu a s ostatními donory, zvyšuje dopady projektů zaměřených na výměnu otopných systémů.

Usilovat o vnější soudržnost	1	MZV, ČRA	Pokračovat v komplementárním projektu UNDP
Zavedení zádržného, vyjasnění odpovědnosti, povinností a sankcí v průběhu retenčního období realizovaných projektů	2	ČRA	Zvyšuje kvalitu fungování systému, přispívá k dopadům projektů
Jasně definované koordinační povinnosti a způsoby komunikace zejména u projektů s více donory a více realizátory.	1	ČRA	Koordinovaná realizace, monitorování a plánování zvyšují efektivitu

Annex B: Acronyms and abbreviations

BA	Biomass Association
BAM	Bosnia-Herzegovina Convertible Mark
BHAS	Agency of statistics of BiH
BiH	Bosnia and Herzegovina
BMZ	German Ministry for Economic Cooperation and Development
BS	Biomass suppliers
CEI	Civil Engineering Institute “IG” LLC Banja Luka
CES	Czech Evaluation Society
CO2	Carbon Dioxide
CoC	Chain of Custody
CHP	Cogeneration (combined) heat and power
CR	Czech Republic
CS	Case study
CZDA	Czech Development Agency
CZ DC	Czech Development Cooperation
Donors	Donors, institutions, organizations funding similar projects
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
Embassy	Embassy of the Czech Republic in Bosnia and Herzegovina
EMAS	EU Eco-Management and Audit Scheme
EMIS	Energy Management Information System (software application for the monitoring and analysis of energy consumption in public sector buildings and a tool for systematic energy management. It consists of web applications and databases that can be accessed via the Internet.) Developed by UNDP Croatia and widely used in Croatia, Serbia and Bosnia and Herzegovina.
ENplus	Certification authority for wood pellets certification
EO	Expert opinion
O&M	Operation and maintenance
EPEEF RS	Environmental Protection and Energy Efficiency Fund of Republika Srpska
EPF FBiH	Environmental Protection Fund of the Federation of BaH
ERG	Expert Reference Group
FAO	Food and Agriculture Organization of the United Nations
FARMA	Foresting agricultural markets activity
FBiH	Federation of Bosnia and Herzegovina
FSC	Forest Stewardship Council
GCF	Green Climate Fund
GCP	Green Cities Program
GD	Group discussion
GED	Green Economic Development
GEF	Global Environment Facility

GEFF	Green Economy Financing Facility
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Corporation for International Cooperation)
HZ HB	Elektroprivreda Hrvatske zajednice Herceg Bosne
HFO	Heavy fuel oil
IDEAS	International Development Evaluation Association
Implementors	Implementors of evaluated objects
Institutions	Institutions in BiH at the state and federal level - target groups of the project
IPSAS	International Public Sector Accounting Standards
IR	Input Report
IRENA	International Renewable Energy Agency
KII	Key informant interview
KM	Konvertibilnih Maraka (the currency of BiH also abbreviated as BAM - Bosnia-Herzegovina Convertible Mark)
KSM	Key stakeholder meeting
kW	Kilowatt
LC	Local communities
LCOE	Levelized cost of energy
LFA	Logical framework analysis
LFM	Logical framework matrix
LFO	Light fuel oil
MFA	Ministry of Foreign Affairs of the Czech Republic
MOFTER	Ministry of Foreign Trade and Economic Relations of BiH
MIT	Ministry of Industry and Trade
MOA RS	Ministry of Agriculture, Forestry and Water Management of the RS
(MOAF&WRMRS)	
MU	Municipality
NGO	Non- Governmental Organization
NREAP	National Renewable Energy Action Plan
OECD-DAC	Development Assistance Committee of the Organisation for Economic Co-operation and Development
OED	Economic Diplomacy Department of the MFA (Odbor ekonomické diplomacie)
OJVE	South and South East Europe Department of the MFA (Odbor států jižní a jihovýchodní Evropy)
ORS	Development Cooperation and Humanitarian Assistance Department of the MFA (Odbor rozvojové spolupráce a humanitární pomoci)
PCBiH	ProCredit Bank dd BiH
PFIs	Private Financial Institutions
PR	Public relation
ProRE	Promotion of renewable energy in Bosnia and Herzegovina
PS	Private sector
REEP	Regional Energy Efficiency Programme

RES	Renewable energy sources
RG	Reference group
ProRE	Promotion of Renewable Energy Sources in B&H
RS	Republika Srpska
SDG	Sustainable development goal
SEECAP	Sustainable Energy Management and Adaptation to Climate Change
SERDA	Sarajevo Economic Region Development Agency
SMART	specific, measurable, available, relevant to the project level and timebound
SOP	Standard Operating Procedures
SW	Software
TOR	Terms of Reference
TRV	Thermostatic valve
TW	Transect walk
UNEG	United Nations Evaluation Group
UB	Users of public buildings
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
USAID	U.S. Agency for International Development
V&O	Visit and observation
WBIF	Western Balkans Investment Framework
WWTP	Waste water treatment plant

Annex C: Evaluation matrix

Using Biomass for Development of Rural Areas in Bosnia and Herzegovina								
Q	**SQ**	**Question/sub-question**	**Indicator**	**Baseline**	**Type**	**Design**	**Data source(s)**	**Data collection instrument**
1. Relevance								
	1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?							
		1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?	Project reports indicate consistency with Agreement	YES	Descriptive	Non-experimental, one-shot	Embassy, CZDA, ORS, MIT, UNDP	KII, GD
		1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution	Project budget and UNDP contribution are consistent	YES	Descriptive	Non-experimental, one-shot	Embassy, CZDA, ORS	KII, GD
		1.1-3 How were the 4 objects prioritized?	Selection consistent with project's and CZDA approaches and strategies	YES	Descriptive	Non-experimental, one-shot	Secondary, UNDP, CZDA	Review, KII
	1.2. What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating systems projects with use of biomass) in relation to the needs of final beneficiaries?							
		1.2-1 To what extent is the project meeting your expectations? Scale: Fully, to a large extent, to some extent, not really	90% of respondents answer fully or to a large extent	NO	Descriptive	Non-experimental, one-shot	UB, MU	KII, GD
		1.2-2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologies?	Replies indicate selected technical solutions appropriate	NO	Descriptive	Non-experimental, one-shot	UB, MU, INST, MIT, BFS, Expert	KII, GD
		1.2-3 Would you recommend the technology for other objects in your area? (YES, rather YES, rather NOT, NOT)	90% of respondents answer YES or rather YES	NO	Descriptive	Non-experimental, one-shot	UB, MU, INST	KII, GD
		1.2-4 What are the medium-term plans of BiH in the sector of energy production and supply, subsector heat production from RES?	The plans include increasing the share of RES	YES	Normative	Non-experimental, one-shot	Secondary, INST	Review, KII

	The plans include increasing the number of biomass heating systems	YES	Normative	Non-experimental, one-shot	Secondary, INST	Review, KII
1.3. Are the selected indicators for the project outcomes set correctly?						
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?	The indicators are set appropriately (SMART)	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA	Review, KII
1.3-2 Was the logical framework matrix used for monitoring?	Significant changes in the expected outputs were considered in the annual modifications of the logical structure	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA, UNDP	Review, KII
2. Coherence (including coordination and integrated approach)						
2.1. To what extend did the project contribute to the mutual coherence of various project actors?						
2.1-1 To what extent were the project activities in line with the priorities and goals of the Czech Development Cooperation?	Compliance with the priorities and goals of the Czech Development Cooperation, Ministry of Foreign Affairs	YES	Descriptive	Non-experimental, one-shot	Secondary, ORS, OED, OJVE	Review, KII, GD
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?	Compliance with the strategic goals of BiH and RS	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA, INST	Review, KII, GD
2.1-3 To what extent are the implemented objects linked with the soft components of the project?	High degree of coherence in project design	NO	Descriptive	Non-experimental, one-shot	Secondary, CZDA, UNDP	Review, KII, GD
2.1-4 What was the added value of the soft components of the project to the implemented objects?	3 specific examples	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, UNDP, MU, AQUA, BFS, CEI, IRCON	Review, KII, GD
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?	Linkages to business models, Biomass Association, biomass related supporting financing mechanism	YES	Descriptive	Non-experimental, one-shot	CZDA, UNDP	Review, KII
2.2. To what extent did the project complement other projects and donor activities?						
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?	An overview of projects of the CZDC since 2016	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA	Review, KII, GD
2.2-2 Which similar projects were implemented by other donors since 2016?	An overview of projects and programs in the RES/heating sector supported by UNDP and other donors since 2016	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, UNDP, INST, GIZ	Review, KII, GD

2.2-3 To what extent did the project complement these activities or overlap with them?	Rate of complementarity and duplication	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, INST	Review, KII, GD
2.3. To what extend was the coordination between the actors of the project carried out?						
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	No serious problems	NO	Descriptive	Non-experimental, one-shot	Embassy, CZDA, UNDP, MU, UB, AQUA, BFS, CEI, IRCON, OED, ORS OJVE	Review, GD, KII
2.3-2 How satisfied are you with project coordination?	90% responds satisfied	NO	Descriptive	Non-experimental, one-shot	Embassy, CZDA, UNDP, MU, UB, AQUA, BFS, CEI, IRCON	KII, GD
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?	High rate of reinforcement of results and impacts (synergy effects)	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, UNDP, Donor, MU, ORS, OED, OJVE	Review, KII, GD
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?						
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	At least 2 specific options for further cooperation with government and/or donors	NO	Cause and effect	Non-experimental, one-shot	Embassy, UNDP, CZDA, AQUA, BFS, CEI, IRCON, MIT,OED, OJVE	KII, GD, KSM
	Documented orders, current demonstrable demand	NO	Cause and effect	QE, Before and after	Secondary, AQUA, CEI, IRCON, Embassy, OED	Review, KII, GD
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	Demonstrable demand	NO	Descriptive	Non-experimental, one-shot	AQUA, BFS, CEI, IRCON, MU, INST	KII, GD
3. Efficiency						
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?						
3.1-1 How costly are the technologies of similar projects of other donors? (specific economic demands on boilers USD / kW, heating system, TRV (thermostatic valve with thermostatic head) USD / pc, distribution lines USD / m)	The investment costs for other comparable processes were the same or higher	YES	Normative	Non-experimental, one-shot	Secondary, INST	Review, KII, GD, CS
	The operating costs of the selected technology were the same or lower	NO	Descriptive	Non-experimental, one-shot	Secondary	Review, KII, GD, CS

3.1-2 What is the energy efficiency of the chosen technology?	There were significant energy savings compared to the situation before the project	NO	Descriptive	Non-experimental, one-shot	Secondary, Expert, AQUA, BFS, CEI, IRCON	Review, GD, KII
	Efficiency is high even when compared to similar projects	NO	Descriptive	Non-experimental, one-shot	Secondary, Expert, AQUA, BFS, CEI, IRCON	Review, GD, KII
3.1-3 What is the energy output of the chosen technology?	The thermal output corresponds with the needs	NO	Descriptive	Non-experimental, one-shot	UB, AQUA, BFS, CEI, IRCON	KII
3.1-4 Have the cost of buying fuel for the 4 objects decreased?	The cost of buying fuel is lower than before the modernization	NO	Descriptive	Non-experimental, one-shot	Secondary, UB, AQUA, BFS, CEI, IRCON	Review, KIII, GD
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?						
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?	Degree to which cooperation contributed to implementation and sustainability	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, CZDA, MU, UB, UNDP	Review, KII, GD
	Description of contribution of UB to project outputs	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, CZDA, MU, UB	Review, KII, GD
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	Examples of good practice	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, CZDA, MU, UB, AQUA, BFS, CEI, IRCON, UNDP	Review, KII, GD, KSM
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	Overview of barriers and impediments	NO	Descriptive	Non-experimental, one-shot	Secondary, Embassy, CZDA, MU, UB, AQUA, BFS, CEI, IRCON, UNDP	Review, KII, GD, KSM
3.2-4 To what extent is the capacity of heating systems used?	Capacity utilized in accordance with plans	NO	Descriptive	Non-experimental, one shot	Secondary, UB	GD, KII
3.3. What was the total contribution utilized from Czech development cooperation funds?						
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?	Matching grant included in the CZDA contribution	NO	Descriptive	Non-experimental one shot	CZDA, UNDP	KII
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?	Amount corresponding to 40% of the total cost	NO	Descriptive	Non-experimental one shot	CZDA, GIZ	KII
3.4. What was the total co-financing of the project?						

3.4-1 To whom have contributions from Doboj Hospital been paid?	Contribution paid to the implementers	NO	Descriptive	Non-experimental one shot	Secondary, UB, IRCON, CZDA	Review, KII, GD
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?	Contribution paid to implementers	NO	Descriptive	Non-experimental one shot	Secondary, INST, IRCON, CZDA	Review, KII, GD
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized	60% GIZ contribution included in total co-financing	NO	Descriptive	Non-experimental one shot	Secondary, CZDA, UNDP	Review, KII
4. Effectiveness						
4.1. To what extend has the project achieved its the intended objective (outcome)?						
4.1-1 To what extent has the projet achieved its stated objective?	Increase of BiH's RES portfolio in 2020 to 40%	NO	Cause and effect	Non-experimental, One shot	Secondary, UNDP	KII, Review, GD, TW
4.2. Are the long-term outcomes of the projects specified/documented sufficiently?						
4.2-1 Have the technical specification been fulfilled according to the tender requirements?	Comparison of tender and project documentation with the handover protocol, contract and amendments to the contract	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA, BFS	KII, GD, Review
	Comparison with the situation in the field incl. photo documentation of the current state even after the completion of the implementation (final report, records from project monitoring)	YES	Descriptive	Non-experimental, one-shot	Secondary, UB, BFS	Review, TW
4.2-2 Did the project reports provide sufficient information on the project results?	Periodic and final reports consistent with the LFM/TOC	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA, Embassy	Review, KII, GD
4.2-3 Which were the main changes and modifications in the time schedule and for what reason?	Reports include changes to the time plan with justification	NO	Descriptive	Non-experimental, one-shot	Secondary, UNDP, CZDA, Embassy, AQUA, BFS, CEI, IRCON	Review, KII, GD
	UNDP notification of completion as per Third Party Cost Sharing Agreement	YES	Descriptive	Non-experimental, one-shot	Secondary, CZDA, Embassy	Review
4.2-4 Did the project reports provide sufficient financial monitoring?	Financial reports consistent with the approved itemized budgets	YES	Descriptive	Non-experimental, one-shot	Secondary	Review
4.2-5 Did the project reports provide information on the problems and their solutions?	Problems solved in accordance with risk mitigation plan	NO	Descriptive	Non-experimental, one-shot	Secondary, CZDA, AQUA, BFS, CEI, IRCON	Review, KII, GD
5. Likelihood of impacts						
5.1. What are the main intended and unintended development impacts of the project?						

5.1-1 To what extent has air quality improved?	Reduced air pollution by emissions of Particular matters (PM10), SO2, NOx, CO, CO2, organic substances (Data from the air emission measuring station) and model calculation of the carbon footprint - scope 1)	YES	Normative	Quasi experimental, before and after	Secondary, MU, UB, Expert, LC	Review, KI, GD, TW
5.1-2 How did the project affect suppliers of original fuels for local heating sources?	Rate of positive changes, rate of negative changes assigned to the project	NO	Descriptive	Non-experimental, one shot	MU, UB	KII, GD
5.1-3 How did the project affect other groups?	Rate of positive changes, rate of negative changes attributed to the project	NO	Descriptive	Non-experimental, one shot	MU, LC, UB	KII, GD, TW
5.2. What are the main positive and negative impacts of the project on final recipients?						
5.2-1 To what extent has the disease of the upper respiratory tract decreased in the project buildings?	Trend in the development of upper respiratory tract diseases	NO	Descriptive	Non-experimental, one shot	Secondary, Expert, UB	Review, KII
5.2-2 How has thermal comfort changed in renovated buildings?	Increased thermal comfort	NO	Descriptive	Non-experimental, one shot	UB	GD
5.2-3 What impact did the projects have on technical service staff?	Increasing / maintaining the number of positions	NO	Descriptive	Non-experimental, one shot	Secondary data, UB	Review, GD, V&O
	Improved health and safety conditions	NO	Descriptive	Non-experimental, one shot	UB	GD, V&O
6. Sustainability						
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)						
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?	Exit strategy included in the Project Document	YES	Descriptive	Non-experimental, one shot	Secondary, CZDA, IRCON	Review, KII
	Exit strategy included in the MOUs	YES	Descriptive	Non-experimental, one shot	Secondary, CZDA	Review, KII
6.1-2 How is the financing of the operation and maintenance secured?	Rate of coverage of costs from budget of relevant institution	NO	Descriptive	Non-experimental, one shot	Secondary, UB, MU, Expert	Review, GD
6.1-3 To what extent is the cost of maintenance, repairs, depreciation, overhauls and revisions of the heating systems covered?	Coverage rate in the business / financial plan	NO	Descriptive	Non-experimental, one shot	Secondary, MU, Expert	Review, KII

6.1-4 What is the expected development of prices of pellets for small sources (1 building)?	Prices are not expected to raise more than the inflation rate (Consumer Price Index - CPI)	NO	Descriptive	Non-experimental, one shot	Secondary, INST	Review, KII
6.1-5 Are heating systems and related operations operated in accordance with the manual/ relevant standards?	Inspection reports, emission measurement report, statement by the competent control authority indicate compliance	YES	Descriptive	Non-experimental, one shot	Secondary, UB	Review, KII, GD, V&O
6.1-6 Is an (updated) O&M manual available?	O&M manual available in local language	NO	Descriptive	Non-experimental, one shot	Secondary, UB	Review, GD
6.1-7 How many of the trained workers continue to work?	At least 75%	NO	Descriptive	Non-experimental, one shot	Secondary, UB	Review, KII, GD
6.1-8 Can there be problems with the long-term operation of installed technology?	List of potential technological problems does not indicate any problems with long-term operation	NO	Descriptive	Non-experimental, one shot	UB, AQUA, BFS, CEI, IRCON, Expert, BA	KII, GD
6.1-9 Do the supplied pellets have the quality required by the technological solutions?	Availability of the required biomass quality during the heating season	NO	Descriptive	Non-experimental, one shot	UB	GD, V&O
6.1-10 What is the availability of pellets? (past and expected)	Availability of the required amount during heating season	NO	Descriptive	Non-experimental, one shot	Secondary, UB, Expert, BS	Review, KII, GD
6.1-11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?	Current share of consumption by large sources	NO	Descriptive	Non-experimental, one shot	INST, Expert, BA, EBRD	GD, KII
6.1-12 Is there a possibility in BiH that large resources will dominate the biomass market (as is happening in the CR)?	No such possibility	NO	Descriptive	Non-experimental, one shot	INST, Expert, BA	GD, KII
6.1-13 What is the current and expected share of exported pellets?	Expected changes in the biomass market	NO	Descriptive	Non-experimental, one shot	Secondary, INST, Expert, BA	Review, GD, KII
6.1-14 What accessible types of biomass exist in BiH?	List of accessible biomass options	NO	Descriptive	Non-experimental, one shot	Secondary, INST, Expert, BS	Review,GD, KII
6.1-15 Are there any investments in retro-fitting and fuel switch projects in other than public buildings?	Examples of implemented or planned investment projects	YES	Descriptive	Non-experimental, one shot	EBRD, INST	KII

7. Cross cutting principles of the Czech Development Cooperation

7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?

7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?	Impact of the project on quality: air, water, soil, change in the amount and composition of waste produced, change in terms of noise or odour	NO	Cause and effect	Non-experimental, one shot	Secondary, MU, UB, AQUA, CEI, IRCON	Review, KII, GD
	Description of implemented environmental and climate friendly measures.	NO	Cause and effect	Non-experimental, one shot	Secondary, MU, UB, AQUA, CEI, IRCON	Review, KII, GD
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?						
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	Description of mitigation of negative impacts	NO	Descriptive	Non-experimental, one shot	Secondary, MU, UB, AQUA, BFS, CEI, IRCON	Review, KII, GD
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?						
7.3-1 To what extent were you involved in the project?	All key actors aware of the project	NO	Descriptive	Non-experimental, one shot	Secondary, MU, UB, UNDP, BFS Embassy, MIT, ORS, OJVE, OED, Expert	Review, KII, GD
	Most actors report involvement in the formulation, selection of buildings, implementation, are aware of current status, know whom to contact for information	NO	Descriptive	Non-experimental, one shot	Secondary, MU, UB, UNDP, Embassy, MIT, BFS	Review, KII, GD
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?	More than 50% participated in the consultation	NO	Descriptive	Non-experimental, one shot	MU, UB, UNDP, Embassy, INST	KII, GD
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?						
7.4-1 How was the principle of gender equality applied during the implementation of the project?	Statement by interested parties	NO	Descriptive	Non-experimental, one shot	Secondary, MU, UB, UNDP, Embassy, INST, CZDA	KII, GD, Review
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)						
8.1. Were the requirements for the external presentation of the project in BiH met?						

8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	Requirements followed by all stakeholders	YES	Normative	Non-experimental, one shot	CZDA, AQUA, CEI, IRCON, Embassy, Secondary	Review, KII, GD
	Budgetary allocation for visibility	NO	Descriptive	Non-experimental, one shot	AQUA, BFS, CEI, IRCON	KII, GD
8.1-2 How did you learn about the project?	Number of respondents who learned about the project during the presentation in the building, municipality, university, newspaper, internet (number of visits to websites, number of document downloads), leaflet, participation in project planning and implementation meetings	NO	Descriptive	Non-experimental, one shot	UB, MU, INST	KII, GD
9. End						

BA	Biomass Association CZ
BS	Biomass suppliers
BFS	BFS Industry s.r.o. : technical documentation, Monitor
CEI	Civil Engineering Institute LLC
CZC	Czech companies
CZDA	Czech Development Agency
Embassy	Embassy of the Czech Republic in Bosnia and Herzegovina
Expert	Opinion of local or Czech expert
GIZ	German Corporation for International Cooperation
INST	Institutions
IRCON	Ircon s.r.o.
KSM	Key stakeholder meeting
LC	Local communities
MIT	Ministry of Industry and Trade CR
MU	Municipality
OED	Economic Diplomacy Department

OJVE	South and South East Europe Department
ORS	MZV Odbor Rozvojove spoluprace
UB	Users of buildings

Annex D: Bibliography

Source of documents/documents
UNDP
MoU UNDP – CzDA (signed 18/08/2016)
Project identification out of EMIS/GED database for the Implementation of model infrastructure projects through the concept of "green package" with support of the Czech Development Agency
Logframe
Budget
Timeframe
Project document
Cost sharing agreement
Evaluation of the Outcome 5 of the Country Programme Document 2015-2019: "By 2019, legal and strategic frameworks are enhanced and operationalized to ensure sustainable management of natural, cultural and energy resources" (Elinor Bajraktari, November 2018, UNDP BiH)
Certified Financial Reports to the Government of the CZECH REPUBLIC for the year 2016, 2017, 2018, 2019.
Overview of pre-selection of objects for infrastructural projects – 2017 + Report from the formulation trip (CzDA)
Status Report of Project progress (October 2016 – June 2017) – Biomass Energy for Employment and Energy Security – Follow Up Project, Bosnia and Herzegovina – CzDA (Donor), UNDP
Status Report of Project progress (October 2017 – June 2018) – Biomass Energy for Employment and Energy Security – Follow Up Project, Bosnia and Herzegovina – CzDA (Donor), UNDP
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Final Project Progress Report (October 2016 – December 2020) - Biomass Energy for Employment and Energy Security, Bosnia and Herzegovina – CzDA (Donor), UNDP
Project - Kindergarten Ljubuski
MoU – CzDA – kindergarten Ljubuski – Ljubuski Municipality
Agreement CzDA – Aqua-gas, Amendment 1 – delay by local partner
Project documentation – Europroject build and technology s.r.o. – projektová dokumentace pro vydání stavebního povolení
Comments on project documents by BFS Industry
Monitoring reports by BFS Industry and CzDA – 10-2019
Monitoring CzDA – 16.01. 2019
Mid-term and final reports
Comments on final report by CzDA + comments by Aqua gas
Distant monitoring reports
Declaration of donation
Visibility - video
Project – Kindergarten - Novi Travnik
MoU - CzDA –kindergarten Novi Travnik – Novi Travnik Municipality + 3x Attachments
Agreement CzDA – Aqua-gas, Amendment
Project documentation – Europroject build and technology s.r.o. – projektová dokumentace pro vydání stavebního povolení
Comments on project documents by BFS Industry
Monitoring reports by BFS Industry and CzDA – 10-2018
Mid-term and final reports
2 x Comments on final report by CzDA + comments by Aqua gas
Distant monitoring reports
Declaration of donation
Visibility - video
Project – Center for Elderly and Infirm Persons in Mostar
MoU between CzDA and CENTER FOR OLD AND INFIRM PERSONS IN MOSTAR and CITY OF MOSTAR - NO. 281254/2019-ČRA + attachments (project description and technical landscape)
Preparation of the project - Agreement CzDA and LCC Banja Luka

Preparation of the project – Output 1 – technical documentation in local language, emails between CzDA and BFS Industry
Preparation of the project – Output 1 – Handover protocol, Penalty for delay (820 EUR), Invoices
Preparation of the project – Output 2 – technical documentation in local language
Preparation of the project – Output 2 – Handover protocol, Invoice, Likvidační list
Agreement CzDA – Aqua-gas – complete – incl. technical specification, budget
Implementation – Output 1 – 4 x versions of technical documentation, 4x versions of Reviews BFS Industry - Posudek projektové dokumentace projektu "Modernizace otopné soustavy v domově pro seniory v Mostaru, Bosna a Hercegovina" ze dne 13.05.2020 (2x), 25.05.2020, 19.06.2020
Meeting minutes – implementation settings - 03.04. 2020 - AQUA GAS, s.r.o. – Radovan Koudelka, jednatel společnosti (dále „dodavatel") ČRA – Sara Miličić, Jan Pejřil (externí konzultant) BFS – Zdeněk Funda, Matouš Bartoš (externí technická konzultační společnost pro ČRA)
Mid-term reports – Etapa 1, Output 1; Etapa 2, Output 2-5 (finalization)– both including settlement of comments
Declaration of Donations – act. 1.1, act. 1.2 and Final declaration of Donation
Final Report
Outcome 2 – Report from Inspection Trip done by BFS Industry
Project – Hospital in Doboj
Contract CzDA – IRCON, „Modernizace otopného systému nemocnice sv. Lukáše v Doboji", signed on 18.7.2018
Annexes to Contract 1, 2, 3
Report – Etapa 1 (17.07.2018 -07.12.2018) +14 annexes
Comments to the report from etapa I done by BFS Industry
Report – etapa II (8.12.2018 - 15.10 2019) + 34 annexes
Comments to the report from etapa II done by BFS Industry
Letter from CzDA to IRCON dated 5.11.2019 about contracting penalization
Letter from CzDA to RCON dated 18.12.2019 – penalization 330 000 CZK (delay16.10. 2019 - 20.12.2019)
Report - etapa III (16.10.2019 - 30.11 2019) + 4 annexes
Mid-term report – etapa IV
Invoices 1 – 4
Memorandum of understanding, CzDA - Doboj Hospital, incl 7 annexes, Annex 1. Project description is missing
Monitoring reports done by BFS Industry, reports from control days, reports from inspection trips, inspekčních cest. The latest from December 9, 2020
BIH DOBOJ DETAIL DESIGN APPROVED BY CZDA 190519_II (Project documentation)
CzDA
MoU UNDP - CzDA
CZDA Project Monitoring reports – Ljubuski, Novi Travnik
Platby CzDA – UNDP 2016 – 2019 (MEMO ŘČRA a záznam pro ministra) in total amount of 486 000 EUR
Contracts CzDA – BFS Industry 2017 - 2020
Reports and other sources
Report on Biomass Potential Monitoring in Bosnia and Herzegovina (Pfeiffer et. al, 2019)
Guidebook for Sustainable Use of Wood Biomass for Energy Production in Bosnia and Herzegovina (UNDP BiH)
Report on Activities of Biomass Association of Bosnia a Herzegovina (April 2019)
DEVELOPING AND BUILDING CAPACITIES OF LOCAL GOVERNMENTS IN THE FIELD OF WOODY BIOMASS BUSINESS MODELS - Study on wood biomass capacity in Maglaj municipality and the neighboring municipalities (Srajevo, November 2018)
Letak Stampa – project Zapošljavanje i sigurno snabdijevanje energijom korištenjem biomase u Bosni i Hercegovini (CzDA and UNDP)
Project Document template for nationally implemented projects financed by the Green Climate Fund (GCF) – UNDP – signed on 01.08.2018 – project on Scaling-Up Investment in Low-Carbon Public Buildings
Gender Assessment – FP051: Scaling-up Investment in Low-Carbon Public Buildings, BiH UNDP, 28 September 2017, GCF
Web page of the company Ati Terming https://termingkula.rs/sr/terming/ozon-za-drveni-pelet
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Internet sources (PR and dissemination)
UNDP- CzDA PR video - https://www.youtube.com/watch?v=8rUn0g0AQK4&t=41s
http://www.czechaid.cz/cesti-odbornici-pomahaji-bosenskym-kolegum-s-rozvojem-vyuziti-biomasy-a-obnovitelnych-zdroju/
Biomass Energy for Employment and Energy Security in Bosnia and Herzegovina | UNDP in Bosnia and Herzegovina
Visibility of the project in Mostar - https://avaz.ba/promo/621934/republika-ceska-pomaze-u-razvoju-koristenja-obnovljivih-izvora-energije
Developing SOP for crisis and risk management response in wood biomass sector in Bosnia and Herzegovina - https://undp.cz/portfolio-item/developing-sop-for-crisis-and-risk-management-response-in-wood-biomass-sector-in-bosnia-and-herzegovina/
Foreign Trade Chamber of BiH. https://www.sarajevotimes.com/wood-industry-of-bih-is-the-only-sector-that-has-a-surplus-in-trade
EU IPA II 2018 – 2020 (Instrument for Pre-accession Assistance) funds - https://www.euro-access.eu/programm/ipa_sectoral_programme_bosnia_and_herzegovina
UNDP New Adaption Plan - https://www.ba.undp.org/content/bosnia_and_herzegovina/en/home/climate-and-disaster-resilience.html
Development Plan: https://www.nosbih.ba/files/2021/04/20210402-lat-Indikativni-plan-razvoja-proizvodnje-2022-2031.pdf
Sustainable Environmental Investment Action Plan for Mrkonjić Grad - https://undp.cz/wp-content/uploads/2021/01/D5_SEI-AP-Mrkonjic-Grad-Final-version.pdf
Annual Implementation Report 2015/2016, Energy Community Secretariat, 1 Septemeber 2016
Annual Implementation Report 2016/2017, Energy Community Secretariat, 1 Septemeber 2017
Annual Implementation Report 2017/2018, Energy Community Secretariat, 1 Septemeber 2018
Annual Implementation Report 2018/2019, Energy Community Secretariat, 1 November 2019
Annual Implementation Report 2020, Energy Community Secretariat, 1 November 2020
Annual Implementation Report 2021, Executive Summary, Energy Community Secretariat, 1 November 2021

Annex E: Interviews and discussions

Date	Time	Organization/entity	Form of Communication*
Input Report			
25.05.	1130 - 1200	Economic Diplomacy Department of the MFA (OED)	Online
26.05.	1400 - 1530	Embassy of the Czech Republic in Bosnia and Herzegovina (Embassy)	Online
31.05.	1400 - 1435	Development Cooperation and Humanitarian Assistance Department of the MFA (ORS)	Online
03.06.	1000 - 1200	Czech Development Agency (CZDA), Project Implementation Department, European Western Balkans	In person- CZDA (Praha)
08.06		Ministry of Industry and Trade (MIT), Export Strategy and Services Management Department	Email
23.06.	14.00 – 1545	BFS Industry, s.r.o. (BFS)	In person – BFS (Praha)
24.06	1200 - 1330	UNDP, Sarajevo	Online
29.06.	1300 – 1530	Project Manager, Executive, Ircon s.r.o.	Online
12.07.	1400 - 1430	Chairperson, Czech Biomass Association	Online
13.07.	1600 - 1700	Commercial Director, ENVIROS	Online
14.07.	1200 - 1300	Expert CZDA (preparation parts of the tender documentation)	Online
Final Report			
13.09.	0900-1030	Embassy of the Czech Republic in Sarajevo	In person – Embassy (Sarajevo)
	1100 - 1200	UNDP, Sarajevo	Online
	1330 - 1430	Ministry of Foreign Trade and Economic Relations of BiH	In person – Ministry (Sarajevo)
	1500-1600	EBRD	In person – EBRD (Sarajevo)
	1430-1630	Association of biomass producers	In person – Association (Sarajevo)
14.09.	0930 - 1130	Kindergarten in Novi Travnik, Municipality Novi Travnik	In person – kindegraten (Novi Travnik)
	1530-1700	Hospital "St. Luke the Apostle", Doboj	In person – hospital (Doboj)
15.09.	1100-1230	Ministry of Agriculture, Forestry and Water Management of the RS	In person – Ministry (Banja Luka)
	1100-1230	Civil Engineering Institute "IG" LLC Banja Luka (CEI)	In person – CEI (Banja Luka)
	1300 - 1330	Environmental Protection and Energy Efficiency Fund of Republika Srpska ("EPEEF RS")	In person – EPEEF RS (Banja Luka)
	1500-1630	Suppliers in value chain of wood pellets	In person - Doboj
16.09.	0900-1000	Embassy of the Czech Republic in Sarajevo	In person – Embassy (Sarajevo)
	1300-1400	City of Mostar	In person – City (Mostar)
	1430-1630	Center for old and infirm persons in Mostar	In person – Center (Mostar)
17.09.	1000-1100	Ljubuški Municipality	In person – Municipality (Ljubuši)
	1000-1100	Kindergarten in Lubuški	In person – kindergarten (Ljubuški)

* Some stakeholders could not participate in physical or virtual meeting but submitted completed questionnaires (or follow up, second questionnaires) via email. The overview of questionnaires is provided in the Annex F.

Annex F: Questionnaires

Overview of generated and completed questionnaires

#	Source		Q Evaluation report		Form of Communication
			Sent	Completed	
Questionnaires Input Report					
1	MFA OED	X		25 May	On-line
2	Embassy	X		26 May	On-line
3	MFO ORS	X		31 May	On-line
4	CZDA	X	18 Aug	03 June	Emailed
5	BFS	X		23 June	Meeting (KII)
6	UNDP	X	01 Sept	24 June	On-line
7	Ircon	X	29 June	29 June	On-line
8	Biomass Ass. CZ	X		12 Jul	On-line
9	ENVIROS	X		13 Jul	On-line
10	Expert CZDA Jan Pejril	X		14 July	On-line
11	MIT	X	08 June	08 June	Email
12	MFA OJVE		25 May 06 Sept		No reply
13	AQUA-GAS		29 June 02 Jul 07 Jul 30 Aug Call 31 Aug		In reply to call 31 Aug Director informed no time to reply the Qs
Questionnaires Final Report					
1	UNDP	X X X			KII On-line Emails CZDA contribution, Atlas Email business model, matching grant, Atlas update 30 Sept
2	MFTER BiH	X			GD
3	Federal MOAWM&F		09 Sept		No reply
4	EBRD	X			GD
5	Association of Biomass Producers	X			GD
6	Municipality Novi Travnik	X			GD
7	Kindergarten Novi Travnik	X			GD, V&O
8	Clinical hospital "St. Luke the Apostle", Doboj	X			GD, V&O
9	MOAF&WM RS	X			KII
10	EPEEF RS	X ???	 23 Sept		KII Mailed question 23 Sept criteria
11	Suppliers in value chain of wood pellets	X			KII, V&O
12	Mostar Municipality	X			GD
13	Center for old and infirm persons in Mostar	X			GD, V&O
14	Ljubuski Municipality and Kindergarten	X			GD, V&O
15	GIZ	X			Mailed questionnaire
16	Project Plus	X			Mailed questionnaire
17	CEI "IG" LLC Banja Luka				Mailed questionnaire
18	CZDA	X X	 29 Sept		Mail Qs contributions 02 Sept Questionnaire re final payments 29 Sept
19	EF Federation BiH		29 Sept		Questionnaire mailed on 29 Sept

Legend: Black = CZ, Blue = BiH, Red= did not reply

Questionnaire for Administrator – CZDA

1. Relevance
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution
1.1-3 How were the 4 objects prioritized?
1.3. Are the selected indicators for the project outcomes set correctly?
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?
1.3-2 Was the logical framework matrix used for monitoring?
2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?
2.1-3 To what extent are the implemented objects linked with the soft components of the project?
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch pr ojects to the soft-components?
2.2. To what extent did the project complement other projects and donor activities?
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?
2.3. To what extend was the coordination between the actors of the project carried out?
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?
2.3-2 How satisfied are you with project coordination?
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?
3. Efficiency
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?
3.3. What was the total contribution utilized from Czech development cooperation funds?
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?
3.4. What was the total co-financing of the project?
3.4-1 To whom have contributions from Doboj Hospital been paid?
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized
4. Effectiveness
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?
4.3-1 Have the technical specification been fulfilled according to the tender requirements?
4.3-2 Did the project reports provide sufficient information on the project results?
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?

4.3-5 Did the project reports provide information on the problems and their solutions?
6. Sustainability
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (e conomic, technological, environmental)
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?
7. Cross cutting principles of the Czech Development Cooperation
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)
8.1. Were the requirements for the external presentation of the project in BiH met?
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Re public's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)

Questionnaire for Reference Group – ORS

1. Relevance
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution
1.1-3 How were the 4 objects prioritized?
1.3. Are the selected indicators for the project outcomes set correctly?
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?
1.3-2 Was the logical framework matrix used for monitoring?
2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?
2.1-3 To what extent are the implemented objects linked with the soft components of the project?
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?
2.2. To what extent did the project complement other projects and donor activities?
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?
2.3. To what extend was the coordination between the actors of the project carried out?
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?
2.3-2 How satisfied are you with project coordination?
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?
3. Efficiency
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?

3.3. What was the total contribution utilized from Czech development cooperation funds?
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?
3.4. What was the total co-financing of the project?
3.4-1 To whom have contributions from Doboj Hospital been paid?
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized
4. Effectiveness
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?
4.3-1 Have the technical specification been fulfilled according to the tender requirements?
4.3-2 Did the project reports provide sufficient information on the project results?
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?
4.3-5 Did the project reports provide information on the problems and their solutions?
6. Sustainability
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?
7. Cross cutting principles of the Czech Development Cooperation
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)
8.1. Were the requirements for the external presentation of the project in BiH met?
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)

Questionnaire for Reference Group – MIT

1. Relevance
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution
1.1-3 How were the 4 objects prioritized?
1.3. Are the selected indicators for the project outcomes set correctly?
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?
1.3-2 Was the logical framework matrix used for monitoring?
2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?
2.1-3 To what extent are the implemented objects linked with the soft components of the project?
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?

2.2. To what extent did the project complement other projects and donor activities?
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?
2.3. To what extend was the coordination between the actors of the project carried out?
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?
2.3-2 How satisfied are you with project coordination?
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?
3. Efficiency
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?
3.3. What was the total contribution utilized from Czech development cooperation funds?
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?
3.4. What was the total co-financing of the project?
3.4-1 To whom have contributions from Doboj Hospital been paid?
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized
4. Effectiveness
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?
4.3-1 Have the technical specification been fulfilled according to the tender requirements?
4.3-2 Did the project reports provide sufficient information on the project results?
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?
4.3-5 Did the project reports provide information on the problems and their solutions?
6. Sustainability
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?
7. Cross cutting principles of the Czech Development Cooperation
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)
8.1. Were the requirements for the external presentation of the project in BiH met?
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)

Questionnaire for Reference Group – OJVE

1. Relevance
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?

1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?	
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution	
1.1-3 How were the 4 objects prioritized?	
1.3. Are the selected indicators for the project outcomes set correctly?	
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?	
1.3-2 Was the logical framework matrix used for monitoring?	
2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?	
2.1-3 To what extent are the implemented objects linked with the soft components of the project?	
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?	
2.2. To what extent did the project complement other projects and donor activities?	
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
3. Efficiency	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
3.3. What was the total contribution utilized from Czech development cooperation funds?	
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?	
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?	
3.4. What was the total co-financing of the project?	
3.4-1 To whom have contributions from Doboj Hospital been paid?	
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?	
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized	
4. Effectiveness	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-1 Have the technical specification been fulfilled according to the tender requirements?	
4.3-2 Did the project reports provide sufficient information on the project results?	
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?	
4.3-5 Did the project reports provide information on the problems and their solutions?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	

6.1-1 How was the exit strategy (sustainability) considered in the project documentation?	
7. Cross cutting principles of the Czech Development Cooperation	
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?	
7.4-1 How was the principle of gender equality applied during the implementation of the project?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Re public's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	

Questionnaire for Reference Group – Embassy

1. Relevance	
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?	
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?	
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636, 000 CZK (486,000 EUR) = CZDA contribution	
1.1-3 How were the 4 objects prioritized?	
1.3. Are the selected indicators for the project outcomes set correctly?	
1.3-1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?	
1.3-2 Was the logical framework matrix used for monitoring?	
2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?	
2.1-3 To what extent are the implemented objects linked with the soft components of the project?	
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch pr ojects to the soft-components?	
2.2. To what extent did the project complement other projects and donor activities?	
2.2-1 Which similar projects were implemented under the CZDC before, during and after this project?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
3. Efficiency	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
3.3. What was the total contribution utilized from Czech development cooperation funds?	
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?	
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?	

3.4. What was the total co-financing of the project?	
3.4-1 To whom have contributions from Doboj Hospital been paid?	
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?	
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized	
4. Effectiveness	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-1 Have the technical specification been fulfilled according to the tender requirements?	
4.3-2 Did the project reports provide sufficient information on the project results?	
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?	
4.3-5 Did the project reports provide information on the problems and their solutions?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?	
7. Cross cutting principles of the Czech Development Cooperation	
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?	
7.4-1 How was the principle of gender equality applied during the implementation of the project?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	

Questionnaire for Reference Group – OED

2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-1 To what extent were the project activities in line with the priorities and goals of the Czech Development Cooperation?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
7. Cross cutting principles of the Czech Development Cooperation	
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?	
7.3-1 To what extent were you involved in the project?	

Implementing partner – UNDP

1. Relevance	
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?	
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?	
1.1-3 How were the 4 objects prioritized?	

1.3. Are the selected indicators for the project outcomes set correctly?
1.3-2 Was the logical framework matrix used for monitoring?
2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?
2.1-3 To what extent are the implemented objects linked with the soft components of the project?
2.1-4 What was the added value of the soft components of the project to the implemented objects?
2.1-5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?
2.2. To what extent did the project complement other projects and donor activities?
2.2-2 Which similar projects were implemented by other donors since 2016?
2.3. To what extend was the coordination between the actors of the project carried out?
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?
2.3-2 How satisfied are you with project coordination?
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?
3. Efficiency
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?
3.3. What was the total contribution utilized from Czech development cooperation funds?
3.3-1 Is the matching grant of 400,000 EUR included in the CZDA contribution?
3.4. What was the total co-financing of the project?
3.4-3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized
4. Effectiveness
4.1. To what extend did the project implementation contribute to the economic development of the selected regions?
4.1-2 To what extent has there been economic development in other areas of the local economy due to biomass heating?
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?
7. Cross cutting principles of the Czech Development Cooperation
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?
7.3-1 To what extent were you involved in the project?
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?

Implementers, local partners-co-implementers, sub-contractors – AQUA

2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?

2.1-4 What was the added value of the soft components of the project to the implemented objects?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	
3. Efficiency	
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?	
3.1-2 What is the energy efficiency of the chosen technology?	
3.1-3 What is the energy output of the chosen technology?	
3.1-4 Have the cost of buying fuel for the 4 objects decreased?	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
4. Effectiveness	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?	
4.3-5 Did the project reports provide information on the problems and their solutions?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-8 Can there be problems with the long-term operation of installed technology?	
7. Cross cutting principles of the Czech Development Cooperation	
7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?	
7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?	
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?	
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	

Implementers, local partners-co-implementers, sub-contractors – IRCON

2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-4 What was the added value of the soft components of the project to the implemented objects?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	

2.3-2 How satisfied are you with project coordination?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	
3. Efficiency	
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?	
3.1-2 What is the energy efficiency of the chosen technology?	
3.1-3 What is the energy output of the chosen technology?	
3.1-4 Have the cost of buying fuel for the 4 objects decreased?	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
3.4. What was the total co-financing of the project?	
3.4-1 To whom have contributions from Doboj Hospital been paid?	
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?	
4. Effectiveness	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?	
4.3-5 Did the project reports provide information on the problems and their solutions?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, te chnological, environmental)	
6.1-1 How was the exit strategy (sustainability) considered in the project documentation?	
6.1-8 Can there be problems with the long-term operation of installed technology?	
7. Cross cutting principles of the Czech Development Cooperation	
7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?	
7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project mu nicipalities?.	
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effe cts of climate change in relation to the project?	
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign devel opment cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	

Implementers, local partners-co-implementers, sub-contractors – CEI

2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-4 What was the added value of the soft components of the project to the implemented objects?	
2.3. To what extend was the coordination between the actors of the project carried out?	

2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?	
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	
3. Efficiency	
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?	
3.1-2 What is the energy efficiency of the chosen technology?	
3.1-3 What is the energy output of the chosen technology?	
3.1-4 Have the cost of buying fuel for the 4 objects decreased?	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
4. Effectiveness	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?	
4.3-5 Did the project reports provide information on the problems and their solutions?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-8 Can there be problems with the long-term operation of installed technology?	
7. Cross cutting principles of the Czech Development Cooperation	
7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?	
7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?	
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?	
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)	

Implementers, local partners-co-implementers, sub-contractors – LC

4. Effectiveness	
4.2. To what extend did the project implementation contribute to increased employment in given regions?	
4.2-1 To what extent has there been an increase in employment in project locations as a result of the project?	
5. Likelihood of impacts	
5.1. What are the main intended and unintended development impacts of the project?	
5.1-1 To what extent has air quality improved?	
5.1-3 How did the project affect other groups?	

Implementers, local partners-co-implementers, sub-contractors – BFS

4. Effectiveness	
4.2. To what extend did the project implementation contribute to increased employment in given regions?	
4.2-1 To what extent has there been an increase in employment in project locations as a result of the project?	
5. Likelihood of impacts	
5.1. What are the main intended and unintended development impacts of the project?	
5.1-1 To what extent has air quality improved?	
5.1-3 How did the project affect other groups?	

Final beneficiaries – UB

1. Relevance	
1.2. What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating systems projects with use of biomass) in relation to the needs of final beneficiaries?	
1.2-1 To what extent is the project meeting your expectations? Scale: Fully, to a large extent, to some extent, not really	
1.2-2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologies?	
1.2-3 Would you recommend the technology for other objects in your area? (YES, rather YES, rather NOT, NOT)	
2. Coherence (including coordination and integrated approach)	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
3. Efficiency	
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?	
3.1-3 What is the energy output of the chosen technology?	
3.1-4 Have the cost of buying fuel for the 4 objects decreased?	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
3.2-4 To what extent is the capacity of heating systems used?	
3.4. What was the total co-financing of the project?	
3.4-1 To whom have contributions from Doboj Hospital been paid?	
4. Effectiveness	
4.2. To what extend did the project implementation contribute to increased employment in given regions?	
4.2-1 To what extent has there been an increase in employment in project locations as a result of the project?	
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?	
4.3-1 Have the technical specification been fulfilled according to the tender requirements?	
5. Likelihood of impacts	
5.1. What are the main intended and unintended development impacts of the project?	

5.1-1 To what extent has air quality improved?	
5.1-2 How did the project affect suppliers of original fuels for local heating sources?	
5.1-3 How did the project affect other groups?	
5.2. What are the main positive and negative impacts of the project on final recipients?	
5.2-1 To what extent has the disease of the upper respiratory tract decreased in the project buildings?	
5.2-2 How has thermal comfort changed in renovated buildings?	
5.2-3 What impact did the projects have on technical service staff?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-2 How is the financing of the operation and maintenance secured?	
6.1-5 Are heating systems and related operations operated in accordance with the manual/ relevant standards?	
6.1-6 Is an (updated) O&M manual available?	
6.1-7 How many of the trained workers continue to work?	
6.1-8 Can there be problems with the long-term operation of installed technology?	
6.1-9 Do the supplied pellets have the quality required by the technological solutions?	
6.1-10 What is the availability of pellets? (past and expected)	
7. Cross cutting principles of the Czech Development Cooperation	
7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?	
7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?	
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?	
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?	
7.3-1 To what extent were you involved in the project?	
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?	
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?	
7.4-1 How was the principle of gender equality applied during the implementation of the project?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	
8.1-2 How did you learn about the project?	

Final beneficiaries – MU

1. Relevance	
1.2. What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating systems projects with use of biomass) in relation to the needs of final beneficiaries?	
1.2-1 To what extent is the project meeting your expectations? Scale: Fully, to a large extent, to some extent, not really	
1.2-2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologies?	
1.2-3 Would you recommend the technology for other objects in your area? (YES, rather YES, rather NOT, NOT)	
2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	

2.1-4 What was the added value of the soft components of the project to the implemented objects?	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?	
2.3-2 How satisfied are you with project coordination?	
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	
3. Efficiency	
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?	
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?	
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?	
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?	
4. Effectiveness	
4.1. To what extend did the project implementation contribute to the economic development of the selected regions?	
4.1-1 To what extent has there been an increase in economic activities in the value chain of biomass in project localities due to the project?	
4.1-2 To what extent has there been economic development in other areas of the local economy due to biomass heating?	
4.2. To what extend did the project implementation contribute to increased employment in given regions?	
4.2-1 To what extent has there been an increase in employment in project locations as a result of the project?	
5. Likelihood of impacts	
5.1. What are the main intended and unintended development impacts of the project?	
5.1-1 To what extent has air quality improved?	
5.1-2 How did the project affect suppliers of original fuels for local heating sources?	
5.1-3 How did the project affect other groups?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-2 How is the financing of the operation and maintenance secured?	
6.1-3 To what extent is the cost of maintenance, repairs, depreciation, overhauls and revisions of the heating systems covered?	
7. Cross cutting principles of the Czech Development Cooperation	
7.1. To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?	
7.1-1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?	
7.2. Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?	
7.2-1 How were the negative impacts of the project on the environment and climate been mitigated?	
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?	
7.3-1 To what extent were you involved in the project?	
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?	
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?	
7.4-1 How was the principle of gender equality applied during the implementation of the project?	
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)	
8.1. Were the requirements for the external presentation of the project in BiH met?	

8.1-2 How did you learn about the project?	

Key institutions involved in the implementation of the project

1. Relevance	
1.2. What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating systems projects with use of biomass) in relation to the needs of final beneficiaries?	
1.2-2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologies?	
1.2-3 Would you recommend the technology for other objects in your area? (YES, rather YES, rather NOT, NOT)	
1.2-4 What are the medium-term plans of BiH in the sector of energy production and supply, subsector heat production from RES?	
2. Coherence (including coordination and integrated approach)	
2.1. To what extend did the project contribute to the mutual coherence of various project actors?	
2.1-2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?	
2.2. To what extent did the project complement other projects and donor activities?	
2.2-2 Which similar projects were implemented by other donors since 2016?	
2.2-3 To what extent did the project complement these activities or overlap with them?	
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?	
2.4-2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?	
3. Efficiency	
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?	
3.1-1 How costly are the technologies of similar projects of other donors? (specific economic demands on boilers USD / kW, heating system, TRV (thermostatic valve with thermostatic head) USD / pc, distribution lines USD / m)	
3.4. What was the total co-financing of the project?	
3.4-2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?	
4. Effectiveness	
4.1. To what extend did the project implementation contribute to the economic development of the selected regions?	
4.1-1 To what extent has there been an increase in economic activities in the value chain of biomass in project localities due to the project?	
4.1-2 To what extent has there been economic development in other areas of the local economy due to biomass heating?	
6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-4 What is the expected development of prices of pellets for small sources (1 building)?	
6.1-11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?	
6.1-12 Is there a possibility in BiH that large resources will dominate the biomass market (as is happening in the CR)?	
6.1-13 What is the current and expected share of exported pellets?	
6.1-14 What accessible types of biomass exist in BiH?	
6.1-15 Are there any investments in retro-fitting and fuel switch projects in other than public buildings?	
7. Cross cutting principles of the Czech Development Cooperation	
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?	
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?	

7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)
8.1. Were the requirements for the external presentation of the project in BiH met?
8.1-2 How did you learn about the project?

Indirect beneficiaries – BS

. Effectiveness
4.1. To what extend did the project implementation contribute to the economic development of the selected regions?
4.1-1 To what extent has there been an increase in economic activities in the value chain of biomass in project localities due to the project?
4.1-2 To what extent has there been economic development in other areas of the local economy due to biomass heating?
6. Sustainability
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)
6.1-10 What is the availability of pellets? (past and expected)
6.1-14 What accessible types of biomass exist in BiH?

Indirect beneficiaries – BA

1. Relevance
1.1. How are the 4 pilot projects linked to the UNDP contribution and soft components?
1.1-1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?
1.1-2 How can the discrepancy between the project budget and the UNDP contribution be clarified? 45,190,000 CZK (1,738,077 EUR) = CZ project 12,636,000 CZK (486,000 EUR) = CZDA contribution
2. Coherence (including coordination and integrated approach)
2.1. To what extend did the project contribute to the mutual coherence of various project actors?
2.1-4 What was the added value of the soft components of the project to the implemented objects?
2.2. To what extent did the project complement other projects and donor activities?
2.2-2 Which similar projects were implemented by other donors since 2016?
2.2-3 To what extent did the project complement these activities or overlap with them?
2.3. To what extend was the coordination between the actors of the project carried out?
2.3-1 Are there problems in cooperation with project partners that affect the implementation of activities?
2.3-2 How satisfied are you with project coordination?
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?
2.4. What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?
2.4-1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?
3. Efficiency
3.2. What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?
3.2-1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?
3.2-2 Which were the factors that helped to achieve objectives and results of the project and how?
3.2-3 What were the major factors obstructing/hindering achievement of project objectives and results?

4. Effectiveness
4.3. Are the long-term outcomes of the projects specified/documented sufficiently?
4.3-2 Did the project reports provide sufficient information on the project results?
4.3-3 Which were the main changes and modifications in the time schedule and for what reason?
6. Sustainability
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)
6.1-8 Can there be problems with the long-term operation of installed technology?
6.1-11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?
6.1-12 Is there a possibility in BiH that large resources will dominate the biomass market (as is happening in the CR)?
6.1-13 What is the current and expected share of exported pellets?
7. Cross cutting principles of the Czech Development Cooperation
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?
7.3-1 To what extent were you involved in the project?
7.3-2 Have you been consulted on the criteria for selecting objects for biomass heating?
7.4. To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?
7.4-1 How was the principle of gender equality applied during the implementation of the project?
8. Visibility (the intensity of communication activities and awareness of the outputs and impact of the project)
8.1. Were the requirements for the external presentation of the project in BiH met?
8.1-1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Re public's foreign development cooperation followed? (Metodický pokyn České rozvojové agentury k vnější prezentaci zahraniční rozvojové spolupráce ČR)

Experts

1. Relevance
1.2. What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating s ystems projects with use of biomass) in relation to the needs of final beneficiaries?
1.2-2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologie s?
3. Efficiency
3.1. How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual co mparison of partial solutions), especially in terms of overall "value for money"?
3.1-2 What is the energy efficiency of the chosen technology?
4. Effectiveness
4.1. To what extend did the project implementation contribute to the economic development of the selected regions?
4.1-1 To what extent has there been an increase in economic activities in the value chain of biomass in project localities due to the project?
5. Likelihood of impacts
5.1. What are the main intended and unintended development impacts of the project?
5.1-1 To what extent has air quality improved?
5.2. What are the main positive and negative impacts of the project on final recipients?
5.2-1 To what extent has the disease of the upper respiratory tract decreased in the project buildings?
6. Sustainability

6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-2 How is the financing of the operation and maintenance secured?	
6.1-3 To what extent is the cost of maintenance, repairs, depreciation, overhauls and revisions of the heating systems covered?	
6.1-8 Can there be problems with the long-term operation of installed technology?	
6.1-10 What is the availability of pellets? (past and expected)	
6.1-11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?	
6.1-12 Is there a possibility in BiH that large resources will dominate the biomass market (as is happening in the CR)?	
6.1-13 What is the current and expected share of exported pellets?	
6.1-14 What accessible types of biomass exist in BiH?	
7. Cross cutting principles of the Czech Development Cooperation	
7.3. To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?	
7.3-1 To what extent were you involved in the project?	

Donors

2. Coherence (including coordination and integrated approach)	
2.3. To what extend was the coordination between the actors of the project carried out?	
2.3-3 What was the added value of linking the Czech projects with the project implemented by the UNDP?	

Donors - EBRD

6. Sustainability	
6.1. Which parameters of the project are key for its sustainability and to what extend were they reflected in the project? (economic, technological, environmental)	
6.1-11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?	
6.1-15 Are there any investments in retro-fitting and fuel switch projects in other than public buildings?	

Donors - GIZ

2. Coherence (including coordination and integrated approach)	
2.2. To what extent did the project complement other projects and donor activities?	
2.2-2 Which similar projects were implemented by other donors since 2016?	
3. Efficiency	
3.3. What was the total contribution utilized from Czech development cooperation funds?	
3.3-2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?	

Questionnaire - ENVIRONMENTAL FUND OF THE FEDERATION OF BOSNIA AND HERZEGOVINA

1. What is your experience with return on investments (Revolving fund) in energy efficiency measures (retrofitting) for public, business and commercial/industry buildings?
2. What are your main sources of funding?
   - 2.1. Who are your major donors (grants?)
   - 2.2. Who are the major investors /providers of concessional loans?
3. Do you financially support fuel switch projects?
   - 3.1. If yes: for what type of beneficiaries (public buildings, housing, utilities and other)?

   3.2. Under what conditions?
4. In your view: which are the most significant non-financial barriers to investment in low-carbon buildings and infrastructure?
5. In your view: How significant is the difference between available funding and demand for investment in:
   5.1. Energy efficiency measures (retrofitting)
   5.2. Fuel switch (renewable energy)
6. Which renewable energy source is considered most appropriate (wood biomass, solar, wind…. Other) and why?
7. What are the possibilities for Czech companies to replicate technology used under the project "Using biomass for development of rural areas in Bosnia and Herzegovina"?
8. Has the construction environmental and social management plan ("CESMP") been already prepared?

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Annex G: Summary of the major results of interviews, focus groups with key respondents

Contents

1 RELEVANCE

1.1 How are the 4 objects linked to the UNDP contribution and soft components?

1.1.1 To what extent was the Third-Party Cost Sharing Agreement between the CZDA and UNDP relevant for the evaluated project?

Information
Very relevant, as the Third-Party Cost Sharing Agreement covers the project as such and defined the division of performance between UNDP and CZDA, where UNDP focused on the "soft" component, while the CZDA focused on "hard" in the form of infrastructure projects. The selection of infrastructure projects was based on the results of detailed energy audits (carried out within the UNDP "Green Economic Development" project). In practice, this meant that UNDP presented to the Czech Republic proposals for potential infrastructure projects that meet predefined parameters of RES for further assessment and selection. They then resulted in projects in Ljubuški, Novi Travnik, Doboj and Mostar.
The Agreement was fully adhered to. All reports are available and can be obtained upon request. Communication with UNDP was excellent. Suggested to request the complete documentation: progress and final reports. Also, other outputs created under the project such as guidelines, proposals of legislation, monitoring web-based platform for the utilization of biomass. (http://www.atlasbm.bhas.gov.ba/ not secure). Window: **Expert on demand** (under the ORS) prepared a study Developing SOP for crisis and risk management response in wood biomass sector in Bosnia and Herzegovina
Should reply the evaluator, CZDA. Cooperation program with BiH. Humanitarian and trust fund.
Third party cost sharing – UNDP provided local support and energy management information systems. To selected projects provided support in communication, link between donor and beneficiaries. Cost sharing was used for the UNDP soft components. These activities were linked to detailed analysis, of institutional capacity and covered: They covered: technical support for sustainable biomass utilization – development of legislative framework, strengthening institutional capacities – responsible persons – study tour to the CR, PR activities focused on general public and professional authorities. The outcomes of the soft components are e.g. Analysis of potential biomass utilization in the form of Atlas on biomass potential. 400,000 EUR cost-sharing from UNDP to support the 4 buildings in terms of retrofitting measures (changing windows, roof, envelope of buildings) and energy efficiency measures. 486 000 EUR provided to UNDP by CzDA– used for soft components (project budget). CZDA – budget for the infrastructure projects fuels switch technology

1.1.2 How can the discrepancy between the project budget and the UNDP contribution be clarified?

Information
Initially, a pro rata distribution was envisaged (an indicative budget of EUR 886,000, of which EUR 486,000 was to be allocated to UNDP soft components and approximately EUR 400,000 was to be allocated to CRA infrastructure projects). Pricing of the technical component in this phase of project preparation usually does not correspond to reality, as the technology is priced according to local customs and does not consider the profit of the selected implementer - therefore the difference between the originally proposed amount and the actual / paid amount.
The total budget = contribution to UNDP + the 4 projects. Believes that both is included in the 45 Million CZK. Recommended verification with the CZDA. Czech contribution = 886,000 EUR, 486,000 EUR is for soft components, the rest for infrastructure. Recommended to consult financial reports for details.
Bilateral projects have time frame, annual budget. UNDP can include also previous and current contributions to other projects, or for extension of other projects.
CZDA contributed 486,000 EUR for soft components. UNDP - 400,000 EUR cost sharing for retro-fitting and energy efficiency measures of the 4 public buildings – before the CZDA fuel switch project. CZDA –funded 4 fuel switch projects

1.1.3 How were the 4 objects prioritized?

1.2 What is the relevance of the selected procedures in relation to the needs of final beneficiaries?

1.2.1 To what extent is the project meeting your expectations?

Information
100%, FULLY. The Municipality supports energy efficiency measures: Kindergarten 100%, small enterprises 50% of funding. Plan to open another kindergarten near the city. City of Ljubuski supports financially 200 children. The city and County provided 250,000 BAM for retrofitting secondary school (first floor competed, second floor planned) and plans to retrofit more. Already retrofitted: Children's home, until now heated with electricity, now with LFO.
NOT REALLY. Expectations were fulfilled, the fuel switch installed, but there were technical problems during the first heating season (October – April 2021) that remained unresolved. Due to these problems, they used their old system based on LTO.
100%, fully. Very satisfied. Before used **LFO**. With pellets excellent results. Consumption: 25-26 t pellets per heating season (year). Procured in 15 kg bags. Cost: 340 BAM/t => 8500 - 8800 BAM
FULLY. In the past, kindergarten Ljubuški was one of the worst in BiH, nowadays is among 5 best. Even better would be to combine the system with solar heating as there is a plenty of sunny days in Ljubuški.
0%: They used their old system based on LTO for the last heating season until April 2021. The project would meet the expectation if in continuous operation. Too much long-term malfunctions occurred. There is a potential for improvement in the form of savings on heating from 20,000 to some 8,000 BAM/year. The new system was commissioned in October 2020, worked 1 month and broke down. The **spiral/screw** that moves the pellets through the conveyor screw to the boiler broke down. AQUA-GAS sent 2 spare for replacement. They lasted for some 10 days each and broke down again. Hydraulic piston axis of the pellet fee der also broke down. AQUA-GAS replaced it by a new one at the end of February 2021. The **energy monitoring information system (EMIS)** did not work; laptop with the program was received only in January 2021. **2 different failures on two boilers for water** (one of them does not work at all). **Problems with automatic start of the boiler.** The Centre paid VAT and customs duty as per the MOU between CZDA, Municipality and the Centre. The Centre wrote to AQUA-GAS regarding the boiler and the spiral but has not received any feedback. **Last communication dates back to January 2021**.

1.2.2 In your opinion, what are the advantages and disadvantages of the Czech technology over other available heating technologies?

Advantages	Disadvantages
Due to the minimal data on other available technologies, it cannot be evaluated in a qualified manner. However, we recommend consulting the relevant Embassy of the Czech Republic, possibly with sector experts CzechTrade and CzechInvest.	
Zákon o VZ limituje dodání českých kotlů. Výhodu tedy vidí v tom, že se implementuje komplexní systémové řešení. Rovněž vidí potenciál v replikaci kontejnerové technologie, kterou BFS doporučilo pro vybrané infrastruktury (školky) – výhody: lehká konstrukce a tudíž i cena, není omezený provoz budovy při implementaci technologie. U nemocnice v Doboji navrhovala BFS kotelnu na dřevní štěpku jako vhodnější řešení. To bylo ale ze strany příjemce zamítnuto, že štěpka je nedostupná. Jednalo se i s municipalitou o případném pořízení štěpkovače, ale nedopadlo to. Nakonec ale hodnotí pozitivně i automatizaci systému na pelety, neboť pracovní síla se mohla využít během Covid na zajištění dodávek kyslíku.	Za nevýhodu instalovaných technologií lze považovat vyšší složitost otopných systémů na biomasu v porovnání systémů na konvenční paliva. Dále pak pokud by celý systém pocházel od místních dodavatelů, byl by levnější.
Energy savings, Heat comfort, less CO2 emissions	*No disadvantages mentioned*
	No disadvantages. Only it took so long to get the technical documentation required for permit to operate the system. Aqua Gas submitted the documentation with 1-year delay.
Biomass combustion: Topling technology - 2x 700 kW boiler with hot water accumulation 60m3. Combustion of LFO: Bosch boiler with burner Blow therm Padova Italy 710-1420 kW, tank for LFO 2x10 t. Combustion of LFO serves as back-up heating sources; it was not necessary to be used since the biomass boiler is in operation; only for testing.	No disadvantages stated

The representatives of the hospital are completely satisfied with the technology – big step forward in comparison with the previous technology. They do not know other technologies than the installed one (i.e. Bosnian one).	
System functions perfectly, electronic regulation, operated from mobile phone. If there is a problem, they send an email to Tomas (AquaGas). He helps to solve it. For the past 2 years of the system's operation, they contacted Tomas some 4-5 times. The heating capacity is sufficient to also heat the music school located on the second floor (at the top) of the kindergarten building	Depends on availability of electricity. Cannot work during power cuts which happen rarely from time to time
	Problems with functionality during 1st heating season remain unresolved before the 2nd heating season
The technologies are preferred because they are according to the EU standards and have the required certificates	Poor performance can be caused by insufficient biomass quality
The advantage of the technologies implemented within the evaluated projects is that all installed technologies fulfil EU standards and have the necessary certificates. In detail: boilers Topling (BiH) – very good quality, economic optimum, boilers Hargassner (AT) – top quality, boilers Golem (CZ) – no comments – he is not familiar with them.	

1.2.3 Would you recommend the technology for other objects in your area? (YES, rather YES, rather NOT, NOT)

Information
YES, SURELY
YES. Smaller Municipalities use thermal water energy, minerals need to be taken out (Banja Luka is located on an aquifer). Distribution network needs to be rehabilitated. Legislation for forestry management to avoid problems with using biomass.
Fuel switch yes, this technology RATHER NOT because it does not work. Mostar City has the Action plan for sustainable development which contains energy efficiency actions and budget line for co-financing energy efficiency projects. Priority is retrofitting. Additional funds required for fuel switches. Additional sources of funding for energy efficiency projects: Energy audit of street lighting was funded from EU IPA II 2018 – 2020 (Instrument for Pre-accession Assistance) funds (https://www.euro-access.eu/programm/ipa_sectoral_programme_bosnia_and_herzegovina). Applied for retrofitting of buildings under the EBRD GCP (Green Cities Program). UNDP New Adaption Plan (https://www.ba.undp.org/content/bosnia_and_herzegovina/en/home/climate-and-disaster-resilience.html). GIZ – Studies & capacity building/training. Environmental Protection and Energy Efficiency Fund
NO. Prices of pellets and oil are too high in this area. The cost of pellets is 400 BAM/t for quality A1. Quality A2 is not useful. Heating season is from 01 November – April, requires some 15 t of pellets = 6,000 BAM. Prices are lower in the summer, but cannot buy supply for the whole season due to the lack of storage. If prices for pellets are too high. They use *air conditioning* units for heating.
YES. The Municipality wants to change the technology also in other buildings – switch to RES to decrease emissions by 40% until 2030, in line with the UNDP strategic objectives for the sector. Now establishing working group to elaborate the strategy. Funds are available from the Municipality. Public procurement needed for all projects.
YES, as they got the boiler though subsidy. When the pellet prices are reasonable it is advantageous.
YES. The installed technology can use pellets as well as wood chips. The advantage of pellets is that they come in packages, the manipulation is easy and the quality is guaranteed. They promote the same technology to be used also in other buildings: Centre for disabled people currently heating with wood, Sports hall used by the population is cold in the winter, The Director initiated promotional materials and information dissemination through media (without support from the project).

1.2.4 What are the medium-term plans of BiH in the sector of energy production and supply, subsector heat production from RES?

Information
Medium trend is to implement decarbonization as much as possible - a medium term goal. There is an initiative on energy supply Associations for district heating systems by MFTER. RES on heating - biomass is still considered an appropriate source and most useful. To what extent was the project coherent with national strategies and plans? – country programme 5 years is aligned with relevant government strategies and pans. Biomass project contributed to outcome 5 – by Prioritization in National plans and strategy - this assured in UNDP document - 5y plan - relevant national strategies and plans. Strategic approach UNDP – sustainable management of natural resources and energy. UNDP – technical support to MFTER in order to the country to comply with obligations

on biomass energy utilization towards energy community. Lot of technical assistance in reporting to the energy community. Lot of assistance was utilized by the country. One of the most important contribution if the sub-component.
Transfer from pellets to wood chips, because wood chips are not exported, therefore there is more biomass left for the market in BiH. *But the market with wood chips boilers is not so developed comparing to pellets.* These goals are in line with the national BiH strategy in this sector.
De-carbonization of heating system. Now drafting the NECP (National Energy and Climate Plan) 2021 – 2030 (with projections until 2050), should be ready by the end of 2021. Main objective is the reduction of CO2, by increasing share of RES in the mix of energy sources. Focus on biomass and district heating systems. Biomass makes 20 – 25% of all energy consumption.
Plan in the process of updating, foreseen: According to the Strategy for renewable energy of RS, Increase % of REE in heating sources – replacing coal, New solar, wind fields, hydropower energy sources. Statistical annual data
Do you financially support fuel switch projects? YES, the role of the Fund is to support energy efficiency projects. Co-finances, sources are from fines to polluters and from donors. Investments mainly in retro-fitting. 15% in RES. If yes: for what type of beneficiaries (public buildings, housing, utilities and other): Mainly public buildings (with UNDP/Green Climate Fund (GCF)) because donors prefer public sector. Co-finances also some residential sector and factories. GCF is co-implemented by the EPEEF RS. Under what conditions? Co-financing private sector factories usually > 50%. Monitoring during implementation + 5 more years. Exact criteria provided by email (document "Rulebook on scoring programs and projects" is attached): a) preparedness of programs and projects - readiness to start activities ... 20 points, b) the level of favorable impact on the environment and the reduction of gaseous emissions with effect greenhouses - 20 points, c) quality of the offered technical-technological solution - 10 points, d) endangerment of the environment - 10 points, d) financial capacity, as well as technical and personnel capacity of the fund user - 10 points, f) visibility and measurability of project results - 20 points, e) compliance with strategic documents and international obligations in the field of environmental protection, energy efficiency and renewable energy sources -. 10 points Which renewable energy source is considered most appropriate (wood biomass, solar, wind…Other) and why? For fuels – biomass, thermo-power. There is a potential for investment from the private sector. Do you plan fuel switches in the 20 or so public buildings retrofitted under the EBRD project? (Regional Energy Efficiency Programme (REEP) for the Western Balkans) Status: final phases of negotiations for retrofitting of 20 - 25 public buildings. All will be obliged to switch to RES.

1.3 Are the selected indicators for the project outcomes set correctly?

1.3.1 Are the output indicators specific, measurable, available, relevant to the project level and timebound?

Information
The logical framework matrix was created only for the needs of the umbrella project in cooperation with UNDP, not the infrastructure projects themselves. When preparing new projects, the CRA strives to ensure that all levels of the logical framework are measurable and controllable - if they are not, this is a problem in terms of performance control and monitoring.

1.3.2 Was the logical framework matrix used for monitoring?

Information
For the monitoring of individual infrastructure projects, the main control document was the annex to the contract entitled Technical specification of the supply / contract. The LFM has not been updated based on the project monitoring.
YES, Reflected in the final progress report

2 COHERENCE

2.1 To what extend did the project contribute to the mutual coherence of project actors?

2.1.1 To what extent were the project activities in line with the priorities and goals of the Czech Development Cooperation?

Information
YES, BiH is a priority country. Environment (SDG 13) is one of the priorities in cooperation with BiH as well as in the Czech Development Cooperation Strategy 2018 - 2020. From the viewpoint of economic diplomacy, it is important to secure commercial continuity, motivation. Commercial continuity is in BiH usually problematic but hoping for ensuring commercial opportunities.
Priorities clearly stipulated in the Program of cooperation with BiH. Program was updated based on an evaluation.

2.1.2 To what extent did the results of the project contribute to the implementation of the strategic documents of BiH and RS?

Information
Very important contribution. Positive feedback from the Biomass Innovation Centre (established under the Biomass Association in BiH). Online Atlas and Biomass Potential Monitoring Report are useful for decision makers, investors, scientists, researchers, institutions. Capacity building are highly relevant for policy makers, local communities and the private sector. Feasibility Studies were made for investments. Other project components also very relevant
This information is not available, but if necessary, we will verify.

2.1.3 To what extent are the implemented objects linked with the soft components of the project?

Information
The overall project was to have a direct impact on the entire BiH, the interconnectedness and complementarity of the hard-soft components was crucial in the selection of objects. See UNDP reports for more.
NO DIRECT LINK. **There is no direct link between the project and the infrastructures**. The main stakeholders were higher level authority who are responsible for setting up the framework, not lower level. It reached cantonal level in terms of monitoring of biomass potential. Data collection, exchange of information (especially in forest sector). No direct relations of objects to higher level – based on jurisdiction. We got the opportunity to use the **EAMIS** (Energy Audit Monitoring Information System), to promote biomass as a heating source through on spot installations – people can see it, take benefit, excellent approach. Promotion in local community. No opportunity to promote because this was a grant – no local participation/contributions. From the local point of view – having four objects increased an influence on local markets – producers of pellets, increased demands for such a fuel. **Business models** – we did not have opportunity to show anything, as it was a grant. Main stakeholders of SW were institutions at the state level, not at the can RS, Federation, Federation has Cantons. Cantonal level reached for monitoring forestry management. Data collection exchange of information. Authority's Responsibility of the four objects: Kindergartens under the canton Ministry, but not sure whether the representatives know about the intervention. She also does not know whether CZDA was in touch with them, but there is an assumption. Hospital in Doboj – Republika Srpska (no cantons) – authorities involved: Fund for Environmental Protection and Ministry of Health (both know about the intervention). House for seniors in Mostar - Federation of BiH– under the cantonal responsibility.

2.1.4 What was the added value of the soft components of the project to the implemented objects?

Information
Not know about the UNDP activities, only in project documents. However, the project was mainly technical. As the soft components can be considered training of the personnel related to the operation and maintenance (which is common in technology installation process), providing respective manuals and guides. These were commented and approved by the external experts of CzDA. Ircon carried out the training with the cooperation of the subdelivery company from Pristina and a local company (with international reputation) providing a boiler (Toplink). In this project no raising awareness activities were done (in comparison with previous project Ircon has implemented).
Each project should be preceded by soft activities for proper preparation of implementation, of stakeholders and for improved sustainability. In the case of the fours project, this has not been the case. Soft components are not added value, but an integral part of the projects. The soft component encompasses a wider range of stakeholders. While the small towns/municipalities are interested

mainly in the infrastructure, the soft components aim to involve stakeholders relevant for different aspects. At higher administrative level (state, central) as well as in the vertical chain of supplies to imbed the projects in the context of the system: strategies, policies, plans; priorities, limitations and risks. The boilers were installed regardless of the soft components. The hard- and soft components have not been linked. They are however prerequisites for implementation and financial sustainability (willingness and ability to pay tariffs/sufficient budgetary allocations, capacity to operate and maintain, compliance with legal and regulatory framework, government policies). The philosophy/need to strengthen soft components came out from the evaluation of the Nemila/Zenica project. The BiH partners may not fully appreciate and promote soft components. Involving the UNDP with strong soft component of the programme is appropriate and beneficial.
Targeted selection based. Development of local market, additional consumers of pellets, increasing incomes of local producers, Approach was to have Local company in cooperation with CZ company to implement it together – increased ownership and influence on local community. The role of local company – employees during the installation, local know-how how to operate, maintain. Language barrier overcome. Local companies provided employees as support during installation. Application of EAMIS
The advantage of a joint CzDA-UNDP project was designed in a complex approach – output 1 and 2 (soft components) at national level and output 3 providing specific model infrastructure. However, the four projects should not have been somehow linked to the other two outputs. In addition, it was expected to elaborate business models out of the four model projects, but that is should have been responsibility of UNDP. Further, the respondent is not aware that any economic calculation has been done for the four objects.
Vyjádření pouze k zakázkám (ne UNDP projektu). Softové komponenty sloužily pro zajištění udržitelnosti obsluhy a údržby technologie. Např. V Doboji trvalo proškolení osob 2 týdny a byl požadavek na min. počet zaškolených pracovníků, tak aby know-how nezáviselo pouze na jednom člověku. Proškolení pracovníci pak obsluhovali technologii další dva týdny pod dohledem realizátora. Již v ZD byly specifikovány požadavky na školení (rozsah a délka), počet pracovníků, vytvoření odpovídajících manuálů.
NONE. No public information, education, communication (IEC) campaign, no general information

2.1.5 What was the intention in formulation phase of the project about the linkages of the four infrastructural heating switch projects to the soft-components?

Information
Záměrem bylo k soft aktivitám realizovaným UNDP doplnit infrastrukturní projekty financované ČRA, aby byly konkrétní výsledky vidět i ve hmatatelné podobě (tj. nové otopné systémy) a ne pouze v podobě modifikace zákonů a zpracování reportů, studií či plánů. Objekty byly vybrány UNDP po konzultaci s/schválení ze strany ČRA, tým UNDP rovněž dodal energetické audity budov. V případě dvou vybraných veřejných institucí, MŠ v Ljubuškách a Novem Travniku, tým UNDP mj. přispěl tím, že nabídl místní podporu při komunikaci s místními příjemci. U týchž objektů byla vytvořena krátká videa, která sledovala změny, ke kterým došlo v průběhu procesu implementace projektu. Infrastrukturní projekty jsou "pouze" jednou komponentou/aktivitou velmi rozsáhlého a finančně i personálně objemného projektu; snaha o hledání a vytváření synergie mezi hard a soft komponentami může sice být na první pohled méně zaznamenatelná, avšak zcela evidentně prostupuje celým projektem. Indikátory jednotlivých výstupů by měly být zcela naplněny.
The soft components are at ministerial level, governmental – policy, reforms, monitoring of biomass potential. These pilots were connected to the overall work of UNDP thru switch fuel projects. The project design did not include the connection between soft-component and pilot fuel-switch projects. The Promotional videos made by UNDP was for a purpose for CZDA not for the education campaign or for the general public. (Their broadcasting was not included – in Novi Travnik the Directress published on TV them thanks to her connections). The business models (Output 1.3) – the BM were not used, template was developed – only in the form of recommendation, but not adopted by local donors/authorities (Fund of Rep. Srpska and BiH). In BIH, revolving fund was established, in the Rep. Srpska – not going in that way). Switch projects – funded by CzDa, hence no space for BM. Why not? According to the Law of BiH, the costs and expenses should be part of the procurement. As it was a part of CZDA, the respondent does not know. The respondent is aware of tracking of energy efficiency measures on CO2 emission reduction. **Business models** not developed. They were recommended, the recommendation was not adapted. Revolving funds not implemented. According to the respondent, they should have been defined in the tender documents. They were not used for the pilots. Pilots were not used as a model (testing) – the respondent does not see the space for testing – the message is to be send only to the institutions.

2.2 To what extent did the project complement other projects and donor activities?

2.2.1 Which similar projects were implemented under the CZDC before, during and after this project?

Information
UNDP bio-energy coordination body (broader, wood as well as agricultural biomass). CZ Embassy was a member. Implementers shared information on the project board. Complementary projects: GIZ, USAID, both focused on soft components.GIZ, USAID

focuses on broader aspects - analysis, feasibility studies of agricultural biomass, other RES. Donor coordination forum – development cooperation and coordination is in the hands of MinFin. UNDP used to coordinate donors in the energy sector. Donors with largest portfolio take informally over the coordination in the respective sector.
Nemila, Maglaj (central heating), Banja Luca (new). Solar panels in the hospital in Mostar, Doboj Chevalier still without thermal heating. Geothermal investigations in Tazim, in one municipality thermal boreholes with Spa, neighboring municipality wants them as well. GEOtest did an investigation, found only cold water. Solar panels for 40 houses for Bosnian returnees (Dovar Bihac, south-west). Projects focused on the utilization of RES/biomass: 1. *"Usage of renewable sources of energy for central heating system in Nemila village, Bosnia and Herzegovina" including its rehabilitation after 2014 floods.* The project was financed from 58 % by Czech Development Cooperation and co-financed from 42 % by the recipient (Zenica Municipality). The rehabilitation after floods was financed by the Czech Development Cooperation. The project as well as its rehabilitation were coordinated by Czech Development Agency. 2.*„Zavedení systému dálkového vytápění ve městě Maglaj"*, CZDA, implemented by DAMARIS Solutions s.r.o., 2021 – 2022, 6,000,000 CZK. *Preparation of project documentation for district heating in the city of Maglaj* (2020-cca 2023); Phase I – Preparation of project documentation, Phase II – construction of a biomass heating plant and a pipeline network for heat supply) Zenica – Doboj Canton, BiH. 3. *„Čistá energie ve veřejných institucích v Banja Luce "Clean energy in public institutions in Banja Luka "* (under preparation; use of biomass as a heat source for heating 4 public institutions / primary and secondary schools) **Cooperation with other international organizations:** Podpora ekonomického rozvoje v zemědělství v Bosně a Hercegovině ve spolupráci s USAID a Sida" Promoting economic development in agriculture in Bosnia nad Herzegovina in cooperation with USAID and Sida (Foresting agricultural markets aktivity – FARMA I.) 2011 – 2012. „Podpora začleňování OZP do společnosti" - činnost cz strany měla být vhodně doplněna projektem realizovaných USAID, který byl zaměřen na podporu vybraných NNO v oblasti vytváření komunitního bydlení. I přes podepsané MoU však spolupráce nebyla realizována

2.2.2 Which similar projects were implemented by other donors since 2016?

Information
UNDP cooperates very closely with the USAID and GIZ within the project on RES - implemented 2 projects in RES sector. It has been agreed that the Ministry of Foreign Trade and economic Relation shall lead the program to avoid duplications and ensure common approach of authorities. Agricultural biomass also included. Currently running projects in agri biomass – USAID. Close cooperation with GIZ in mapping of biomass potential, we also incl. agri biomass – excellent approach (biogas implemented by USAID).
The GIZ project "Promotion of renewable energy in Bosnia and Herzegovina (BiH)" (ProRE) was implemented in a period from 2006 to 2020 with the aim of establishing general framework for renewable energy projects in BiH. As a part of project activities, GIZ provided technical assistance to the Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina (MOFTER) in developing Atlas for monitoring of biomass potential in BiH. Agency for statistics of BiH took over management of developed tool. This tool is still available via following web page: http://www.atlasbm.bhas.gov.ba/. All activity details, including project partners, are available in attached document: "Report on Biomass Potential Monitoring in BiH". **Ongoing activities in renewable energy sector**: Currently, the GIZ project "Decarbonization of the Energy Sector in BiH" is being implemented from 2020 and it contains a sub project relevant to the renewable energy sector. The set of activities being implemented as a part of technical assistance is relevant to promotion of community energy and implementation of market-based incentive schemes for renewable energy. **Future development of biomass sector:** Future plans on development of new thermal and energy projects are contained in Indicative plan of production for a period of 2022 until 2031 of Independent System Operator. From a list of planned facilities, there is no new biomass cogeneration plants in a plan.
District heating or big installations based on wooden biomass are as follows: Nemila, donor CZDA, 2016, Prijedor, privat company producing wooden plates and operating district heating based on secondary product from the wooden plates production, Banja Luka, Pale, Sokolac, Livno, Bosenska Gradiška, Novi Travnik – Mr. BONO, Kněževo – combined heat and power in wood processing plant.
RES investments – problem is the inability to get quotas. Electricity has production quotas, regulators allocate the quotas, investors wait for the allocations. 99% of electricity comes from state-owned companies. 2 wind farms in the Tomislavgrad municipality (2017, 2018). Mesihovina, Elektroprivreda Hrvatske zajednice Herceg Bosne (HZ HB) power company is the investor 2017, funded by German Federal Government **(GIZ), KfW** and HZ HB. Jelovaca, investor is F.L. Wind. Sarajevo discussing with the EBRD the possibility of Feasibility Study for a loan for 60 MW solar power plant. Western Balkans GEFF II - Intesa Sanpaolo BiH (ebrd.com). EBRD Loan to bank, https://www.ebrd.com/work-with-us/projects/psd/51605.html, EBRD Loan to EPEEF RS https://www.ebrd.com/work-with-us/projects/psd/52682.html, EBRD loan to ProCredit Bank dd BiH ("PCBiH")
GIZ – Open Regional Fund for South-East Europe – Energy Efficiency, 2006 – 2020. **GIZ** Promotion of Renewable Energy in BiH (GIZ ProRE). **GIZ** Decarbonization of the energy Sector in BiH 2020 - 2023. https://www.giz.de/en/worldwide/93730.html. **Sarajevo Canton/UNDP:** call for individual households to replace heating, subsidies. The project is **implemented by SERDA** (Sarajevo Economic Region Development Agency). SERDA also implements a project aiming at improving energy efficiency in multi-apartment buildings. https://investigacion.us.es/docs/web/files/serda_organizational_profile..pdf
USAID – joint funds, biomass documents. Several projects in biomass sector with the Czech Government, USAID, UNDP –. 50 ongoing projects in Republic of Srpska. 50 MW heating plants for Banja Luka, Sokolac, Prijedor are using biomass (wood chips) . All

public facilities in these cities are connected to the heating plants. High collection rates. New buildings should have RES based heating systems. Use also CHP – Sawmill and pellets factory has 250 KW source for CHP fuelled by pellets. Water converter for temperature
UNDP has developed a scheme, but it depends on the funds. (At this moment no plan to continue). Mixture of pilot infrastructure projects (show off to public the achievements) + support the institutional framework. Still a lot of work to be done. The targets also to mobilize the biomass from the privately own forests as their biomass is still not used (the wood is of poor quality to be used in other sector than fuel). The idea is to start from public to residential sector (approach people who are using the unsustainable way). Step from grant financial scheme as it is not sustainable. The project on electric energy – USAID, GIZ (active in this field). Solar energy initiated by the for private donors– UNDP – focus on private sector (residential). Currently, no active project related only to RES as was the biomass project. The World Bank is preparing the project for forestry–infrastructure, roles. Ask at ministerial level. Recently initiated Solar Project. Which other donors support the Fund? UNDP/GCF, EBRD, GIZ with outputs, Pipeline of potential donors

2.2.3 To what extent did the project complement these activities or overlap with them?

Information
Complementary
The project is in compliance/complement with other similar projects – further spreading of good practice with fuel switch. There are no overlaps.
Interventions by the UNDP, GIZ and USAID were coordinated by the joint energy coordinating body **lead by the UNDP**. According to the Ministry, there is now interinstitutional/regional coordinating body aimed to develop markets, exchange information, a void overlaps and duplications. **MOFTER** organizes donor coordination meetings by sectors. **All new projects need to be agreed with MOFTER**

2.3 To what extend was the coordination between the actors of the project carried out?

2.3.1 Are there problems in cooperation with project partners that affect the implementation of activities?

Information
In generally, there were big problems, in details there are described in the reports. V ZD byly od začátku nepřesnosti. Spolu práce s Kosovany hodnotíme jako dobrou. Restrikce kvůli Covid-19 jim znemožnila cestování, tak si vytvořili síť místních lidí a i nyní to řeší přes místní kapacity. Kulturní odlišnosti se týkaly i samotné technické dokumentace (pdf kniha pro Kosovany vs. jednotlivé soubory (technické výkresy) pro ČRA experty). Výběr kosovké firmy se hodně řešil s ČRA hned od začátku kvůli historicko-politickému kontextu. Přes projekty financované třetí stranou vidíme příležitost i pro firmy z jiných států bývalé Jugoslávie a překonání tak předsudků. Spolupráce s nemocnicí - celkově byla v přátelském duchu. Nemocnice poskytla zázemí. Zádrhel nastal při vícepracech, kde byly rozdíly mezi dohodou mezi příjemcem a ČRA (MoU) a smlouvou ČRA s Ircon). Nakonec vyřešeno k všeobecné spokojenosti. Nemocnice platila DPH a uskladnění v celních skladech.
UNDP perfect, flexible and quick, ideal. Users of buildings (UB)/Municipalities – Some technical and administrative problems were there. Not clear to what extent due to the local partner or due to the implementer. CZDA will know more. There were some problems, but not fundamental, did not affect the project outcomes. 2 projects have been completed without problems. Kindergarten Novi Travnik was completed in October 2018. Sustainability good – the heating cost are reportedly lower than before the rehabilitation. The air is clean, there is no more smell in the yard where the kids play. The other 2 (Mostar and Doboi) have not yet been handed over. Reportedly, there was no training for the operation of the boilers/system in Mostar. In Doboj, there was a problem with supply of pellets (or the technology pellets were fed in the boiler, not sure). The price of pellets remained unchanged over the past 3 years. All objects used mazut or heating oils.
Not with UNDP representatives, the communication was excellent. With partners / recipients from Ljubuški, Nove Travnik, Mostar - no major comments; Doboj - worse setting of cooperation between the implementer, the beneficiary and the CZDA (regular complaints from the beneficiary about delays caused by the implementer's fault). The CZDA plans to incorporate so-called project committees / working groups consisting of representatives of the CZDA / Embassy, the winning bidder, CZDA experts, recipient and all relevant stakeholders into newly prepared projects, which would meet on a regular basis to discuss the progress of project outputs / activities, conflict resolution, assessment of changes, etc.
If CZDA feels the need to discuss certain issues, they contact ORS. Otherwise the CZDA should answer this question.
NO
Ve vztahu k ČRA – bez problémů, oceňuje jazykovou vybavenost. Aqua Gas – považuje realizátora za technicky schopného. Změny většinou komunikovali včas. Při monitoringu na místě se našly jen drobnosti, např. Mostar – teploměr s jiným než požadovaným

rozsahem, jiná úpravna vody. Ircon –Technická dokumentace měla nedostatky. Změny nekomunikovali předem a BFS na ně narazila až při monitoringu na místě. ZD při vyhlášení prý nebyla kompletní. Detailní technický projekt konzultoval realizátor s příjemcem projektových výstupů, což dotazovaný nepovažuje za šťastné. Technická dokumentace by měla být konzultována nezávisle.
Minor problems in communication caused by the translation of technical terminology.
No problems, cooperation was perfect
1-year delay to have the permit for operation. No other problems
There have been some problems with local partners regarding the dynamics of equipment supply and deadlines for completion of works.
Cooperation with Kosovo company Project Plus (IRCON subcontractor) was rated as excellent.
Cooperation with CZDA, Czech embassy and implementer was excellent. Even the technical documentation was handed over in time. The local operator trained by implementer has been able to operate the boiler and fix everything so far.
The supplier AQUA-GAS does not respond to requests for removing defects during guarantee period (in some cases).
NO. Only it took too long time (1 year) to get the technical documentation. Only after that they could ask for permit for use.

2.3.2 How satisfied are you with project coordination?

Information
Probíhaly Koordinační dny s ČRA. Našla se společná řeč, že to doděláme a jak to doděláme. Experiti ČRA ustoupili i ze svého rigidního způsobu. Možný nedostatek byl v tom, že Kosované přijeli s tím, že donorovi se neodporuje, tím IRCON měl horší vyjednávací pozici.
Completely with local partner UNDP. Evaluators should ask CZDA regarding the implementers.
Relatively satisfied, but we believe that the establishment of working groups would only improve project coordination.
Very satisfied. Organized in the way that the Czech Embassy representatives were part of the Project Board and were informed about the progress regularly. There was periodic communication with CZDA about status of four infrastructure projects. UNDP issued an Annual Progress Report – submission of every June.
S koordinací ze strany ČRA spokojen.
We are satisfied with project coordination.
The Municipality had no contact with the CZDA. They were notified after the project was completed. Note the management of the Municipality changed in 2020. It is not clear if the previous management had any contact with CZDA.
1 visit from CZDA in the sport hall (also heated by pellets, see 6.1.2 below). Another visit after the project started, some 1.5 years ago. They have not been involved in development of criteria's nor selection of buildings/projects to be financed (kindergarten).
The project was coordinated by CZDA with big involvement of the external technical experts. There were different approaches to the elaboration of the detail design, which was quite difficult to reach consensus. Due to the lack of technical knowledge, the CZDA managers were not able to accept different approach and purely relied on the external experts. This was at the beginning of the project one of the major problems in coordination, but during the implementation period this was overcome and the coordination was improved.
Fully satisfied from the technical point of view. There were some administrative delays – e.g. with ensuring customs duties and taxes.
Cooperation with CZDA was excellent
VERY. CZDA is accessible by email, phone. Issues with additional expenses were solved.

2.3.3 What was the added value of linking the Czech projects with the project implemented by the UNDP?

Information
Projects GIZ and USAID - focus wider and on soft component. Objects rehabilitated under the CZDA did not relate with them directly. Under the SW component – cooperation on Atlas biomass monitoring CZDA 40% and GIZ 60% - co-financing. Synergy of the 4 CZDA projects with previous UNDP activities: The 4 projects were selected jointly considering where UNDP already had some energy efficiency measures (insulation of buildings, changing windows) and made recommendations. UNDP implemented also other activities with contributions from other donors. Studies of energy efficiency of buildings, energy efficiency measures.
In general terms: Seeks commercial linkages in cooperation with UNDP projects. BiH complicated entrepreneurial enabling environment, governance. Cooperation with UNDP, promotion of companies makes sense in the energy sector.
UNDP has complex programs, can bridge the level of bilateral cooperation as a Country Coordinator. UNDP represents institutional level (energy, water). UNDP no longer country coordinator – Country coordinators now appointed from NY. Cooperation with UNDP – Institutional anchorage also at the higher level. Cooperation with UNDP through Trust Fund (since 2017, UNDP Istanbul). Multi-

year framework program, trying to cooperate in priority countries on innovation elements including RES. UNDP has the strategies and experts that can assess the rate of innovation, the possibility of application in BiH and cooperation with CR. Trust Fund is managed from ORS. Framework contract with UNDP trust fund. CZDA has also good experience – bilateral projects moved to UNDP. The UNDP Framework program is on the web, including relations to the Trust Fund.
Application of EAMIS, continue with activities in the country – changing to biomass. Fuel switch installations. Business model – energy efficiency measures AND Fuel Switch project – from fossil fuel to biomass to decarbonize energy sector (mitigation of CO2 emissions). The Approach determined by Green Climate Fund where 18 mil. USD project prepared with the request that switch projects must be implemented – we use this – biomass potential was also a part.
No link

2.4 What cooperation options do the outcomes of the project offer?

2.4.1 How did the project influence opportunities of Czech implementors (incl. sub-contractors) on the BiH market?

Information
BiH složité prostředí a bez silného místního partnera (jazyková vybavenost) se nejde účastnit dalších trhů. Případně v oblasti malých ČOV. Příležitost pro jiné firmy (viz poznámka s Kosovany a firmami z bývalé Jugoslávie). Příležitost pro Kosovskou firmu, který je zkušená a pracovala pro UNDP i IBRD na vytápění i ČOV.
There is a potential in other sources of renewable energy. Alternative to biomass particularly geothermal. More than 30% can be heated by geothermal sources. There is an interest on the part of BiH. Some drillings were tested. Other donors have not looked at this topic. Potential for the Czech Republic. Drilling including mapping and installation is expensive. Usti nad Labem – geothermal energy. Water Hydro Electric Power: There is a plan to construct 350 mini hydro. Hydro already followed by GIZ and private investors. The Czech Embassy opposes this because of negative environmental impacts on fauna and flora. Windmills, have also potential. So far not much utilized, there are 1 or 2 wind power plants. Solar energy also in the southern part of BiH. Investments are in small projects (schools), quick and good visibility. CR is already working on small solar energy project. Many donors in small local projects. There is not much added value of Czech Expertise. BiH is ready and matured to enter the EU. Possibly focus on software activities and then support the outputs of those infrastructure projects.RES for heating- Improvement of air quality (CO2). BiH committed to 40% RES, already now some 40% RES – exporter of electricity. Electricity is the main export commodity. 3 projects implemented by AquaGas. Cooperation with IRCON more difficult. Ideally, the CZDA should help to open markets so that Czech companies can take hold on the bidding market. Czech companies getting CZDA projects is not a viable business model. There is no purchasing power in BiH in this sector as long as there are donors funding the investments. Neither Czech nor local companies are motivated to invest. There is no economic continuity yet. Other donors are focusing on soft components. International tender of IFIs (such as the EBRD) – Czech companies cannot compete with local companies who offer much lower prices. As long as donors give investments for free, selection of supplier is done by donors. Czech companies are not interested to participate in these tenders. Aqua-gas or Ircon have not participated in local tenders (short notice, local language).
So far difficult to judge; CZDA does not have any information about the possibility of further cooperation that would result from this project. The selection of new project ideas must proceed in accordance with the Methodology of Czech Development Cooperation.
Based on the results of other development projects of the Czech Development Cooperation in the countries of the Western Balkans (Serbia, Bosnia and Herzegovina, Kosovo), we know that it is common practice to connect a Czech company in a specific market thanks to a pilot project. The company can later start by offering other services to the primary customer or by delivering similar equipment to the surroundings and draw on successful cooperation established with local entities during the implementation of the development project.
Limited, Infrastructure ecological projects need to meet a variety of legal requirements. Sustainability often not clear (payment of tariffs, recurrent cost). Examples: Construction of WWTP, but willingness/ability to pay tariffs has not been considered. Forestry support project – forestry equipment has been stolen. Not clear how energy is used, how does it work. Options of projects in the RES sector: Biomass makes sense in the context of BiH. Small hydro plants. Possible solution: Promotion of Czech companies, or through other donors such as UNDP. Promotion of Czech companies requires quality proposals, that is for many demanding. Promotion works well for example in Moldova- even local community got involved. A lot has already been done in BiH (such as a visit of Czech Experts), without a visible impact. Opportunities for sub-contractors: Not in the position to judge. Difficult to say. The project can be a good reference for future technical proposals of the implementing companies. References from BiH help companies to be more competitive in bids for projects in BiH. OED supports companies, provides a complete package. OED also participates in B2B proposals.
Analysis of recommendations – plan for next steps, matrix of where to go further. In terms of wood biomass, recommendation – energy cooperatives as private forests have a potential which is not currently used - not properly managed and underutilized. Continuation for more fuel switch projects, from heating wood and oil to more efficient renewable sources. Assure fuel biomass value chain – forest to companies. Local markets to be matured and stronger. Market needs to be established and settled. More fuel switch projects not limited to pellets only, but also for other wood biomass incl. wood fuel.

Would there be a niche for Czech companies/experts to come? Niche for Czech – fuel switch projects. Czech recognized as a donor country. Association Czech – biomass. Also, for energy cooperatives – management of private projects, associations of biomass producers. One consultant engaged from Czech company just engaged for methodological work (ENVIROS). Czech expertise also used for Soft Components – member of scholarship program, good approach of governmental scholarship students and come back and transfer now hired. Other Czech expert – engaged last year for analysis of Covid-19 influence on the biomass sector, overview of European market. There is a niche for CZ companies/institutions in energy cooperatives development – management of private forest. E.g. CZ Assoc. of Biomass producers (CZ Biom). Mixing realization of project and know-how transfer.
The four infrastructural projects were models.
V rámci ZRS ČR – v Novi Travnik – je oslovil zástupce starosty, zdali by se nepodívali na kotelnu pro školu pro děti s handicapem. Potenciál vidí ve využití referencí instalovaných technologií.
Options for cooperation and funding with UNDP, PPP, EBRD. In general, the financing scheme of biomass to energy project should be without subsidies, meaning the investment that pays off. This can be only for companies and municipalities. RES potential in BiH: UNDP – has been implementing pilot projects on green roofs in Sarajevo. Biomass – exists, but the residual biomass from forest management is not accessible in some areas (mountainous terrain and UXO after the armed conflict; or the case of Mrkonjič Grad where there is a factory for RD Silicon production which uses all pure biomass). Further, biomass is exported in unsustainable way to Italy and Germany. The local solutions are needed. Discussion over the suitability of biomass from the perspective of emissions (which are involved and which not). Historically, district heating was not charged. Currently, the topic is political, hence sensitive. **Opportunities for Czech companies in the RES sector are in the following aspects:** Technologies for biomass to energy utilization – boilers, medium-size (500kW and more), where Czech know how in terms of construction of boilers with specific demands (e.g. Nemila, where the boiler grate is constructed in the way to be tolerant to contaminated biomass). Biomass production – but this is problematic as the pellets go for export and circular approach is threatened. Small-hydropower plants. Rehabilitation and construction of central heating systems. The model project in Nemila. Czech companies have relevant know how and would be also competitive in the market. Building retrofitting of larger buildings such as old factories, office buildings - Energy Performance Contracting (apes.cz) – projects for companies. There must be set up a realistic price for heat. The know-how is not so sophisticated and typical Czech (hence there is high market competition), but Czech companies have a comparative advantage in knowledge of region perception and settings of the economic scheme. Geothermal energy – rather low opportunity for Czech companies as local experts are needed. **ENVIROS:** through UNDP project they got an opportunity in BiH, no further contract so far. BiH is difficult due to the territorial divisions. Conducted a feasibility study funded by CzDA in Mrkonjič Grad (over 1 000 000CZK) on assessment of central heating system (not finished due to the armed conflict) to be switched to biomass. The feasibility study was successful, though the solution was more expensive than expected. in the project funded by UNDP, ENVIROS developed the Action Plan for Green City (GCAP EBRD) – energy and environmental plan for the city of Mrkonjič Grad. The city works it. In 2016, a project funded by UNDP and focused on modular legal framework (set of documents) for schools switching heating systems from LFO (LTO) to biomass.
Since December 2020 when he submitted the report has got no updates related what has been implemented – perhaps investment and tax measures, but he is not sure. New opportunities for Czech companies – he believes that they exist, though has got no feedback. He sees the opportunity in the form of delivery of boilers, small-scale technologies, distribution network of biomass energy. At marginal level, export of pellets also to the CR, but for the CR it is more important import from Ukraine. Whether the technologies are cheaper locally? He sees it in the way that larger-scale boilers can be constructed directly on the spot under the engineering supervision of the Czech company (Czech know-how). Boilers up to 0.5 MW can be imported. He is not able to say, whether production and import licence for biomass fuel exist in BiH. Czech company TTS Třebíč has participated in two calls (two towns), but he does not know the origin of the calls. Starting next year criteria of sustainability defining how much biomass can be taken from forest will come into force in the EU. BiH has nothing similar so far, but will ought to have if the pellets export into EU continues. Potential in soft components – not able to say, maybe in the management of wood chips. BiH Government does not support utilization of biomass as an energy source. The support comes only from CzDA activities.
The project has had a positive impact and we hope that in the future we can enter the BIH market through donor projects with our local partners and our Czech partner.

2.4.2 To what extent is there a potential to introduce the same technology in other municipalities / cities of BiH?

Information
Potenciál obrovský – topí se tuhými palivy a nedá se dýchat. Přechod na čistších zdrojů energie. Techologie není úplně složitá a je ekologická, v BiH jsou výrobci které to dokáží nabídnout jako celou techologii.
Potenciál vidí v kontejnerovém řešení. Otázka je však cena pelet při využití kotlů na pelety. Přínosem jsou úspory – např. ve školce Novi Travnik nedokázali předtím vytopit 1/3 budovy a používaly elektrické přímotopy. Úspory jsou pak značné. Potenciál by bylo také napojit ohřev vody. To se řešilo jen v Mostaru, ve školkách to nemělo smysl z hlediska využití budovy a v nemocnici v Doboji to nešlo, neboť neexistuje centrální rozvod.

YES, there is reasonable demand considering that there is no strong gasification in BiH and biomass is local available fuel.
There is a big interest. The Ministry will be aware of requests
There is a potential, funding is a problem. Before the Bosnian war, the central heating system worked, fueled by coal. The Municipality is trying to find funds for **wood chips** to replace coal. Cost calculation by experts indicate that this is cheaper. The Municipality needs to change the heating system in their building. The installations are old, safety is an important aspect. They launched 2 PPP tenders but had to cancel because the quoted prices were above the budget of the Municipality. Funding is a problem. Novi Travnik applies for funding from the Federal Environmental Protection and Energy Efficiency Fund for at least 1 project per year. Last year received support with retrofitting, energy audit. Their priority now is funding re-construction.
Since we have contacts with a local partner there is a possibility for new projects in the field of energy efficiency
Public forest well managed, main source of wood biomass. private not – a good source of biomass as there is poor quality of wood – suitable for fuel but poorly managed. The owners do not see the economic advantage. Owners do not see the economic advantage; no associations exist which would advocate for them and show the economic benefits. 30% private, 70% public forest in BiH. Limiting factors for further dissemination of biomass-based heating technology - Biomass not fully used.
What are the possibilities for Czech companies to replicate technology used under the project "Using biomass for development of rural areas in Bosnia and Herzegovina"? The projects will be announced by public tender, likely in packages of 5. If budget over 200,000 – 300,000 KM – international tender. Czech companies could submit proposals for design and supervision

3 EFFICIENCY

3.1 How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information?

3.1.1 How costly are the technologies of similar projects of other donors? (specific economic demands on boilers USD / kW, heating system, TRV (thermostatic valve with thermostatic head) USD / pc, distribution lines USD / m)

Evaluators' calculations

Only price of boilers can be compared as the price of the whole installation depends on the local conditions. In some projects the supply of container was part of the project, in Doboj there was the original building adapted as in kind (in cash?) contribution of the building user. Doboj – Topling technology 4 665 000,00 CZK incl. storage and fuel feeding, price of boilers 2 300 000 CZK with the total boiler output 1400 kW. Ljubuški – Hargassner technology 720 000 CZK incl. fuel stockpiling and fuel feeding, price of boiler 520 000 CZK with the output 60 kW. Novi Travnik – Hargassner technology 904 000 CZK incl. fuel stockpiling and fuel feeding, price of boiler 690 000 CZK with the output 90 kW. Mostar - Golem technology 2 388 500 CZK incl. fuel stockpiling and fuel feeding, price of boiler 1 896 000 CZK with the output 170 kW. technology Ati Terming (from Serbian producer, identified during the visit of biomass pellet supplier EURO STIL) - boiler 40 kW – price before discount 4458 BAM, after discount 3370 BAM

Exchange rate CZK/BAM published by ČNB on 24.9.2021 = 13,051 CZK/BAM

Location - name	boiler incl. necessary installation (thousands of CZK)	only boiler (thousands of CZK)	output (kW)	cost per 100 kW of output incl. necessary installation (thousands of CZK)	cost per 100 kW of output, only boiler (thousands of CZK)
Doboj – Topling	4665	2300	1400	333	164
Ljubuški – Hargassner	720	520	60	1200	867
Novi Travnik – Hargassner	904	690	90	1004	767
Mostar - Golem	2388	1896	170	1405	1115
Ati Terming	-	58*	40	-	145*

pp* price before discount

Information on cost for the 4 buildings is taken from contracts with i8mplementers. Price for Ati Terming taken from the product displayed at distributors' (EURO STILL) showroom. EURO STILL. This comparison can be misleading … as price per 100 kW should be hire in smaller boilers rather than in big boilers. Also, the capacity is not the only parameter; the most important is the quality and non-failure operation. This comparison shows that the Czech technology Golem is most expensive and, unfortunately, according to the findings, also least reliable among other applied technologies.

3.1.2 What is the energy efficiency of the chosen technology?

Information

Byli jsme nuceni dodat bojler na LTO, což pramenilo z českých norem, ale ne požadavků příjemce. LTO kotel jako záložní zdroj. IRCON navrhoval na stejný zdroj paliva mít tři kotle – dva kotle nezávisle na sobě, výměníky s akumulací na 6 – 12hodin. LTO nepožadovala ani nemocnice. LTO kotel fungoval jen když se testovaly záchytné vany pod nádrží. Energetická účinnost vysoká v ekologizaci - Z jedné topné sezóny z mazutu na pelety. Dálkový monitoring – řídící systém nad rámec realizace, technik z Kosova i druhý člověk od dodavatele řídícího systému ze Srbska (Mniš) mají dálkový přenos a mohou dělat zásahy. Navrhovali jsme sklad na bigbags (v oblasti je 12 výrobců pelet), projekt ale trval na volném ložení. Nyní prý nemocnice stejně využívá bigbags. Přijede kamion a naskladňuje se vysokozdvižným vozíkem. V porovnání se štěpkou – nedokáže se vyjádřit. Energy savings – vše uvedeno v etapové zprávě: pelety levnější než LTO, který byl 2x dražší než pelety. U mazutu neví. Absolutní náklady na palivo nemocnici ale vzrostly – za mazut neplatili včas (dlouhotrvající smlouva s někým).
Heat loss calculation – question to BFS Industry. Boilers thermal output (capacity) based on energy audit from UNDP. Monitoring in Doboj – first winter – heat capacity met the needs.
Efektivitu vidí z hlediska energetických úspor – změna na hlavní ekologický způsob vytápění – optimalizace otopné soustavy se záložním zdrojem na LTO (mazut v Doboji), lepší kotle s vysokou účinností, izolace rozvodů, regulační ventily. Zadání otopné soustavy se odvíjelo od energetického auditu. Záložní zdroj pokrývá výpadky hlavního zdroje na biomasu (porucha, údržba) či špičky. V Mostaru se diskutovala i fototermika na střechu (bylo i v ZD – nutné ověřit) na ohřev teplé vody. Bylo by i tématem v nemocnici, ale nakonec vypadlo z diskuzí. Ve školce nedávalo smysl.

3.1.3 What is the energy output of the chosen technology?

Information
Energy output corresponds with the needs of the hospital. Byl proveden energetický audit, ale mezitím objekty zatepleny, pak rámec zadání, který hovořil o energetické potřebě. Po 2 zimách se však podařilo pokrýt bez problémů, běží jen na pelety. Projekt stále není předán - smlouva, jak je nastavená, tak buď splněno všechno či něco chybí bez ohledu na váhu věci (kotelna vs. papír). Chyběly dokumenty – vytištěné v dubnu 2021 – předávací protokol a jaká je konečná cena, která nebyla dohodnutá. Již 4 varinta odsouhlasená nemocnicí i ČRA, podepsaná do BiH, ale nyní u ředitele nemocnice k podpisu. Dílčí předávací protokoly podepisoval manažer, ale nyní položkové prvky včetně cen – dají do účetnictví a odpisy. Diskrepance mezi požadavky ČRA a nemocnicí (účetnictví). Řeší se poslední dodatek. Datum zahájení záruky je ale datum kolaudace (rok záruční doby).Včetně zaplacení penalizace – ČRA.Penalizace byla zastavena v den 16.3. 2020, další penalizace neuplatňována.
Odpovídá potřebám.Řešení zvoleno na základě energetického auditu. Asi u všech objektů, ale pracovali jsme s ním primárně v Doboji. BFS se podílela na výběru předvybraných objektů – proritizovali 4 – 5 objektů.
Biomass combustion: technology Topling – 2x 700 kW boiler with hot water accumulation 60m3. LFO combustion: Bosch boiler with burner Blow therm Padova Italy 710-1420 kW. LFO combustion serves as backup source, it has not been used since the Biomass boiler was put in operation. The thermal output corresponds to the needs.
The thermal output of Hargassner boiler 60 kW + 2 x 1000 lt of hot water accumulation - corresponds with the needs. For heating, the coldest weather in the winter is 3°C and strong wind (in local language - bura). In common days, the boiler is lighted in 5 am, but during such weather must be boiler lighted earlier or operated continuously.
Boiler Golem HC225 with thermal output 170 kW (performance regulation 40-100%) was installed. The thermal output corresponds with the needs.
The thermal output of Hargassner boiler 90 kW + 5000 lt of hot water accumulation - corresponds with the needs.

3.1.4 Have the cost of buying fuel for the 4 objects decreased?

Information
Cena vzrostla během průběhu realizace. Ve školce v Ljubuškách kupovali i v 15kg plastových pytlích. Jinak big bag. Pelety se odebírají od dodavatele do 100km. S dodavateli jsem se přímo nesetkali.
YES (the hospital consists of more than 4 buildings; all buildings within the hospital territory are heated from the new boiler)
YES, but the price of wooden pellets A1 quality is high. The heating system was in operation for three heating seasons. The municipality buys for kindergarten pellets for 6000 BAM /season (15 t of pellets). If the price of pellets is higher than 200 EUR/t, (ca 400 BAM) then they partially heat by electrical air-conditioning. Additional info: the former director thinks that the operation would be cheaper if they would have their own machine for making pellets; there is enough wood around Ljubuški.
No because the old system has been used. Calculations made by the Centre indicate the possibility of a significant decrease. In the time when the new heating system was in operation, the cost for fuel was decreased.
YES. 1 t of pellets cost 340 BAM, 1 t LFO cost 2,000 BAM. **Per heating season** (8 months) they use: 8 t heating oil = 16,000 BAM, 25,000 – 26,000 t of pellets - cost 8500 - 8800 BAM. Saving more than 7,000 BAM (but they also heat with LTO if there is no electricity).
The prices are increasing. Supply depends on the public procurement. Suppliers mainly from Novi Travnik, improved situation for

companies. Increased income from taxes for the Municipality

3.2 What are the main factors contributing to (in) efficiency of selected solutions in terms of processes and content?

3.2.1 How did the cooperation, communication, coordination between the Czech and local partners in BiH work?

Information
Embassy involved only in handing over. Monitoring fully in the hands of the CZDA. No additional donors in the soft components of the 4 projects
Email: By email / telephone communication or during an on-site inspection day. A working group was to be created retrospectively, see above.
Kindergarten cost 300 BAM/child of which 200 BAM are subsidized by the Municipality. The project provided boiler room, new radiators for 450 m2. **Pipes were provided by the City.**
Good cooperation. Municipality financed the pipeline and radiators. Kindergarten/municipality also paid for cranes for container unloading.
Without any problems. Mostar City was supposed to pay VAT and customs duty. Instead it was paid by the Centre.
During implementation, communication and coordination of work have been good. Lack of communication has occurred with the first heating system failures. Centre paid VAT and taxes
The Municipality contributed: Coordinator for electricity installations. They have budget for pellets and buy them in bulk for all 4 fuel-switched buildings in the Municipality, which is cheaper than buying them individually for each building separately. Kindergarten staff supported the works without remuneration
COVID-19 resulted in some delays. Contributions: Before the heating season, the Kindergarten hires a company to clean the chimney. The Municipality employs a person during the heating season on full time basis for cleaning and operating the system
OK – see replies to questions under point 2.3 above. Note: this view is the view of technical staff, and delegated representative of the hospital management. (The hospital director was not available)

3.2.2 Which were the factors that helped to achieve objectives and results of the project and how?

Information
Nepodařilo se realizovat včas v termínech, které stanovila smlouva. Donor umožnil výrobkové a materiálové variace. Věděli jsme, že harmonogram v ZD je nereálný, takže domluven dodatek č. 1 – reálný harmonogram. Ale byly problémy s PD. 16.10. 2019 spustilo se topení. Faktory úspěšnosti: vytrvalost, dobré vztahy s příjemcem.
In BiH: If you get all relevant institutions for non-political discussion around one table is a success. Thanks to UNDP and their coordination, under this project it worked. Cooperation was very good. UNDP got on board several central institutions. BiH is administratively very complex country. Here succeeded connecting state/central, entity and cantonal levels. This is considered a great success of the soft components. The 4 infrastructure projects: Children in kindergartens have clear air, funds have been saved, can be invested somewhere else. Cooperation with UNDP helped. CZDA had something to build on and there was an open door. UNDP implemented activities in the sector before CZDA came and started with support. Analysis were completed, people knew the context, knew who is coming and why. This made communication and building trust on part of the recipients easier.
In the case of public tenders, it is difficult to assess - the implementer receives the assignment and this must, ideally in full, be fulfilled. If he does not do so and does not inform the CZDA in time, he will be sanctioned according to the contractual requirements. Such a strict setting is a great benefit for public tenders. Regular communication between the CZDA, the implementer and the partner and timely information about the necessary changes in performance are essential.
Bioenergy joined programme was a very good approach. Sometimes difficult to communicate with all stakeholders in BiH, 3 international organizations together – added value, good lessons for UNDP – implementing project jointly, easier to reach. Administratively is BiH very complicated country. Owners of the outcomes of soft components – project board institutions – entity level of Forestry, MFTER, Brcko district – Dept. of Forestry, Agency of statistics BiH for biomass monitoring – has on its platform the Biomass Atlas. University, academic institutions, mechanical Faculty Sarajevo. A lot of consultants within the project were university professors. Establishment of Biomass Innovation Centers – under the Mechanical faculty in Sarajevo – practical studies for their students.
Jako zásadní vidí následující: - zapojení příjemce projektových výstupů do důkladné kontroly a připomínkování technické dokumentace ve fázi ZD (dialog mezi ČRA s technickým expertem a příjemcem). Nyní se příjemci obávají cokoliv říci, aby neztratili

přislíbenou podporu. Vhodné s nimi jednat o změnách a potřebách po podepsání MoU o spolupráci. - ten, kdo sestavuje zadávací dokumentaci, tak by měl dobře znát místní situaci a následně by měl být zapojen do kontroly detailní technické dokumentace (zpětná vazba)
Cooperation with CZDA and the construction/assembly team
Funding from more sources: CZDA, municipality Ljubuški, županija (canton/county), other funds. CZDA financed the heating source, municipality financed the pipeline and radiators. Kindergarten/municipality also paid for cranes for container unloading. The system has good automation, regulation, no claims for maintenance. Local operator trained by implementer comes ones per week for supervision, deashing and basic maintenance.
Financial support to install new technologies/fuel switch. Heat comfort
Good communication and cooperation
In addition to installing the new heating system, the project also improved internal installations, pipes. The new heating system improved safety for the children
Excellent cooperation among the project partners: CZDA, kindergarten, support from the Municipality
Among the main factors for achieving the objectives of this project are the help of our main partner Ircon s.r.o with their experience and sincerity, our experience with projects of this field in local and international projects as well as the qualification and experience of our staff, knowledge of the mentality of our local partners, knowledge of the local language and the same system of education during the time we lived in a common federation - Yugoslavia.
Good cooperation and coordination between actors given the short time for implementation.

3.2.3 What were the major factors obstructing/hindering achievement of project results?

Information
Určité technické požadavky, jejichž relevance byla diskutabilní, např. frekvenční měnič a měření otáček podávacího šneku. Degradace rozvodneho systému. Smlouva. Některá dokumentace zbytečná, vyžadováno 10 vytištěných paré dokumentace.
Lack of awareness of the proposed changes. Lack of political will. In the case of IRCON, 70% of the contract price was for the local partner. The Czech company was a mere supplier. It is most unlikely that this model will help Czech companies to enter the BiH market. The Public Procurement Act is unfortunately the legal framework that CZ has to follow. It may be possible to create an exception under the Act on Foreign Development Cooperation.There is a political will to continue working with the outputs.
Insufficient communication by the implementer, COVID and other restrictions on business trips abroad (Mostar, Doboj), insufficient understanding of the assignment by the implementer (Mostar, Doboj). However, the objectives were achieved for both projects, notwithstanding the negative factors mentioned above
Complex administrative structure – a general factor. Mistry of Energy – updating energy master plan, they decided no TA needed. Discussion if the need helps or not lasted a year. There was an issue with the Entity level Ministries for Energy – to update RES Action Plan – they decided that technical assistant was not needed – the discussion was for one year. Then UNDP switched to pilots from master plan. Political compliance. UNDP budget allocation went for draft law on heating energy and pilot biomass plans in Brcko and rep. Srbska. Is it reflected in the logframe? In the final progress report there is a short explanation.
Based on his experience with UNDP from other countries, JP is afraid that the project possibly results only in hundred-page documents that nobody reads
Jako zásadní vidí omezení zákonem o VZ vzhledem k technické specifikaci, nemožnosti vyžadovat plné technické řešení již jako součást nabídky a nemožnost vyžadovat konkrétní typ technologie (je to skutečně tak? - myslím, že ano).
Procedure of acquiring location conditions from the relevant institutions.
They get pellets only in 15 kg bags, larger packaging is not available. The cost of pellets is higher in the winter. No storage for bulk purchase in the summer. No wood industry producing pellets in Ljubuski, all has to be brought from outside. It would be good if the City had a **plant for making biomass.**
There could have been better public promotion of the project results. There could be more exchange of information between UNDP and the Municipality
AQUA-GAS has no office in BiH, communication problems, problems with services/repairs due to COVID-19 related travel restrictions. Delays due to COVID-19 related travel restrictions.
Delayed permits for operation of the new system
NO impediments. AquaGas was a responsible implementer.
As mentioned in 2-3-2, at the beginning enormous delay with elaboration of the project was created, for which we were punished by heavy penalty. During the technology installation, the local subcontractors didn't meet their deadlines and caused another delay. Other heavy penalties were imposed on us, but we failed to pass it on our subcontractors due to the local business environment.

Lastly some unclear division of responsibility and costs for obtaining permits for use caused another delay. Lastly the covid 19 pandemic heavily affected the end of the project. Despite all of these, we finished all the tasks.

3.2.4 To what extent is the capacity of heating systems used?

Information
According to the outside temperature, during winter – up to 100%. In summer 0 %.
Up to 100%
Up to capacity (if it works)
The kindergarten uses pellets most of the time. But sometimes pellets are not available and they use the old system. The boiler is in use up to 100% of the nominal capacity.

3.3 What was the total contribution utilized from Czech development cooperation funds?

3.3.1 Is the matching grant of 400,000 EUR included in the CZDA contribution?

Information
Do celkové kontribuce ČRA jsou zahrnuty pouze prostředky poskytnuté UNDP na realizaci soft komponenty, prostředky poskytnuté realizátorům infrastrukturních projektů (tj. firmám Ircon a AQUA-GAS) a prostředky na expertní služby a konzultace poskytnuté BFS Industry (pouze smlouva č.j. 279484/2017-ČRA, resp. dodatek č. 1 č.j. 279040/2018-ČRA – proplaceno 1,7 mil. Kč vč. DPH; zbytek fin. prostředků byl hrazen z provozu ČRA, nikoli tohoto projektu).
YES. CZDA contributed to UNDP 486,000 EUR for the soft components – can be considered as matching with the retrofitting portion.

3.3.2 What was the amount contributed by the CZDA to GIZ for the biomass monitoring atlas?

Information
ČRA neposkytla GIZ žádné finanční prostředky napřímo.

3.4 What was the total co-financing of the project?

3.4.1 To whom have contributions from Doboj Hospital been paid?

Information
According to the Environmental Protection and Energy Efficiency fund RS, the hospital contributed VAT and custom for the equipment. This is paid by all recipients to the Indirect Tax Authority and claimed back: Municipality/recipients is obliged to pay all VAT and custom costs to Indirect Tax Authority of BiH. After that they are preparing reclaim request for reimbursement. Together with request they must submit Agreement between BiH and Country (i.e. Czech Republic) on tax and custom exemptions. Indirect Tax Authority controls the submitted documentation and request. Indirect Tax Authority issuing Decision. If the documentation is correct the whole procedure takes 3-6 months.
V souladu s MoU podepsaným s nemocnicí byla nemocnice povinna zajistit určité úkony na vlastní náklady. Těmito úkony jsou např. zajištění stavebních prací v místě realizace, odstranění stávající technologie, zajištění odpovídajícího paliva (pelety, LTO) pro zkušební provoz a zprovoznění technologie, zajištění potřebných zdrojů energie (elektřina, voda aj.) pro realizátora atd. ČRA vyžaduje, aby byly projekty financovány i z jiných než jen vlastních fin. prostředků, tedy např. z vlastních zdrojů příjemce/partnera projektu. Celková výše spolufinancování, jakožto i konkrétní způsob využití alokovaných fin. prostředků podléhá domluvě mezi ČRA a příjemcem/partnerem projektu. Popis kontribuce je krom MoU dále blíže specifikován také v příloze č. 1 Smlouvy s firmou Ircon pod názvem Technická specifikace. ČRA od nemocnice vyžádala přesnější rozpis kofinancu i úkonů, na jejichž provedení byly avizované fin, prostředky využity.

3.4.2 To whom have contributions from the Environmental Fund of Republika Srpska been paid?

Information
Viz výše. Pokud není příjemce schopen určité donorem vyžadované úkony zafinancovat na vlastní náklady, může se obrátit na instituce poskytující půjčky či granty.

CZDA asked the hospital to finance digging and preparation of the site. The Fond paid 140,000 KM for these works to the hospital. The hospital contributed VAT and custom for the equipment. 140,000 BAM from the Fond to the hospital. VAT and custom for the equipment were paid by the hospital to **Indirect Taxation Authority of Bosnia and Herzegovina**

3.4.3 Was the GIZ contribution for the Atlas for biomass monitoring included in funds utilized?

Information
ČRA odreportovala pouze ty finanční prostředky, které sama poskytla, GIZ kontribuce (aktivita je ze strany GIZ realizována v rámci projektu "Promotion of Renewable Energy in BiH") zohledněna není. Interaktivní mapa byla připravena v rámci vytvořené Pracovní skupiny pro monitorování potenciálu biomasy, která byla zřízena s cílem zajistit aktivní účast a vlastnictví veřejných institucí a odborníků v BA nad aktivitami a výsledky tohoto procesu. Členové pracovní skupiny definovali procesy vytváření metodiky, sběr, analýzu a společnou interpretaci údajů o potenciálech lesního dřeva a zemědělské biomasy v BA. Prakticky se jedná o výsledek hledání synergie v projektech a aktivitách v gesci jednotlivých zúčastněných stran a společného postupu ve snaze zvýšit dopad jednotlivých intervencí.
CZDA money – to hire four local consultants to estimate/monitor biomass potential in BiH and Rep. Srpska, two were for wood biomass, two for agricultural biomass. Three were university professors, one was well-known freelance consultant in a forest sector. Two phases of engagement: 1. Initial phase – preliminary data collection, 2. phase - data analysis and input to Atlas. Financial scheme: CZDA – 40% - estimated 35 000 USD from the 486,000 EUR contribution to the project; GIZ = 60%. GIZ hired a local company for development of the platform. There was an issue with working of the platform managed by the Agency for Statistics of Bosnia and Herzegovina. The website does not work. The Atlas is used for By Ministry of Agriculture for report to Energy community. BHAS (Agency of statistics of BiH) is a host (transfer was made) but there is no finance mechanism for its updating. It was asked for number of visitors no reply yet. UNDP and GIZ ProRE team has developed a draft bylaw document that defines the roles and responsibilities for the update of the Atlas. Unfortunately, due to the COVID crisis, this was not adopted by the responsible institutions. As for your question regarding Atlas, details in the Report on Biomass Potentials.

4 EFFECTIVENESS

4.1 To what extend did the project implementation contribute to the economic development of the selected regions?

4.1.1 To what extent has there been an increase in economic activities in the value chain of biomass in project localities due to the project?

Information
No increase in economic activities in the value chain of biomass in the case of small combustion sources. The purchase of fuel oil was substituted by purchase of pellets. The monetary value of the purchase is marginal. Switch to biomass in the case of large combustion sources (district heating Banja Luka, 50 MW, fuel: brown forest biomass – wood chips) can affect the economic activities in the value chain of biomass. District heating Banja Luka is owned by private company and therefore the owner can conclude long term contract for fuel. It enables economic development to the biomass supplier. Other sources are usually operated by public companies, who cannot establish long-term contracts as they must tender the supplier for one or max. 3 years according to the relevant legislation. The total amount of wooden pellets annually produced in BiH depends on the capacity of wood processing industry and on the sale of wooden products.
Some 46 enterprises in the area work with biomass. Some retailers, furniture makers use biomass for heating. Suppliers of biomass are companies, no market value chain. EURO STIL is not a member of the BiH Association of biomass producers, as it is retailer. They sell annually about 10.000 t wood briquets and 20.000 t pellets, this amount fluctuates based on the demand; EURO STIL exports about 70 % of the briquets and pellets to Bauhause, OBI and other chains in Europe; on domestic market they sell to private clients. The source of pellets are parquet producers. In Doboj, private households (HHs) reportedly cannot afford fuel switches. In the Federation, some 30% HHs are reportedly not connected to the central heating. The estimated average cost of fuel switch from coal or LTO to wooden pellets are reportedly 6,000 EUR/HH connection.
During implementation additional jobs and economic activities are possible. Use of pellets is increasing => more business in general.
Yes, there is a visible increase. Investments in boiler and related productions. Coal is still used, mainly for energy generation – all owned by the State. Forest industries data is missing. Estimated >10% goes for export. Quotas for logging (extraction) are calculated and allocated on the basis of plans and certain criteria. The total extraction quota is 2,000,000 m3 / year is fixed, does not change. Afforestation: By public afforestation company, natural regeneration.
The prices are increasing. Supply depends on the public procurement. Suppliers mainly from Novi Travnik, improved situation for companies. Increased income from taxes for the Municipality.

4.1.2 To what extent has there been economic development in other areas of the local economy due to biomass heating?

Information
No tracking of this indicator. Assuming that since local companies and local consultants were included the project had a positive impact. Positive development of local community, help to local economy, connection of academic and private sector through establishment of biomass innovation center. **Awareness raising activities**, PR – open floor for public – opportunity for local producers and companies which were approached by people with task of changing their heating systems. Local population got opportunities to ask for example about the cost of fuel switch. **Supporting programs** - In some canton government subsidizes switches (in Sarajevo Canton). Government subsidized with help of UNDP – reduction of air pollution (a lot of houses still on coal – here is the opportunity for Czech companies as well) Czech Republic – has an experience with subsidies. Market distortions in 2018 – issue with quality – most companies are exporting pellets and at the beginning of heating season there were not enough pellets at the local market. No Quality norms on pellets in BiH, need to be imposed. There were situations where prices went higher than at the EU. Currently stabilized. Responsible authorities - must elaborate measures for quality assurance of pellets. UNDP conducted last year an Analysis on impact of Covid-19 -results show that Covid had no serious impact on biomass market/biomass value chain. But done in September 2020, while the Lockdown was in March 2021.
No increase in other areas of the local economy. The market with pellets in BiH is global, there are no price differences according to localities, just according to the amount contracted.
Mazut suppliers also increased prices, are in a monopoly position. Pellets may be slightly cheaper.
Yearly budget of Mostar – 70 – 80 mil BAM. annual price of biomass for Centre: 10,5 thous. BAM

4.2 To what extend did the project implementation contribute to increased employment in given regions?

4.2.1 To what extent has there been an increase in employment in project locations as a result of the project?

Information
One operator was trained, comes 1x/week. The number of children in the kindergarten increased to 200. They now employ 23 people (22 women and 1 man).
None
Without impact. One boiler operator was operating the old boiler, one is operating the new boiler.
One person hired. Local operator trained by implementer comes ones per week for supervision, de-ashing and basic maintenance. The regulation is automatic – via mobile application.
The previous operator left. New operator trained by AquaGas.

4.3 Are the long-term outcomes of the projects specified/documented sufficiently?

4.3.1 Have the technical specification been fulfilled according to the tender requirements?

Information
Yes, or the technical specification has been modified, but only provided that the change does not adversely affect the functionality and capacity of the heating system. Any proposals for modifications to the technical specifications, which were not found to be suitable, were rejected (see the minutes from the KD or the letters of the Director, CZDA).
Ano, musela být.

4.3.2 Which were the main changes and modifications in the time schedule and for what reason?

Information (Includes V&O)
Nerealistický harmonogram. Další změny – pozdější dodávky, vícepráce, covid restrikce.
Mostar, Doboj - delays in the processing of Project Documentation and ensuring its nostrification/recognition / localization by the local company (the reason was poor quality of the documentation and repeated comments by the CZDA). Further time delays in implementation led to the sanctioning of implementers.

Savings in the budget – as activities done in cooperation with USAID and GIZ (mapping), hence proposed additional activities - no-cost extension with no budgetary implications. Draft law on heating energy of federation of Bosnia and Hercegovina (currently in the final draft, sent to the cantonal Government, then Federal parliament), woods biomass pilot plans in Brcko – for forestry sector how to use the biomass, analysis of impact of Covid
Prodloužení bylo vždy z důvodu dosažení požadavků ze ZD. Důvody: v Doboji –neplnění technických požadavků ZD, v Mostaru – prodloužení kvůli Covid-19 opatřením.
Delay in **A phase** of the project due to technical reasons
Unrealistic schedule at the beginning – part of the tender dossiers. Delay with design elaboration. Delay caused by our subcontractors. 4Covid 19 pandemic

4.3.3 Did the project reports provide sufficient financial monitoring?

Information
Uvedeno vše, aby IRCON argumentoval na penalizaci. Zprávy: 2 průběžné a jedna mimořádná
Zejména v Doboji nebyly změny hlášeny dopředu a byly zjištěny až při monitoring na místě.

4.3.4 Did the project reports provide information on the problems and their solutions?

Information
Yes, if not, they have been returned for revision in the interim report to a form that will make the data / inconsistencies clearer. Mostar - no, the project was short with only 2 the billing periods. This did not give much space for defining problems and proposing solutions. If a problem arose, it was resolved ad hoc by email / phone call and confirmed in the form of an official letter addressed to the Director, CZDA. Doboj – occasionally, mainly during KD.

How can the effectiveness of development cooperation projects be increased? Creation of a working group, which will be the basic communication and monitoring unit. Well-processed analysis of risks and their solution. Realistic time schedule (i.e. less emphasis on drawing funds, higher emphasis on time and quality of work performed). Design – is the most effective solution? Are other donors choosing another approach? Contracts, time schedule not realistic. Qs to CRA.

The Biomass Atlas is useful. Especially for energy planning from local to national level.

Did you received any technical specification from CZDA about the type/size of the boiler to be delivered in Center for Old and Infirm Persons in Mostar? (if so what information did you received from CZDA?) Submitted data on the boiler power, possible sizes of expansion vessel, dimensions and weight of both container boiler room and pellet reservoir. *How did you get involved in the project with CZDA? (was it your fist cooperation with CZDA?)* Associate in the implementation of **phase B** of the project and removal of comments. This was the first cooperation with CZDA.

5 LIKELIHOOD OF IMPACTS

5.1 What are the main intended and unintended development impacts of the project?

5.1.1 To what extent has air quality improved?

Information
Comfort temperature of 10 – 20 degree Celsius. Measurement data not available, but Ljubuski is reportedly among the best 5 cities as far as quality of air is concerned. They used to be among the worst.
Air quality has improved.There is no air quality measurement station.
Subjectively: air quality has improved. It is not possible to objectively proof, because the network of ambient air quality measuring stations in BiH is poor.
Not measured and not applicable since they use the old system/LTO
There are no measurements. Parents really appreciate the new system, reported impact on health – before the project the air in the yard was not good.

5.1.2 How did the project affect suppliers of original fuels for local heating sources?

Information
Not affected

National tenders. Buys by 5 MT at a time due to limited storage capacity
No impact

5.1.3 How did the project affect other groups?

Information
Better safety, the previous system/equipment was old
The project enabled to increase kindergarten capacity (no. of children) by 100% and decrease the fee for one child by 50% at the same time.
The project affected other groups. The kindergarten directress arranged for promotion of the project o the local media. **Primary music school** located on the second (top) floor of the kindergarten building is also heated by the new system – directly benefits. The music school is attended by 105 children and has 5 full time and 4 part-time teachers. Plus 5 administrative staff. They are very satisfied with the new heating system. The old system did not cover all rooms. The new system heats the big classroom/performance room as well as the administrative section. More children attend the kindergarten, **parents** send them there because the conditions are better, children are healthier. Saves time for parents. They now have 125 children and more are waitlisted. (in 2020, there were 96 children) **Citizens who live nearby** (do not get the smoke from LTO heating).

5.2 What are the main positive and negative impacts of the project on final recipients?

5.2.1 To what extent has the disease of the upper respiratory tract decreased in the project buildings?

Information
No information available.
Cannot be quantified – no records/monitoring

5.2.2 How has thermal comfort changed in renovated buildings?

Information
YES, improved
Thermal comfort improved, the temperature is set up at 19 – 20oC.
Thermal comfort increases provided the new system works
Stable temperature => improved thermal comfort.

5.2.3 What impact did the projects have on technical service staff?

Information
Better working conditions, easier boilers operation - digital control panel with visualization. Improved health and safety conditions
One person hired. Very easy operation and maintenance.
2 persons were trained by AQUA-GAS: The Director and 1 operator. The operator works part-time and services also the other building of the Centre in Mostar. The number of technical service staff has not increase as a result of the project. Health and safety conditions would improve if the heating system for pellets would operate without malfunctions. LFO is dangerous chemical substance, wooden pellets have no dangerous characteristics
Only 1 new operator trained; but the old operator was transferred to other work for the municipality. So no increase. The safety was improved – the previous system was very old and not reliable.

6 SUSTAINABILITY

6.1 Which parameters of the project are key for its sustainability and to what extend were they reflected in the project?

6.1.1 How was the exit strategy (sustainability) considered in the project documentation?

Information
Exit strategy: Dálkový monitoring – lze měnit některé parametry, Záruka - kontrola, co se tam děje i po ní je možné, Pozáruční servis, je možné poskytovat – přímo v Doboji firmy. Exit strategy – IRCON začal budovat od změny výrobce kotlů, který byl více renomovaný než ten první, který nakonec zkrachoval). Maximum prvků je z lokálních trhů. Školení obsluhy *Relevant permits and approvals?* IRCON zařizoval: Povolení k užívání – rozsáhlý dokument od certifikované bosenské firmy – BOZP, revize – bez toho by projekt nepředali. To trvalo cca 4 – 5 měsíců. Až po získání mohla nemocnice legálně pustit své zaměstnance na pracoviště. IRCON nedělal: EIA – a netuší, zdali musí být. Realizátor měl zajistit veškeré podklady anebo poskytnout součinnost k dosažení Povolení k užívání.
Feasibility study – often prepared by the same companies (individually or combined in consortia) using CC and paste method. CZDA is lacking a systematic follow up, what do companies do, with what quality. **Tender documentation is too specific, restrictive; can be in contradiction with the local environment** if the authors not familiar with BiH.
Záruky, vysoutěžený 2 letý servis. Dostatečné školení obsluhy technologie I na údržbu. Příjemci byli poučeni o poptávce na palivo tak, aby mohli soutěžit cenu. V Doboji šlo i dodávku atypických náhradních dílů (např. podávací šnek, převodovky motorů). *Relevant permits and approvals?* Při identifikace projektu byl přítomen i zástupce municipality, která měla za úkol facilitovat zajištění podkladů, které pak potřeboval realizátor. V Doboji např. uvedli, že žádná povolení nejsou potřeba. BFS povolení viděla jen jako součást předávacího protokolu.
When planning the exit strategy, we rely primarily on the general (especially economic and technological) sustainability of project outputs and project ownership by the beneficiary. If the project formulation finds that the beneficiary is not able to independently run the system, finance (or seek financial security for) any defects in the system after the expiration of the warranty and thus ensure the long-term sustainability of the project and create ownership, project is dropped. Ownership is usually proven, among other things, by the amount of co-financing of the partner.

6.1.2 How is the financing of the operation and maintenance secured?

Information
Sustainability in BiH is a problem – i.e. WWTP – after completion established that no one wants to pay tariffs.
The accessibility and prices of pellets will be influenced by international market. With the development of price of permits (70 EUR) and descrease of coal consumption, biomass will be the solution. The question is how BiH will reflect this in its policy – will also involve permits? If BiH goes the direction towards EU, then it should gradually introduce fiscal measures for biomass-based fuel competitiveness. However, this solution is of low popularity as coal used mainly by low income population will be more expensive. Generally, price increase is expected. Lateral programme communication between ministries is lacking. Central (state) bodies seem to play only formal role as ministries of the respective states show autonomy.
Hospital is a budgetary organization belonging to the network of national hospitals financed by the Ministry of Health.
Kindergarten is budgetary organization of municipality, so the operation and maintenance are paid from municipality budget.
From the Ljubuski Municipality annual budget (the kindergarten is a budget organization)
Covered partially by the Mostar Municipality (30%), partially by the Centre (70%) from payments by the clients (such as pensions, remittances from children living abroad). The Centre has between 50 – 60 clients.
From budgetary provision of the Municipality under which the Centre belongs (Budget organization). (Annual budget of the Municipality: 70,000,000 – 80,000,000 BAM)
The kindergarten is a budget organization – funded by the Municipality
Funded by the Municipality. There are other buildings heated by pellets: Sports hall (Under the Federal Ministry), Cultural Centre, Fire brigade. Investments in these 3 buildings were funded by the Canton + Environmental Protection and Energy Efficiency Fund of the Federation of BaH, co-financing by the Municipality. Their operation is co-financed by the Municipality

6.1.3 To what extent is the cost of maintenance, repairs, depreciation, overhauls and revisions of the heating systems covered?

Information
The Municipality has some funds. The Centre pays for repairs and asks the city for reimbursement. If funds are available, the city provides them, if not the Centre cover the expenses.
The Kindergarten is responsible. All issues related to operation and maintenance are responsibility of the kindergarten.

6.1.4 What is the expected development of prices of pellets for small sources (1 building)?

Information
The price of biomass is more or less stable since 2018 (2017-2018 the biomass market collapsed; one ton of pellets was up to 300 EUR). Radical changes in prices of biomass are not expected in the future. Current prices: wooden chips (brown biomass) about 40 EUR/ton (based on humidity). Wooden pellets (white biomass) 150 – 200 EUR/t (quality A1 or A2). Wooden pellets B quality are not usually used, it contains bark and breaks. The prices are stable in last years also thanks to balancing with prices of other fuels.
Big rise in the use of pellets between 2014 (25,000 BAM) – 2017 (170,000 t) caused big increase in prices during this period
Expects an increase because demand increases: Priority is **adding value to wood** rather than exporting logs (demand from Germany, USA, Italy – firewood for pizza oven). Pellets and other wood products already certified (FSC and CoC)

6.1.5 Are heating systems and related operations operated in accordance with the manual/ relevant standards?

Information
According to information of technical staff: YES
YES, the Municipality issued construction and operation permit

6.1.6 Is an (updated) O&M manual available?

Information
YES

6.1.7 How many of the trained workers continue to work?

Information
Of the over 15 technical staff, 5 were trained and all 5 continue working.
1 person trained and continues working
2 persons trained and both continue working (currently with the old system since the new one does not work)
1 trained, the same continues to work

6.1.8 Can there be problems with the long-term operation of installed technology?

Information
<u>*To what degree is the technology sustainable in the existing environment?*</u> Obsluha menší, nemusí provádět opravy jako u mazutových kotlů. Technici z kotelny během Covidu zajišťovali kyslík, díky automatizaci otopného systému. Není jasné, co s kotlem na LTO – alespoň pravidelné revize.Životnost – kotle minimálně desítky let, motor a točivých částí – výměny, ventily – náhradní díly, čerpadla. Bude záležet na tom, jak budou celý systém udržovat. Otázkou je, co bude až bude nová regionální nemconice? Co bude s celým objektem <u>*Can there be problems with the long-term operation of the installed technology?*</u> Nutná pravidelná údržba. Realizovala se rekonstrukce pouze části rozvodů, ne celkových. Radioátoy – staré, propláchnuté, ale v jakém stavu nevíme, čištění filtrů. Výměna vody v celém topném okruhu po skončení sezóny. Nyní se udělalo, ale zdali to dělat po každé sezóně, se neví. Nutná alokace prostředků nemocnice na údržbu
Sustainability is quite high. There was an assessment related to the interest of beneficiaries. The beneficiaries showed high interest. Ability of beneficiaries to cover the operational costs stated in MoU. The objects sometimes required the statement of their founder

(municipalities). Technology on biomass to energy - hindering factors – JP does not see any, as the technologies were locally maintained and have skilled and trained operators, and reliable boilers. Possible problems and implemented solutions: Coverage of Operational costs – stated in MoU, Low skilled personnel for operation and maintenance of the technology– training provided.
Z hlediska paliva odhaduje, že asi 5 let ano, dále si netroufne odhadnout. Téma je kvalita pelet, proto je ve školkách kotel Hargassner, který je tolerantní k nižší kvalitě.Životnost technologie odhaduje na 15– 20 let. Rizika: Budou pálit nekvalitní palivo.Nebudou provádět odpovídající preventivní servis.
The technology for energy from pellets is sustainable. In addition, if the production standards come into force. The quality for international market (EU) is given by the Bioenergy Europe – the standard EN Plus. In BiH there are no standard for local market. Pellets as produced from wood waste (sawdust) are more suitable as there is no discussion as in the case of wood chips whether it is better to leave them in forests or to use them as fuel. The forest sustainability – in the CR the reforestation must be done within three years after logging. In BiH similar regulation exists, but the questions are linked to enforceability and sustainability. The problem is with the management of forests: restitution and fragmentation happened. The forest is not managed at all. The cooperatives might be way if well organised as in Finland, where cooperatives are able to negotiate better market price. Types of biomass in BiH: wood chips, pellets, briquettes, agri-biomass – sunflower husks. Accessibility of wood chips limited as it mainly remains in forests. Accessibility of sunflower husks only in the big oil pressing companies. In BiH the market with agri-biomass does not exist. Advantages of pellets: better manipulation and transport compared to wood chips where extra labour force is needed. In the CR, the heating technology with the capacity up to 0.5 MW is only on pellets as wood chips are not economic due to higher costs of labour force. Delivering of pellets depends on customer's demand – bags (extra costs of bagging) or in bulk. In BiH – based on the survey from the last year, there is excess of pellets. 70% of pellets production are exported to Italy and Greece, mainly. Briquettes are equivalent to wood fuel. Briquets local market is weak, 80% of production is exported. In general, the production has decreased due to more difficult manipulation compared to pellets.
The operation of the installed technology can have problems only if the maintenance and servicing is not done according to the manuals for use, servicing and maintenance
According to IRCON reports, they ensured some spare parts, which can be easily wear out or broken (e.g. pellet supply spiral) . long-term problems with operation are not envisaged.
The heating system was in operation for three heating seasons without malfunction, only with common maintenance. No problems with long term operation are envisaged.
YES. Unfortunately, long-term operation problems can be expected as the first malfunctions has appeared shortly after commissioning. The list of failures is provided below.
If properly maintained, there should not be any problems with the new system

6.1.9 Do the supplied pellets have the quality required by the technological solutions?

Information
According to information of technical staff: YES
YES. The UB buys pellets quality A1 or A2 and did not test the real quality.
The quality from some suppliers varies /is not so good. So far there were no any major problems with operating the boiler

6.1.10 What is the availability of pellets? (past and expected)

Information
Pellets are available all year round. The market price increases with heating season. As for the large energy system – he does not know.
Estimated 30% of wood biomass production goes to domestic market, 70% for export from the amount traded by EURO STIL. Briquettes and pellets are typically exported, wood chips used for their production. See *4.1-1:* "The source of pellets are parquet producers." Two different statements? International customers: Croatia Bauhaus, Austria OBI, Italy. Market share in BiH: 20,000 t pellets, 10,000 t briquettes. Pellets and briquettes sold to retailers for household market and small companies. The market is saturated. Export demand is increasing. Domestic demand will also increase, but there are also other sources for heating. (Central heating in Doboj uses Lignite (brown coal)). Prices will stagnate except for seasonal swings. Production is increasing. 4 main producers in the area including in Kladari https://www.dnb.com/business-directory/company-information.other_wood_product_manufacturing.ba.na.doboj.html . Capacity of production is the same, they work in 3 shifts (unloading, loading, administration). Production of briquettes for domestic market increased; producers of briquettes switched to pellets production.
Availability OK.
GOOD, only the prices in heating season are more hire.
Consumption: 20,000 MT per the first heating season, in continuous operation without malfunctions consumption 30,000 MT is

expected.Pellets were available at the following prices:2020 320 BAM/MT, 2021 350 BAM/MT.
Sometimes delivery of pellets may be delayed by 1-2 days because of problems with transport in winter time.

6.1.11 To what extent do large sources (heating plants and power plants) contribute to the consumption of biomass in BiH?

Information
It is not expected that large combustion sources use wooden pellets. Large combustion sources use brown biomass/wood chips – the example is Banja Luka district heating
Big plants have not been using pellets so far, but there are discussions to introduce it.
Public powerplants are priority because there is a lack of firewood for the population. Due to the quotas, there is no more "space" for big extraction companies, only for small ones. Factories: Charcoal producer, Silicon producers 25,000 m3 wood, Strong migration from rural areas to other countries. 600,000 m3 fine wood of which: 400,000 m3 – houses (70%), 200,000 m3 – to big resources (30%).

6.1.12 Is there a possibility in BiH that large resources will dominate the biomass market (as is happening in the CR)?

Information
No such possibility is expected.
Not sure, we should ask utilities if they plan to switch from fossil fuel to RES

6.1.13 What is the current and expected share of exported pellets?

Information
Current share of exported wooden pellets is 20-30% and is expected to be stable. Higher share of export is not expected. In the past, the exported share decreased from 50% to current status.
Most produced pellets go for export: 135, 000 t in 2016, 94,000 t in 2017. Note: The Bioenergy Europe statistical report 2019 lists that the prices of pellets in EU member states were 30 – 40 % higher in 2018 in comparison with Balkan countries incl. BiH.
No increase in the exported volume of pellets is expected

6.1.14 What accessible types of biomass exist in BiH?

Information
As biomass, only wooden pellets (white biomass from wood processing) and wooden chips (brown biomass from forest maintenance) are used. No phytomass (straw pellets) is produced in BiH.
Standards of pellets: A1 - 340 BAM/MT, A2 (0.6% sulphur) - 260 BAM/MT, B -120 BAM/MT
Wood pellets, Wood chips, Wood briquettes (mostly for export), Fuel wood (not efficient)
No technology developed for other sources of biomass. According to law, the stubble must be plowed. Exemption: The Monastery of Trappist (near Banja Luka) uses waste for biogas – energy self-sufficient

6.1.15 Are there any investments in retro-fitting and fuel switch projects in other than public buildings?

Information
Most of the fuel switch (to biomass) projects was implemented in the period 2013-2014 when the price of fuel oil has rapidly arisen. Does not know about any current bigger project, planned or under implementation. Several years ago, there was implemented combined heat and power in private wood processing plant in Knežev (they combust their own waste).
YES, SIDA – through UNDP, EBRD – loans thru commercial banks

7 CROSS CUTTING PRINCIPLES

7.1 To what extent did the project contribute to the improvement of the environment in the given locality / region, decreasing disaster risks, mitigating impact of climate change?

7.1.1 To what extent has the project contributed to the improvement of individual components of the environment in the project municipalities?

Information
Ekologizace paliva
Subjectively: air quality has improved. It is not possible to objectively proof, because the network of ambient air quality measuring stations in BiH is poor.
Ambient air quality, but measurements in Mostar not available
Novi Travnik does not measure air quality. Improvements in the terms of odour and air quality reported by the kindergarten

7.2 Have some negative results or impacts been recorded in the area of environmental sustainability, or coping with the effects of climate change in relation to the project?

7.2.1 How were the negative impacts of the project on the environment and climate been mitigated?

Information
BOZP, zajištění provozních kapalin. Mazut likvidovala nemocnice. IRCON nebyl odpovědný za zněčištění od mazutu.
Samotný projekt přispěl ke snížení dopadů na ŽP - ekologizace otopných systémů. Rovněž byla zajištěna ekologická likvidace mazutu a LTO při výměně.
No negative impacts
The negative impacts on the environment were mitigated after the fuel was changed from heavy oil to biomass where the heating efficiency was increased, the system is more efficient as the equipment is more efficient and the control system is automated. This new system enables energy saving and control of heating parameters
Every pellet boiler is equipped by cyclone for dust removal from the flue gas. This mitigation measure is sufficient and corr esponds to the boiler's capacity.
There are no negative impacts on the environment.

7.3 To what extent was the cross-cutting principle of good (democratic) governance and the application of democratic principles reflected in the project?

7.3.1 To what extent were you involved in the project?

Information
During handing over and communication with UNDP, opportunity to raise an opinion. Involved in the implementation of the proje ct.
MIT did not participate in the project.
Only to a limited extent. Commented inception reports, but does not recall anything specific. Commented on the boiler houses. Did not comment on the UNDP output co-funded by the CZDA. OED wants a commercial continuity of projects. Entrepreneurial environment in BiH very bad. Problems with good governance. Difficult to get anything done. During the past 5 years, it has been exceptional that a Czech firm would work in BiH without CZDA. Role of OED is to seek opportunities and niches for Czech compa nies and match them with Czech companies. To point the way. Support the company with tender preparation/advise. Information on reasons for losing tender. Perhaps use B2B rather than company.
Identification and selection – ORS was involved in accordance with the methodology. In addition, contribution for SW thru UNDP contribution. The financial contribution was a non-standard measure. ORS has been involved more intensively. Standard process of identification and evaluation according to methodology. In addition, there is a financial contribution to UNDP, as well as mo re intensive

communication between the ORS and the CZDA. It was necessary to consider part of the funds always for a given year. ORS main task in the project cycle management.
Has worked with the project from its beginning. The concept of cooperation. UNDP – technical support in terms of selection of the objects. Energy audit management information (EAMIS) system was developed - efficiency, relevant information for BiH. Agreed and communicated with CzDA. EAMIS serves as a pool for objects selection. Steps in selection of the four objects: EAMIS, Got data for six months (?) – tracked, looking at CO2 emission, Detailed energy audit, objects for which UNDP already implemented some efficiency measures to have fully recovered objects. Economic analysis, Energy efficiency measures, prelisting of potential objects to the donor, Assessment based on the budget. From six objects reduced to four as Doboj is quite large. The approach was to have kindergartens and hospital and social care institution. Final decision was based on available budget. The 4 objects CZDA were left to the donor to decide. 4 larger objects instead of 6.
The UNDP document was initially too broad. The respondent was contracted only to clarify the project documentation for CzDA-UNDP project (to clean the documents, setting the tangible indicators in LFM, formulating suggestions towards UNDP). The respondent was also involved in the formulation trip – visited five locations suggested by UNDP based on energy audit (5 locations, one was rejected). The respondent was also involved in the preparation of the project documentation for the four infrastructural projects. Is not aware how both CzDA-UNDP project as well as the four infrastructural projects have been implemented.
BFS se podílela na identifikaci objektů, zajišťovala technickou specifikaci ZD a dohled nad realizací, podílela se na vyhodnocení nabídek jako technický expert. Spolupráce s dalším technickým expertem ČRA, který měl zajímavé připomínky i k BFS. Poukazuje na to, že příjemce má omezené vyjednávání při tvorbě ZD – obavy ze ztráty podpory. Navrhuje, aby nejdříve bylo podepsáno MoU mezi ČRA a příjemcem a pak se detailně probrala ZD/PD s příjemcem – neměl by v tom ale být zahrnut realizátor, ale někdo nezávislý – ČRA a technický expert. V připravované VZ do Banja Luky se toto snad již podaří. BFS se podílela na výběru předvybraných objektů – proritizovali 4 – 5 objektů.
ENVIROS provided expertise in biomass from forest. ENVIROS worked as technical expert for CzDA for cca 5 years (before the identification of the four objects). In Doboj, ENVIROS identified the geothermal energy project.
The respondent was an expert on demand (UNDP CF) in 2020 when he conducted the analysis of the biomass market in BiH. He cooperated with a local expert. The analysis involved questionnaire survey and interviews with biomass producers, ministry of forestry. Conclusion of the report: cooperation does not work as the biomass market is taken over by big foreign companies. Risk management is valid not only in times of Covid, but in general – there are biomass producers, but no demand in BiH.
Has general information about the project, but he was not involved in any for in the pilot project formulation or implementation
The representatives present on the meeting were not involved in the project – the management of the Municipality changed in 2020. It is not clear if the previous management had any contact with CZDA.
The Municipality was involved after the selection. No one asked them what is their priority.
The hospital technicians were deeply involved (in dismantling of the old boiler and support in coordination of the site preparation and assembly of the new technology).
The former director was involved.
Some 7 years ago, the Centre sent application to the UNDP for retrofitting. After they submitted application UNDP proposed them for the pilot fuel switch, first without solar energy. Solar panels were included later.
Fully, from the very beginning. The Directress participated in trainings provided by the UNDP. Requested retrofitting under the energy efficiency project. Only the kindergarten building was retrofitted in Novi Travnik. Recently, the Directress arranged funding from the Turkish Cooperation and Coordination Agency (TIKA) for a new playground.

7.3.2 Have you been consulted on the criteria for selecting objects for biomass heating?

Information
NO. Based on direct communication between UNDP and CZDA.
YES. The Ministry was regularly informed
Not involved in the selection
the directress got to know about the possibility for including the kindergarten from UNDP.

7.4 To what extent has the project reflected the cross-cutting theme of respect for the human rights of beneficiaries, including equality between men and women?

7.4.1 How was the principle of gender equality applied during the implementation of the project?

Information
The gender equality aspect here is not natural. UNDP gender analysis of participation in meetings: 30% women and 70% men.
More difficult to evaluate in public tenders - cross-sectional principles incl. Gender issues are usually left in a very general level. More emphasis is placed on the quality technical aspects. For the new public tenders in BaH, there should be greater focus on cross-cutting issues, regardless of the selected financial instrument (PT, grant, RO). This would motivate companies to form consortia with the non-profit or academic sector (see bilateral projects CZDA in Ethiopia).
Gender: By the time the project was initiated UNNDP did not have gender markers to assign markers to projects. Therefore, not enough attention was paid to the segment. Tracking gender structure of participants in meetings. The potential Indicators can be – to assess the quality of work and overall of time improved in the building for gender. Advices designed for women and men due to their different HH roles. Infrastructure projects – how the quality of work works for gender – that should show good results, roles in HHs. Promotion activities. Professional occupation – predominantly male. In PR activities again, no paid attention to gender. Note: PR Videos for Doboj and Mostar are not planned. Occupation in forestry and mechanical engineering male prevalent. Novi Travnik kindergarten – female director x Ljubuski – male. Nurses – female.
The Kindergarten employs 23 people (22 women and 1 man). 50% of the 200 children are girls.
The Directress of the Kindergarten was an added value because of her active involvement and enthusiasm
Employee composition: 27 women, 3 men; Patients: 60% women, 40% men
From the 125 children slightly more than 50% are girls. 20 people work in the kindergarten: 19 women and 1 man: 14 teachers including the director (14 women), 2 medical nurses (women), Secretary (woman), Cleaner (woman), Cook (woman), Operator (man).

8 VISIBILITY

8.1 Were the requirements for the external presentation of the project in BiH met?

8.1.1 To what extent were the Methodical instruction of the Czech Development Agency to the external presentation of the Czech Republic's foreign development cooperation followed?

Information
Samolepky ZRS ČR všude. Billboard před nemocnicí. Novináři na začátku projektu. PR ovlivněn Covidem. Se zahájením další topné sezóny – účast ZÚ, vydání tiskové zprávy. ceremonie pro veřejnost. Letáky
Presentation is the responsibility of the implementer. The outputs were presented very well, particularly by AquaGas. Now being revised – better utilization of social media and web. Presentation was excellent.
The methodological instruction was followed in full. UNDP highlighted cooperation with CZDA.
From evaluators" observations of four objects: YES

8.1.2 How did you learn about the project?

Information
Association's representative is an expert in this field and he knows about all significant biomass projects in BiH. He cannot say how he learned about the project.
The Ministry was a direct stakeholder in the project
Thru working contact with the Czech Embassy in Belgrade
Went to Sarajevo to different organizations. Got information about the project from Czech wives married to Bosnian husbands. Went for meetings … and submitted the project proposal form.
From the Kindergarten Directress who notified them that they can be involved.

During the work of the technicians.
The former director got information about the project from Czech wives married to Bosnian husbands. Based on this, he visited Czech Embassy in Sarajevo and different organizations.
From UNDP
Through participation in UNDP workshops and announcements

Annex H: Evaluation of individual crosscutting themes

PROCESS AND CONTEXT CHARACTERISTICS OF THE PROJECT IMPLEMENTATION

GOVERNANCE

STAKEHOLDER ENGAGEMENT & PARTICIPATION

Context indicator is not relevant.

GGP1
GGP5

TRANSPARENCY, ACCOUNTABILITY AND THE RULE OF LAW

Regular monitoring and data publication (e.g., water quality data, health statistics etc.) is not taking place in the intervention area.

GGP6
GGP7
GGP8
GGP9

GGT
Not at All

GGT The thematic focus of the project falls under the area of Good Governance.

GGP1 An appropriate stakeholder analysis was carried out at the beginning of the project.

GGP2 Identified stakeholders have been consulted in the project planning phase.

GGP3 Input from stakeholders was reflected in the final project proposal.

GGP4 Input from stakeholders was reflected in the project implementation.

GGP5 Stakeholders have been informed about the results, success and challenges of the project.

GGP6 Information about the project is available on the website of project implementers and their local partners. Information is available in local languages.

GGP7 Implementation partners and/or subcontractors were selected based on clear and transparent processes and criteria.

GGP8 Target groups / institutions (e.g., schools, villages) were selected based on clear and transparent processes and criteria.

GGP9 Project implementers and their partners clearly divided their responsibilities and were adequately fulfilling them during the project implementation.

ENVIRONMENT

ENVIRONMENTAL EFFECTS AND ENVIRONMENTAL GOVERNANCE

Environmental sustainability forms part of partner country development strategies (e.g., Country Programme Papers, national government strategies, Agenda 2030 strategies etc.).

EEP2
EEP3
EEP5

EET
To a Great Extent

EET The thematic focus of the project falls under the area of Environment.

EEP1 Potential negative environmental impacts of the project implementation were identified in a timely manner and appropriately eliminated or mitigated.

EEP2 Waste generated as a result project activities and outputs has been disposed of in accordance with accepted safety and environmental standards.

EEP3 A project life cycle assessment with an emphasis on sustainability of the project and resources it uses was carried out.

EEP4 All possible strategies and means for decreasing the intervention's carbon footprint or any other negative environmental effects have been applied during the project implementation phase.

EEP5 Applied methods and technology for project implementation are sustainable from the environmental point of view.

HUMAN RIGHTS AND GENDER EQUALITY

HUMAN RIGHTS

None of context indicators is relevant.

HRP1

HRT
Not at All

HRT The thematic focus of the project falls under the area of Human rights.

HRP1 In the stage of project planning, rights of all potentially affected stakeholders, and specifically of those belonging to traditionally marginalized and excluded groups, were taken into account.

GENDER EQUALITY

In project partner organizations, women and men share equally decision-making responsibilities and power.

GET
Not at All

GET The thematic focus of the project falls under the area of Gender Equality.

GEP1 A gender (poverty) analysis was carried out at the beginning of the project or during its implementation and its conclusions were reflected in the project design.

GEP2 Gender-sensitive indicators were developed for the monitoring and evaluation of the project's impact on women and men and on gender relations.

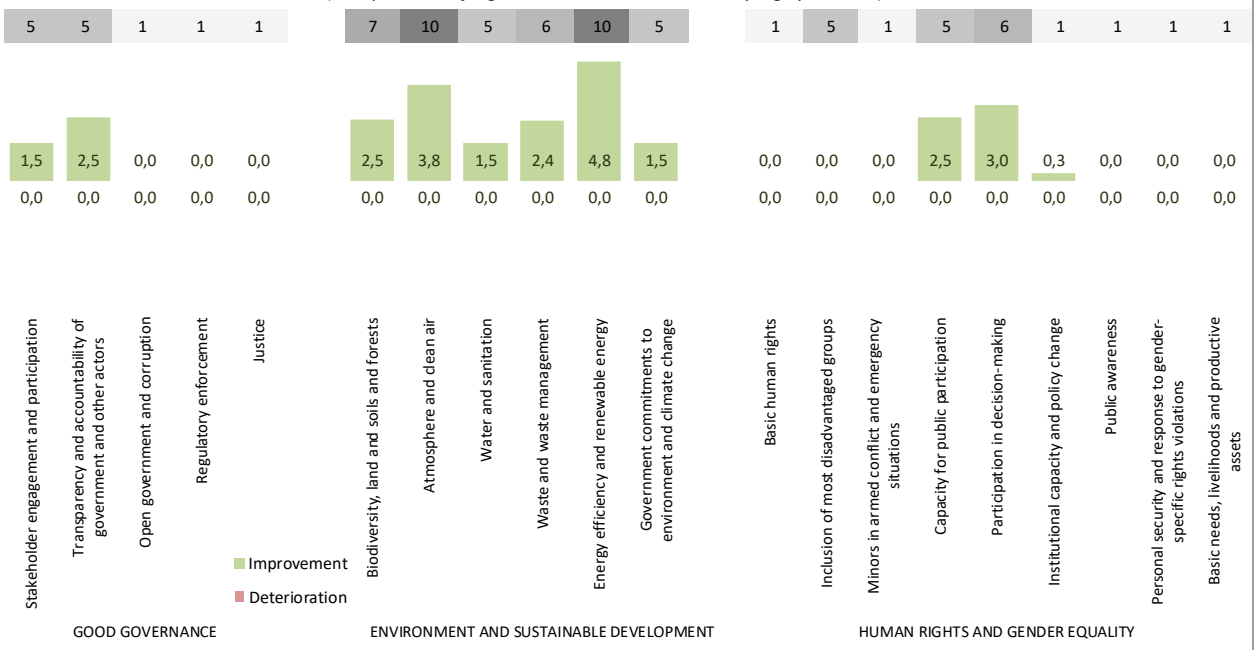
GEP3 Sex-disaggregated data have been collected for every major project activity.

GEP4 The project worked effectively with gender analyses and integrated them into its activities.

Note: *green colour indicates that all relevant context indicators have been fulfilled; orange colour indicates that at least one of the relevant context indicators has been fulfilled; red colour indicates that none of the relevant context indicators have been fulfilled; grey colour indicates that none of context indicators is relevant; in grey cells are presented positively evaluated project-related indicators*

EVALUATION OF PROJECT RESULTS

RELEVANCE *(0=impossible to judge; 1=not at all relevant, 10=very highly relevant)*



Note: *Improvement: 0=none, 1 to 3=partial, 4 to 5=high; Deterioration: 0=none, -3 to -1=partial, -5 to -4=high*

1. Characteristics of the project

Area of assessment		Evaluation**	Description
1.1	Availability of project results	available	Three heating systems on biomass are operating without difficulties. The heating systen on biomass in the House of Old and Inferim People is not in operation and the heating operates on LFO only.
1.2	Project implementation phase	terminated	
1.3	Relationship to other projects	first of its kind	The project focused on heating systems on biomass only (Ljubuski) and on the combination of biomass and LFO (Novi Travnik, Doboj, Mostar) in the public buidlings.
1.4	Context of other projects	integrated	The four CZDA fuel switch projects belonged under activity 1.3 of the project *Using biomass for development of rural areas in Bosnia and Herzegovina* implemented by UNDP.
1.5	The project had positive influence on implementation or results of another project	No	
1.6	The project had negative influence on implementation or results of another project	No	

2. Process and context characteristics of the project implementation

		GOVERNANCE		
		Area of assessment	**Evaluation****	**Comments**
	GGT	The thematic focus of the project falls under the area of Good Governance.	Not at All	
Stakeholder engagement and participation	GGP1	An appropriate stakeholder analysis was carried out at the beginning of the project.	To a Great Extent	UNDP applied the following steps (at the level of the objects) in selection of the four objects for CZDA support:1.EMIS analysis (Energy Management Information System), 2.Data related to CO2 emission collected for six months, 3.Energy audit, 4.Economic analysis, 5.Energy efficiency measures, 6.Prelisting of potential objects to CZDA, 7.Assessment based on the budget
	GGP2	Identified stakeholders have been consulted in the project planning phase.	Not at All	
	GGP3	Input from stakeholders was reflected in the final project proposal.	Not at All	
	GGP4	Input from stakeholders was reflected in the project implementation.	Very Little	According to the key informants, beneficieries had a chance to express their opinions/requests in joint meeting, but did not take the opportunity due to the cultural patterns.
	GGP5	Stakeholders have been informed about the results, success and challenges of the project.	Somewhat	The recipients were informed during the technology implementation. The respective municipalities were informed only after the selection of the objects without asking their priorities. Some municipalities experienced change of the staff, hence the institional memory was lost.
	GGC1	National and local government partners provide a formal mechanism for stakeholder engagement and policy dialogue.		not relevant
Transparency, accountability and the rule of law	GGP6	Information about the project is available on the website of project implementers and their local partners. Information is available in local languages.	Somewhat	Information about the project in local languages and English on the webstes of various stakeholders. Information about the four infrastructural projects were not found on the websites of the implementors.
	GGP7	Implementation partners and/or subcontractors were selected based on clear and transparent processes and criteria.	To a Great Extent	in accordance with respective Czech and Bosnian legislation
	GGP8	Target groups / institutions (e.g., schools, villages) were selected based on clear and transparent processes and criteria.	To a Great Extent	UNDP applied clear criteria (at the level of the objects) in selection of the four objects for CZDA support:1.EMIS analysis (Energy Management Information System), 2.Data related to CO2 emission collected for six months, 3.Energy audit, 4.Economic analysis, 5.Energy efficiency measures, 6.Prelisting of potential objects to CZDA, 7.Assessment based on the budget. CZDA conducted the final selection.
	GGP9	Project implementers and their partners clearly divided their responsibilities and were adequately fulfilling them during the project implementation.	To a Great Extent	Responsibilities were specified in the MoU between CZDA and the respective beneficiaries, and in the cintrcat between the implementor and his sub-contractor.
	GGC2	Regular monitoring and data publication (e.g., water quality data, health statistics etc.) is taking place in the intervention area.	Not at All	The monitorig is not conducted as the network of ambient air quality measuring stations in BiH is poor. Data are not available.
	GGC3	The country has improved its rating in World Governance Indicators (Rule of Law, Control of Corruption, Government Effectiveness).		not relevant

Note: *GGT – good governance thematic focus (crosscutting theme or key project focus), GGP – good governance project-related indicator, GGC – good governance context indicator*

*** Select an aswer from the dropdown menu. If the context indicator is not relevant, leave the cell empty.*

	ENVIRONMENT			
		Area of assessment	**Evaluation****	**Comments**
	EET	The thematic focus of the project falls under the area of Environment.	To a Great Extent	
Environmental effects and environmental governance	EEP1	Potential negative environmental impacts of the project implementation were identified in a timely manner and appropriately eliminated or mitigated.	Not at All	The project aimed at decrease of air pollution, CO2 emissions, in particular.
	EEP2	Waste generated as a result of project activities and outputs has been disposed of in accordance with accepted safety and environmental standards.	To a Great Extent	The generated waste (old LFO tanks, used LFO) were disposed in accordance with the legislation requests.
	EEP3	A project life cycle assessment with an emphasis on sustainability of the project and resources it uses was carried out.	Somewhat	Using biomass lads to decsreased CO2 emissions.
	EEP4	All possible strategies and means for decreasing the intervention's carbon footprint or any other negative environmental effects have been applied during the project implementation phase.		not relevant
	EEP5	Applied methods and technology for project implementation are sustainable from the environmental point of view.	To a Great Extent	The project used biomass considered as renewable energy source. There is high potential of utilisation of biomass in BiH.
	EGC1	Relevant environmental strategies, plans, services and/or technologies (e.g., a waste management plan, stable safe water supply etc.) are in place in the intervention area.		not relevant
	EGC2	Environmental sustainability forms part of partner country development strategies (e.g., Country Programme Papers, national government strategies, Agenda 2030 strategies etc.).	To a Great Extent	The project made also an important contribution to the implementation of the National Renewable Energy Action Plan (NREAP) 2016 -2020.

Note: *EET – thematic focus (crosscutting theme or key project focus), EEP – environmental effects project-related indicator, EGC – environmental governance context indicator*

*** Select an aswer from the dropdown menu. If the context indicator is not relevant, leave the cell empty.*

	HUMAN RIGHTS & GENDER EQUALITY			
		Area of assessment	**Evaluation****	**Comments**
Human rights	HRT	The thematic focus of the project falls under the area of Human rights.	Not at All	
	HRP1	In the stage of project planning, rights of all potentially affected stakeholders, and specifically of those belonging to traditionally marginalized and excluded groups, were taken into account.	Somewhat	The fuel switches were implemented in four public buildings used by marginalized/vulnarable groups - children, elderly people, women. However, the gender equality component was not included in the project
	HRC1	At the national or local level (as appropriate), there is an official body charged with the protection of human rights and rights of minorities.		not relevant
	HRC2	There are NGOs active in the area of human rights advocacy and protection in the intervention area.		not relevant
	HRC3	Human rights (civil, cultural, economic, political and asocial) form part of partner country development strategies (e.g., Country Programme Papers, national government strategies, Agenda 2030 strategies etc.).		not relevant
Gender equality	GET	The thematic focus of the project falls under the area of Gender Equality.	Not at All	
	GEP1	A gender (poverty) analysis was carried out at the beginning of the project or during its implementation and its conclusions were reflected in the project design.		not relevant
	GEP2	Gender-sensitive indicators were developed for the monitoring and evaluation of the project's impact on women and men and on gender relations.		not relevant
	GEP3	Sex-disaggregated data have been collected for every major project activity.	Not at All	Gender equality was not included in the project design.
	GEP4	The project worked effectively with gender analyses and integrated them into its activities.	Not at All	Gender analysis was not included in the project design.
	GEC1	Project partners (NGOs, national or local government entities) have internal gender equality and/or gender mainstreaming strategy.		not known
	GEC2	In project partner organizations, women and men share equally decision-making responsibilities and power.	Somewhat	The stakeholders at management position involved both women and men in the four objects. Some partner organisations reported equal opportunity for both gender.
	GEC3	Gender equality and/or women empowerment form part of partner country development strategies (e.g., Country Programme Papers, national government strategies, Agenda 2030 strategies etc.)		not relevant

3. Evaluation of project results – GOVERNANCE

EVALUATION OF PROJECT CONTRIBUTION TO GOOD GOVERNANCE

In what way, if any, has the project contributed or worsened the following subdimensions?

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Participation 1.1 Stakeholder engagement & participation	5 - somewhat relevant	GGO4: Number and format of consultations carried out by project recipient with other project key stakeholders.			3	0	Concultation with project beneficieries were carried out in the initial and implementing phase. Some evidence exists in form of meeting minutes/reports.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.1	**3**	**0**	
				Average evaluation	**1,50**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GGO – Good Governance Output indicator; GGRL – Good Governance Result (Outcome) QuaLitative indicator, GGRN – Good Governance Result (Outcome) QuaNtitative indicator.

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
2. Transparency & accountability 2.1 Transparency and accountability of government and other actors	5 - somewhat relevant	GGO22: Number and type of technical resources/mechanisms developed to strengthen transparency and accountability.			5	0	All relevant permits obtained.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 2.1	**5**	**0**	
				Average evaluation	**2,50**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GGO – Good Governance Output indicator; GGRL – Good Governance Result (Outcome) QuaLitative indicator, GGRN – Good Governance Result (Outcome) QuaNtitative indicator.

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
3. Rule of Law 3.1 Open government and corruption	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 3.1	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GGO – Good Governance Output indicator; GGRL – Good Governance Result (Outcome) QuaLitative indicator, GGRN – Good Governance Result (Outcome) QuaNtitative indicator.

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
3. Rule of Law 3.2 Regulatory enforcement	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 3.2	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GGO – Good Governance Output indicator; GGRL – Good Governance Result (Outcome) QuaLitative indicator, GGRN – Good Governance Result (Outcome) QuaNtitative indicator.

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
3. Rule of Law 3.3 Justice	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 3.3	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GGO – Good Governance Output indicator; GGRL – Good Governance Result (Outcome) QuaLitative indicator, GGRN – Good Governance Result (Outcome) QuaNtitative indicator.

3. Evaluation of project results – ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

EVALUATION OF PROJECT CONTRIBUTION TO ENVIRONMENT AND SUSTAINABLE DEVELOPMENT

In what way, if any, has the project contributed or worsened the following subdimensions?

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Environmental Effects 1.1 Biodiversity, land, soils and forests	7	EEO6: Number and type of tools developed to ensure efficient use of forest and land resources and stem deforestation.			4	0	UNDP Component 1: Developed policy for sustainable biomass utilization in B&H reflected to the legislation and use in practice. UNDP Component 2: Quality and availability of the wood biomass energy carrier for heating purposes increased due to the adoption and use of improved biomass processing methods
		EEO13: Project used local resources and technologies.			3	0	The project used local biomass resources. The heating technology was imported (CZ and Austrian boiler producers).
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.1	**7**	**0**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Average evaluation	**2,45**	**0,00**

Note: EEO – Environmental Effects Output indicator; EERL - Environmental Effects Result (Outcome) QuaLitative indicator; EERN - Environmental Effects Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Environmental Effects 1.2 Atmosphere and clean air	10 - Very highly relevant	EEO23: Number and type of measures adopted to support green growth.	EERL20: Degree, to which a project has contributed to the increase/decrease of concentrations of major air pollutants.		5	0	Decrease of concentartion of air pollutant - dust, CO2. Possibly other gases, but air pollution measurement not in operation in the respective areas.
			EERL21: Evidence of use of products or technologies purchased/installed that lower emissions.		5	0	Energy efficient boilers using biomass, equipped with techniques lowering emissions (e.g. cyclone for dust removal from the flue gas).
			EERL22: Perceived improved quality of air		4	0	Stakeholders reported subjective feeling about air improvement.
			EERL23: Perceived improved quality of health as a result of improved air quality		3	0	Two short videos promoting fuel switch projects in kindergartens (Ljubuski, Novi Travnik) provide evidence from parents (mothers) related to decrease of respiratory problems of their kids after new heating systems..
			EERL24: Evidence of changed behaviour patterns of local inhabitants with respect to high-emission-producing behaviour.		2	0	The implementors (and technical supervisors) reported that were contacted by neighbourig public building with interest in fuel switch technology.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			

** Evaluate the degree of project relevance to the subdimension.*

Total for subdimension 1.2	**19**	**0**
Average evaluation	**3,80**	**0,00**

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: EEO – Environmental Effects Output indicator; EERL - Environmental Effects Result (Outcome) QuaLitative indicator; EERN - Environmental Effects Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Environmental Effects 1.3 Water and sanitation	5 - somewhat relevant	EEO40: Evidence of measures put in place to ensure efficient use of water in all project-related activities.			3	0	The water used in the heating systems is circulated.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			

** Evaluate the degree of project relevance to the subdimension.*

Total for subdimension 1.3	**3**	**0**
Average evaluation	**1,50**	**0,00**

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: EEO – Environmental Effects Output indicator; EERL - Environmental Effects Result (Outcome) QuaLitative indicator; EERN - Environmental Effects Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Environmental Effects 1.4 Waste and waste management	6	EEO51: Evidence of measures put in place to prevent potential chemicals spills from facilities involved in carrying out project activities.	EERL53: Evidence of appropriate handing of hazardous waste.		4	0	Old LFO tanks (Doboj, Mostar, Novi Travnik) were disposed with the legislative requests and replaced by new safe tanks.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.4	**4**	**0**	
				Average evaluation	**2,40**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: EEO – Environmental Effects Output indicator; EERL - Environmental Effects Result (Outcome) QuaLitative indicator; EERN - Environmental Effects Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Environmental Effects 1.5 Energy efficiency and renewable energy	10 - Very highly relevant	EEO70: Degree, to which a project supported the production and use of energy from renewable sources.			5	0	Fuel switch CZDA projects in favour of using biomass. UNDP dosf components focused of creation policy and respective tools supporting biomass using.
		EEO71: Extent, to which a project relied on renewable sources of energy.		EERN71: Use of renewable energy before and after.	5	0	In the four objects, biomass should be the main source of fuel used for heating. Before the heating was based on conventional fuels and/or electricity.
		EEO73: Number and type of more efficient technologies purchased/installed.			5	0	Four new biomass boilers installed.
			EERL71: Evidence of changed behaviour patterns of local inhabitants in relation to energy use		4	0	Stakeholders reported high content with the newly installed heating systems on biomass. However, in the House for Old and Inferim People, the biomass heating system is not used due to technical issues.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.5	**19**	**0**	
				Average evaluation	**4,75**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: EEO – Environmental Effects Output indicator; EERL - Environmental Effects Result (Outcome) QuaLitative indicator; EERN - Environmental Effects Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
2. Environmental Governance 2.1 Government commitments to environment and climate change	5 - somewhat relevant	EGO1: Project has equipped project participants, partners and other stakeholders with necessary knowledge to act in accordance with good environmental governance (environment-responsibly).	EGRL5: Evidence of effective enforcement of environmental rules, regulations and policies.		3	0	The public objects operates the heating systems in compliance with environmental permits.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 2.1	**3**	**0**	
				Average evaluation	**1,50**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: EGO – Environmental Governance Output indicator, EGRL – Environmental Governance Result (Outcome) QuaLitative indicator; EGRN – Environmental Governance Result (Outcome) QuaNtitative indicator

3. Evaluation of project results – HUMAN RIGHTS

EVALUATION OF PROJECT CONTRIBUTION TO HUMAN RIGHTS

In what way, if any, has the project contributed or worsened the following subdimensions?

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Human Rights 1.1 Basic human rights	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.1	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: HRO – Human Rights Output indicator; HRRL – Human Rights Result (Outcome) QuaLitative indicator; HRRN – Human Rights Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Human Rights 1.2 Inclusion of most disadvantaged groups	5 - somewhat relevant	HRO28: Members of underprivileged groups have equal benefits from project-supported infrastructure, services and training as members of other groups.	HRRL20: All members of the community regardless of income level, ethnicity, religion etc. have had equal benefits from project / equal access to project-generated goods and services.				The heating systems were isntalled in four public buildings - 2 kindergardens, hospital and house for old and inferim people. All members in community have an equal access to the project-generated outcome.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.2	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: HRO – Human Rights Output indicator; HRRL – Human Rights Result (Outcome) QuaLitative indicator; HRRN – Human Rights Result (Outcome) QuaNtitative indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Human Rights 1.3 Minors in armed conflict and emergency situations	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.3	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: HRO – Human Rights Output indicator; HRRL – Human Rights Result (Outcome) QuaLitative indicator; HRRN – Human Rights Result (Outcome) QuaNtitative indicator

3. Evaluation of project results – GENDER EQUALITY

EVALUATION OF PROJECT CONTRIBUTION TO GENDER EQUALITY

In what way, if any, has the project contributed or worsened the following subdimensions?

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
1. Decision-making 1.1 Capacity for public participation	5 - somewhat relevant	GEO1: Women and men had equal opportunity to participate in project and all its activities.			5	0	All community members despite the gender have an equal opportunity to benefit from project outcomes. The participation in the project was gender-limited in some aspects due to the technical nature of it (all operators are men), while users of the public buildings were prevalently females.
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 1.1	**5**	**0**	
				Average evaluation	**2,50**	**0,00**	

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
2. Rights and Security 2.1 Public awareness	1 - not at all relevant						
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 2.1	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GEO – Gender Equality Output indicator; GERL – Gender Equality Result (Outcome) QuaLitative Indicator, GERN - Gender Equality Result (Outcome) QuaNtitative Indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
2. Rights and Security	1 - not at all relevant						
2.2 Personal security and response to gender-specific rights violations		*Other, type in your own indicator*	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 2.2	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GEO – Gender Equality Output indicator; GERL – Gender Equality Result (Outcome) QuaLitative Indicator, GERN - Gender Equality Result (Outcome) QuaNtitative Indicator

	Degree of relevance*	Indicators used**			Impact		Comments
		A. Output	B.1 Outcome (qual.)	B.2 Outcome (quant.)	Improvement 5 = high, 0 = none	Deterioration 0 = none, -5 = high	
3. Distribution of Development Resources and Benefits	1 - not at all relevant						
3.1 Basic needs, livelihoods and productive assets							
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
		Other, type in your own indicator	*Other, type in your own indicator*	*Other, type in your own indicator*			
				Total for subdimension 3.1	**0**	**0**	
				Average evaluation			

** Evaluate the degree of project relevance to the subdimension.*

*** Select from the dropdown menu the indicators you used to evaluate this subdimension.*

Note: GEO – Gender Equality Output indicator; GERL – Gender Equality Result (Outcome) QuaLitative Indicator, GERN - Gender Equality Result (Outcome) QuaNtitative Indicator

Annex I: Terms of Reference

Ministerstvo zahraničních věcí České republiky

Ministry of Foreign Affairs of the Czech Republic

MINISTRY OF FOREIGN AFFAIRS OF THE CZECH REPULIC

CALLS FOR BIDS

FOR A SMALL-SCALE PUBLIC CONTRACT

„EVALUATION OF THE PROJECT NAMED USING BIOMASS FOR DEVELOPMENT OF RURAL AREAS 1N BOSNIA AND HERZEGOVINA“

INFORMATION ABOUT THE CONTRACTING AUTHORITY

Name:	Ministry of Foreign Affairs of the Czech Republic
Corporate ID:	45769851
Tax ID:	CZ45769851
Registered office:	Loretánské náměstí č. 101/5, Praha 1, PSČ 118 00, Czech Republic

The Contracting Authority´s representative competent to decide on matters of substance related to the contract: Václav Bálek, Director, Development Cooperation and Humanitarian Aid Department, MFA

Official responsible of the contract award procedure: Dana Zázvorková, Development Cooperation and Humanitarian Aid Department, MFA
E-mail contact: dana_zazvorkova@mzv.cz and e-mail: ors_sekretariat@mzv.cz
tel.: +420 224 182 157 or tel.: +420 224 182 366

Description of the public contract (CPV code 79998000-6 Coaching services)

The aim of this tender procedure, which is being organized as an open call, is an independent evaluation of a multi-year project within the Foreign Development Cooperation (FDC) of the Czech Republic implemented from 2016 to 2021. This project was identified and managed by the Czech Development Agency (CzDA). Its name is “Using biomass for development of rural areas in Bosnia and Herzegovina”.

This evaluation will be carried out from April to November 2021 in the Czech Republic and in Bosnia and Herzegovina preferably in a form of an evaluation mission.

The conclusions of the independent evaluation are expected to be used for verifying sustainability and efficiency of spent funds, including relevance of the implementing procedure (public contract) and of the thematic focus (renewable energy sources) on the still not finalized intervention in Bosnia and Herzegovina (implemented from 2016 to 2021). Conclusions and recommendations from the independent evaluation will further inform the decision on the optimal renewable energy source at similar cases in energy sector in Bosnia and Herzegovina or elsewhere. The aim of the evaluation is also to verify sustainability, potential and relevance of use of biomass in Bosnia and Herzegovina in the long run. The evaluation should examine to what extend this project really contributes to increasing energy production from renewable natural sources and to building related infrastructure to make this energy publicly available.

Evaluations of programmes and projects of the Czech Foreign Development Cooperation are carried out in accordance with the Act No 151/2010 Coll.[1], which addresses the Foreign Development Cooperation and Humanitarian Aid, with the Concept of Czech Development Cooperation from 2010 to 2017, with the Strategy for the Foreign Development Cooperation 2018 to 2030, with relevant provisions of the Methodology of Foreign Development Cooperation, and with relevant strategic documents of the Czech Development Cooperation´s partner countries.

The evaluation will be carried out according to the internationally recognized OECD-DAC criteria and other set criteria. In addition, external presentation and fulfilling of the crosscutting principles of FDC will be reviewed. The special focus of this evaluation is on overall effectiveness of the selected solution, the process of assignment and implementation.

The upcoming outcomes and recommendations should be relevant for next course and funding of the projects in the economic growth thematic priority (energy generation and supply sector), in connection with the Sustainable Development Goals (SDG) No. 7 and 8, including its enshrinement in the Bilateral Development Cooperation Program of the Czech Republic with Bosnia and Herzegovina for the years 2018 - 2023.

The evaluated project:

"Using biomass for development of rural areas in Bosnia and Herzegovina"

Administrator:	Czech Development Agency
Thematic priority/sector:	Economic growth (energy generation and supply)
Implementation period:	2016 - 2021
Type of the project:	Public procurement
Implementer:	AQUA-GAS, s.r.o.; BFS Industry, s.r.o.; Ircon, s.r.o.;
Local partner/co-implementer	Civil Engineering Institute „IG" LLC Banja Luka; UNDP Bosnia a Herzegovina
Total amount, spent on the project from the FDC budget	45,19 mil CZK
Identification number of the project:	CzDA-BA-2016-006-FO-23030

Principal stakeholders

Ministry of Foreign Affairs of the Czech Republic (MFA) is responsible for managing the development cooperation, including its bilateral part and evaluations. This activity is under the patronage of the **Development Cooperation and Humanitarian Aid Department** of MFA (DCD), which cooperates with relevant territorial departments of the MFA, with Embassies of the Czech Republic abroad and with Czech Development Agency (CzDA).

Embassy of the Czech Republic in Sarajevo represents the Czech Republic in Bosnia and Herzegovina (BiH), including the development cooperation area. The relevant diplomatic staff member is authorised to coordinate and monitor the Foreign Development Cooperation tasks.

Czech Development Agency (CzDA) has been active since 1st January 2008 as an implementing agency of the Czech Development Cooperation, in particular of bilateral development project´s preparation, implementation and monitoring and of the horizontal development programme proclaiming and implementation. Selection, implementation and adjustment of the programmes are carried out in accordance with the partner country´s requests and an agreement with the MFA.

Implementers of the evaluated project in Bosnia and Herzegovina

AQUA-GAS, s.r.o.
BFS Industry, servo.
Ircon, s.r.o.
Civil Engineering Institute „IG" LLC Banja Luka

[1] Act No 151/2010 and other relevant strategic documents of FDC of the Czech Republic is possible to find at www.mzv.cz/rozvoj section Conceptions

UNDP Bosnia and Herzegovina

Reference group

Together with the contracting authority, the evaluation process will be supervised by an **expert reference group** consisting of representatives of the **MFA – DCD, CzDA, South and South East Europe Department, Economic Diplomacy Department, Ministry of Industry and Trade**, **Embassy in Sarajevo** and an **independent** expert of the **Czech Evaluation Society (ČES).**

Communication between the reference group and the contractor will be facilitated by an authorized representative of the Development Cooperation and Humanitarian Aid Department. The members of the expert reference group have the right, while preserving the impartiality, to comment on the reports submitted by the contractor.

Detailed information to the evaluated project

Bosnia and Herzegovina is a country with significant potential for using biomass as a way of securing energy generation. The project focused on increasing the energy security of rural areas across BiH through transfer of Czech technology and implementation of projects dealing with effective heating systems using biomass. The project also, in cooperation with UNDP in Bosnia and Herzegovina, aimed to improve the legal framework in the field of energy in Bosnia and Herzegovina, to create action plans for dealing with biomass and to implement appropriate business and management models. The project should in this way contribute to economic development of selected regions and to increase employment.

Purpose of the evaluation and further use of results

The main purpose of this evaluation is to obtain independent, objective and consistent findings, conclusions and recommendations which can be utilised in the decision making by MFA, in cooperation with CzDA and with other participants, about the future orientation of development projects in energy generation and supply area (in context of Sustainable Economic Growth thematic priority) in the Czech Foreign Development Cooperation, considering the 2030 Agenda for Sustainable Development and the Czech Development Cooperation Programme in Bosnia and Herzegovina 2018-2023.

The evaluation shall be performed in accordance with the internationally recognised OECD-DAC[2] criteria, i.e. **relevance**, **coherence** (incl. coordination and integrated approach)**, efficiency**, **effectiveness**, **impact, sustainability,** and other criteria (visibility and fulfilling crosscutting themes of the Czech Development Cooperation – human rights incl. gender equality, regard to environment, good governance).

An important intention of the contracting authority is to obtain an independent evaluation of the projects with focus on their effectiveness and efficiency.

Principal evaluation questions for the project:

Relevance

- What is the relevance of the selected procedures (transfer of Czech technology and implementation of effective heating systems projects with use of biomass) in relation to the needs of final beneficiaries?
- Are the selected indicators for the project outcomes set correctly?

Coherence (including coordination and integrated approach)

- To what extend did the project contribute to the mutual coherence of various project actors?
- To what extend was the coordination between the actors of the project carried out?
- What cooperation options (e.g. integration of thematic priorities and instruments) do the outcomes of the project offer?

Efficiency

[2] More information on application of OECD-DAC criteria in development cooperation evaluations is available at www.oecd.org/development/evaluation

- How can the cost-effectiveness of the funds spent on the evaluated project be assessed based on the available information (incl. the mutual comparison of partial solutions), especially in terms of overall "value for money"?
- What are the main factors contributing to (in) efficiency of selected solutions in terms of process and content?

Effectiveness

- To what extend did the project implementation contribute to the economic development of the selected regions?
- To what extend did the project implementation contribute to increased employment in given regions?
- Are the long-term outcomes of the projects specified/documented sufficiently?

Impacts

- What are the main intended and unintended development impacts of the project?
- What are the main positive and negative impacts of the project on final recipients?

Sustainability

- Which parameters of the project are key for its sustainability and to what extend were they reflected in the project?

Additional evaluation criteria

Evaluation will assess the project also as to **visibility** (i.e. the intensity of communication activities and awareness of the outputs and impact of the project) and as to the implementation of the **crosscutting themes** of the Czech Development Cooperation defined in the Development Cooperation Strategy of the Czech Republic 2018 – 2030[3]: **good (democratic) governance; environment (sustainable development); human rights, including gender equality.** Evaluators should, in particular, assess whether and how the crosscutting principles or some of them (as applicable) were directly associated with the sector/theme of evaluated interventions; whether and how the crosscutting principles were reflected and implemented.

This part of the independent evaluation will be elaborated in compliance with the certified **Methodology for Evaluation of Crosscutting Themes in the Czech Development Cooperation** prepared by the Institute for Evaluations and Social Analyses – INESAN within the OMEGA programme of the Technology Agency of the Czech Republic[4].

The contractor will proceed in accordance with Section 6 of Act No. 134/2016 Coll. about Public Procurements, as amended, during this independent evaluation.

The contractor will also obey **Formal Evaluation Standards** of the Czech Evaluation Society, with a special focus on **professional quality, the specific targeting of the proposal and the feasibility of the evaluation methodology.**

Recommendations based on the evaluation findings and conclusions

There will be **specific and feasible recommendations** with added value, with level of severity addressed to MFA, CzDA and other involved players in the final report. Such recommendations should be adequately supported by **specific findings and conclusions**, arranged by the main recipient and indicating the level of recommendation importance, with indication of suggested measures, time prospect, etc. For the purpose of further management and implementation from the addressee´s site, the particular recommendation shouldn´t be addressed to more recipients.

The final evaluation should focus mainly on **system and process recommendations** used for adjustments of current programmes and procedures of Czech Development Cooperation, including system recommendations for evaluation implementation.

Required outputs, deadlines

[3] see www.mzv.cz/rozvoj
[4] see www.mzv.cz/rozvoj/Evaluace

- The contracting authority requires the submission of one **input evaluation report** and one **final evaluation report,** which will subsequently be published on the MFA website. **The input report**, structured according to the attached mandatory outline[5], expands in detail on the evaluation methodology, describes the sets of evaluation questions and hypotheses formulated on the basis of a study of documents and interviews. The input report also contains the **schedule of the work**, including a plan of meetings, interviews, focus groups, observations, scientific measurements, surveys, etc. **Draft of the input report** must be submitted for comments to the expert reference group not later than by **12th May 2021.**

- The input report must be discussed with the contracting authority and the expert reference group and submitted both as a bound hardcopy publication and in electronic form, with comments incorporated **at least 5 days prior to the evaluation mission abroad.**
- Final evaluation report structured according to the attached **mandatory outline**[6] will be a maximum of 4 (four) A4 pages of executive summary and maximum 25 pages A4 (excluding annexes). Bearing in mind the stipulated scope, the contracting authority expects the final evaluation report to contain, in particular, key points of the independent evaluation, including summary of main findings, basic information on the evaluated intervention, description of used evaluation methodology and, in particular, independent **findings, conclusions and recommendations.**
- Annexes will provide background data for the Programme or particular projects and for evaluation findings and all additional information, quantitative facts, models and results of questionnaires, etc. - according to the evaluation methodology. As part of the processing of sources of verifiable findings, the evaluation team will respect the right to protect private respondents and anonymize the sources of their findings according to the Code of Ethics of the Czech Evaluation Society[7].
- The evaluation report shall be elaborated in **Czech language** (with an English summary, max 4 standard pages) or in **English language** (with a Czech summary, max standard 4 pages). The language selection will be contractually confirmed and it has to be obeyed both in the input and final report. Annexes to the evaluation report can be kept in the language, in which they were originally processed.
- **Draft of final evaluation report** in edited way, structured in accordance with the attached mandatory outline and with all its annexes, must be submitted to the contracting authority for comments by **15th October 2021**. The contracting authority will collect comments from the expert reference group and pass them on to the evaluation team who is required to process the content related comments (i.e. incorporate them into the report, or reject them, with reasons and in writing).
- The contracting authority expects the evaluation team to present main findings, conclusions and recommendations of **evaluation report** at a public presentation with discussion organised by the Development Cooperation and Humanitarian Aid Department of the MFA. The presented report will already reflect comments and suggestions of expert reference group, implementers and local partners. Any additional major observations arising from the presentation with discussion will be incorporated as a separate annex to the final version of the report. The date of presentation will be mutually agreed sufficiently in advance. Prior to the presentation, the evaluation team shall send a visual outline of the presentation (PowerPoint) to the contracting authority for approval at least 2 working days before public presentation at MFA.
- **The final evaluation report must be submitted to the contracting authority by 30th November 2021**. The final evaluation report will subsequently be published on the MFA website. The final evaluation report must be delivered to the contracting authority in a hardcopy, i.e. **as one bound copy** and **in electronic form on a CD/DVD/USB**.

Evaluation mission and further instructions for bidders

- Assessment of the evaluated project, in the form of an evaluation mission in the partner country, is an obligatory part of the evaluation process. Minimum length of the research is 5 working days; but it mainly depends on the methods, chosen by the contractor. Considering the overall schedule of the evaluation

[5] see annexes
[6] see annexes
[7] www.czecheval.cz

contract and other external circumstances, the contracting authority expects the evaluation mission will be carried out between **June and September 2021**. The exact date will be given by the evaluation team in collaboration with the embassy, implementers, local partners and institutions involved in the project. Should it show not to be possible to carry out the mission in the given time frame because of international restrictive measures, the contractor should immediately notify the contracting authority and agree on alternative solution (either adjustment of the evaluation schedule postponing the mission, or remote examination with use of local capacities replacing contactor´s psychical visit).

- In the course of the evaluation, the team will conduct interviews with representatives of the MFA, the CzDA, the Embassy of the Czech Republic, the implementers, representatives of recipients and partner organizations of the implementers in Ethiopia (including other respondents if required).
- The contractor will provide initial and final briefing for all participants during the evaluation mission (relevant authorities of the partner country, recipient's representatives, embassy etc.). There will be presented findings and conclusions of the evaluation in those briefings, so it will be possible to get feedback for them. A similar briefing is recommended after the return from the mission with the expert reference group. Minutes, records or a presentation from the final briefing and the possible briefing with the reference group should be added as annexes to the final evaluation report.
- The evaluation team is also expected to hold detailed consultations with the Embassy of the Czech Republic in BiH. The Embassy can be contacted in advance in order to assist with logistics or with the facilitation of interviews with relevant local authorities. Nevertheless, the assistance of the Embassy should be only required if strictly necessary.
- During the evaluation, the contractor can ask for a briefing with the expert reference group in order to discuss the preliminary findings, conclusions and recommendations. A presentation from this briefing will be then also added to the annexes of the final report.

Publication of the call and receipt of bids

The public contract will be awarded through an open bidding procedure. The call for bids will be published on the MFA website on **3rd March 2021.**

Bids shall be based on supporting documentation concerning the projects that are to be evaluated. Requests for supporting documentation shall be sent by e-mail to the organizer of the contract award procedure: dana_zazvorkova@mzv.cz and copied to email: ors_sekretariat@mzv.cz

THE DEADLINE FOR RECEIPT OF BIDS IS 6th April 2021, 14:00 (CET).

Bids must be submitted by **registered mail** or **delivered personally** both in paper and electronic form on a data storage device (CD ROM or USB flash) to the **Ministry of Foreign Affairs of the Czech Republic:**

Ministerstvo zahraničních věcí ČR
Odbor rozvojové spolupráce a humanitární pomoci
Loretánské náměstí 101/5, 118 00 Praha 1

Bids must be submitted in a sealed envelope marked as follows:

- bidder´s full name (or business name) and address;
- note: "**VEŘEJNÁ ZAKÁZKA – NEOTEVÍRAT – IHNED PŘEDAT ORS – „VYHODNOCENÍ PROJEKTU VYUŽITÍ BIOMASY PRO ROZVOJ RURÁLNÍCH OBLASTÍ BOSNY A HERCEGOVINY"**

Bids submitted through other channels (e.g. by fax or e-mail); bids delivered to another address and/or bids submitted after the deadline **will be rejected.**

Bid is considered as **submitted by registered mail** according to the date and time registered by the mailroom of the contracting authority – Ministry of Foreign Affairs.

Bid may be **submitted personally** on working days from Monday to Friday from 8:00 a.m. to 4:00 p.m. (CET) at the reception of the MFA building (see above).

Bid is considered as **submitted** at a moment of its physical takeover by responsible employee of the contracting authority. For physical delivery, it is necessary to contact the respective employee in charge or his/her substitutive.

Bids may be submitted in the Czech or Slovak languages. Bids submitted in other languages will not be accepted.

The MFA reserves the right to reject bids that do not completely meet all the requirements set out in this Call for Bids.

Bidders are not entitled to any compensation for costs associated with participation in this Call for Bids. Any **issuance costs** associated with the submission of bids shall be borne fully by the bidders at their expense. With the exception of bids submitted after the deadline, the bids will not be returned and will remain with the contracting authority as a part of the tender documentation for this public contract.

Requests for additional information concerning this public contract procedure must be delivered to e-mail contact: hana_volna@mzv.cz and copied to e-mail: ors_sekretariat@mzv.cz **no later than 26th March 2021, 23:59 (CET).**

Evaluation team

The evaluation may be carried out by **a team of independent experts** (one of them being the team leader responsible for all provided services to the contracting authority) or by a **legal entity** with the appropriate team of experts (one of them being the team responsible for communication with the contracting authority).

The contracting authority regards as reasonable evaluation team of **2-4 experts**, including **the main evaluator** (an expert on evaluation methods, with overall responsibility for entire evaluation process and reporting); expert/s, with proficiency in **formative evaluation, renewable energy sources and other topics of evaluated interventions**, and junior member/s (if needed). The inclusion of local expert/s from the target country is appropriate.

The expert team may be complemented by other members (e.g. interpreters, survey´s interviewers, administrators, experts involved in the evaluation or control of data, etc.).

Bids must include the following:

- **Methodological approach** of the evaluation team, including a work plan (detailed description of a methodology specifically proposed for the evaluation of the projects of Czech Development Cooperation);
- **Composition of evaluation team**, i.e. names, contacts (e-mail, phone number) and field of expertise of those who are about to participate in the evaluation, including a clear definition of their participation in the evaluation mission, or in part of the mission and including **their planned roles in the evaluation reports elaboration**;
- **CVs of the evaluation team experts**, with clear specific information on their education, skills, expertise and experience relevant to this evaluation;
- **Statutory declaration on fulfilment of the qualification requirements** (see below); prior to signing the contract, the bidder must be able to demonstrate fulfilment with applicable documents/certificates; in the case of foreign evaluation team the fulfilment can be proved by analogous foreign education and experience;
- **Statutory declaration of independence** signed by all members of the evaluation team (see annexes). All persons, or members of a legal entity, must simultaneously meet all the following independence conditions. The statutory declaration of independence is signed by all persons, or a legal entity and all the participating experts in its team;
- **Bid price stated both excluding and including VAT** (non-VAT payers must quote the price without the VAT and state that they are non-VAT payers). The anticipated total cost of this public contract is within an indicative range of **250,000 – 400,000 CZK** excl. of the VAT[8];

[8] This tender is announced pursuant to Act No. 134/2016 Coll. about Public Procurements as a **small-scale public procurement with an estimated value up to 500 000 CZK**, excl. VAT. The contracting authority, however, does not intend this indicative range to serve

- The completed total **Evaluation Budget table** (see annex) – the cost budgeted in the table is binding on the bidder. Any subsistence expenses (per diems) included in the total Evaluation Budget must be broken down per person/day and their amounts must comply with the applicable Czech regulations. Bidders should note that before paying the cost of this public contract the MFA will request a statement of the costs actually incurred, broken down by the items of the total Evaluation Budget. In justified cases, and after prior approval from the MFA, the evaluation team may be allowed to transfer funds between budget items to a maximum level of 10 per cent of the total Evaluation Budget whilst maintaining the total bid price unchanged. If the total expenditure is in reality less than that budgeted in the bid submitted to the tender, the MFA will reduce the final sum payable by this difference compared to the bid price of the winning bidder. If on the other hand the actual costs are higher than those budgeted in the bid, such additional amount will not be paid by the contracting authority - MFA;
- **Extract from the Commercial Register** or, where applicable, Extract from the Trade Register if the bidder (entity submitting the offer) is registered, or an extract from another similar register proving expertise, legal status, specialization, etc. The extract will be presented in a plain copy and should not be older than 90 days.
- **Statutory declaration of the bidder** – A Statement of Truthfulness (see annex).

Qualification requirements for Evaluation Team Experts

- All evaluation team experts as specified above must be **higher education graduates**;
- All evaluation team experts, except for junior member/s, must have at least **4 (four) years of professional experience** – in the area of evaluation;
- All evaluation team experts, except for local and junior member/s, must have a past record of **participation in at least one comprehensive evaluation** of results of a project, programme or similar intervention;
- All evaluation team experts, except for local and junior members, must have completed at least one training course or higher education **course on evaluation or project/program cycle management** or **results-based management**; or must have a past record of performing an **evaluation as part of thesis/dissertation work** at a higher education institution, provided that thesis/dissertation was successfully accomplished;
- Documented qualification at **renewable energy sources, or specifiically using biomass** by at least one member of evaluation team
- Qualification requirements may also be proved by the **reference of the legal entity** submitting the offer or by the **reference of the natural persons** who will implement subject of the procurement.

Independence of evaluation team members

- None of the evaluation team members has been involved in the preparation, selection or implementation of the projects to be evaluated at any stage nor will they participate in the year of evaluation or the following year.
- None of the evaluation team members is an employee or external associate of the project´s coordinators, nor had he been during the period of the preparation and implementation of the evaluated projects; none of the evaluation team members is an employee or external associate of the projects´ implementers, nor had he been during the period of the preparation and implementation of the evaluated projects.

Bid assessment criteria (0 to 100 scoring scale)

The main assessment criterion will be **value for money.**

as a strict definition of either a minimum or a maximum price. The contracting authority have to receive at least 3 offers. The bid price must cover all of the evaluation team's costs, i.e. the time spent working in the office (document analysis, report writing, the incorporation of comments), the cost of the evaluation mission to the partner country (the remuneration of team members, airfares, local transportation, briefings, accommodation, meals, interpreting, telephone calls), the remuneration of team members for time spent on the final presentation, etc.

The sub-criteria will be as follows:

1. **Lowest Bid Price** (excluding the VAT): **0-40 points**

   Maximum (40) points will be awarded for **the lowest Bid Price**. The remaining bids will be scored as follows: /lowest bid/ x /40 points/: /bid currently under assessment/ = /points awarded to the bid under assessment/.

2. **Professional quality, relevance (specific targeting) and feasibility of the proposed evaluation methodology,** including timetable, work plan and distribution of tasks within the team: **0-30 points**

   The highest points will be awarded for a methodology that provides a theoretical framework for the proposed methods and identifies any limitations the methods may have, and usefully combines these methods and the OECD/DAC evaluation criteria – typically in the form of evaluation questions, the method for the identification and triangulation of data, etc. Strict compliance with the outline of the evaluation reports (input and final) and logical connections between findings, conclusions and recommendations with the stipulated evaluation questions is expected.

   An optimal methodology will define a timetable of work and the division of tasks and competences within the team. These procedures must be proposed realistically. It is expected, that the evaluations will be based on the **Formal Evaluation Standards** of the Czech Evaluation Society. Emphasis will be placed on **professional quality, the specific targeting of the proposal and the feasibility of the evaluation methodology, and in accordance with Section 6 of Act No. 134/2016 Coll.** about Public Procurements, as amended, i.e. **respecting the principles of socially and environmentally responsible and innovative approach.**

3. **Expertise and previous experience of the team with evaluations of development interventions in developing or transforming countries: 0-20 points**

   The highest points will be awarded to an evaluation team offering optimal combined expertise in the field of evaluations of development projects and areas related to evaluated projects. "Expertise" means a combination of theoretical knowledge and professional experience. In case the team has expertise in related fields, part of the points will be awarded for the depth, breadth and transferability of such knowledge. The team's expertise and experience in the relevant area/sector/theme will be assessed on the basis of supporting documents enclosed with the bid.

4. **Experience from development cooperation**: **0-10 points**

   The maximum points belong to the participant whose expert team together can demonstrably offer extensive experience in the field of international cooperation, especially in the field of development cooperation or broader assistance programs, work on the conceptual or research level of development cooperation, both from working, research or similar stay with countries or international development and humanitarian organizations; development cooperation as an activity and part of foreign policy. Experience from the implementation or evaluation corresponding the evaluated sector is an advantage.

The criteria 2 – 4 will be assessed on the basis of the bid documentation.

The highest number of points awarded for criteria 2 – 4 may be less that the maximum stated above. The points are awarded by an expert assessment board.

The bid awarded by the highest number of points summing all above-mentioned criteria points and meeting all other requirements defined by this Call for Bids will be considered the most economically advantageous bid.

Assessment of bids

Bids received in time limit (as mentioned above) will be opened by a **board for bids opening**. The board will check each bid for compliance with formal requirements of the contract award procedure. Qualifying bids will be presented to the **assessment board** for assessment against the **above-mentioned criteria**. This Board will select the best bid in accordance with the valid Status and Rules of Procedure of the assessment board in the selection procedure of MFA in the foreign development cooperation and humanitarian aid area.
Once approved the result by MFA all bidders will be notified without undue delay.

Contract

Following the result of selection of the best bid, the MFA will enter with the selected bidder into a Contract of Mandate for evaluation. The Contract will be concluded based on Section 2586 of Act No. 89/2012, the Civil Code, as amended. It will include a clause in which the parties agree that the information contained in the Contract of Mandate and any amendments thereto will not be regarded by the parties as a business secret in terms of Section 504 of Act No. 89/2012, the Civil Code as amended, and that the parties give their unconditional consent to the disclosure and/or publication of such information namely in accordance with Act No. 106/1999 concerning free access to information as amended. A checklist of the requirements related to this public contract must be included in an annex to the Contract of Mandate.

Final provisions

The MFA will not return any of the bids received on the basis of this announcement. The MFA reserves the right to change the bidding terms and conditions or to cancel the tender without giving any reason[9].

Annexes:

Statutory declaration of independence (mandatory part of a bid)

Statutory declaration of truthfulness (mandatory part of a bid)

Specimen of Evaluation Budget table (mandatory part of a bid)

Mandatory outline of input evaluation report

Mandatory outline of final evaluation report

[9] See Act No. 89/2012, the Civil Code (Part 6 – Public tender and selection of the best bid).

Annex J: Settlement of comments from the Reference Group, Administrator and Implementers

#	Comments Author of comment, section of the report	Response
	Czech Development Agency	
1	***Page ii, Executive Summary, Most important findings and conclusions, Relevance*** The main control document were the Technical specifications of the respective contracts *together with other relevant annexes of respective contracts.*	*…together with other relevant annexes of respective contracts.* Included in the text
2	***Page ii, Executive Summary, Most important findings and conclusions, Coherence*** I understand why the suggested lack of complementarity between output 1.3 and the soft components UNDP was responsible for is evaluated in a rather negative way, however, each side (UNDP and CzDA) was responsible for a respective component and obliged to fulfil them within the scope of the PD and with the respect to their national legislation so that the overall goal of the output can be achieved. And that, I believe, was achieved quite successfully. That was the prerequisite to the cooperation. What else should be taken into account is the limited capacity of the CzDA staff which enables carrying out acts beyond the scope of the established on such an intense level, i.e. finding synergies between two linked yet separate project components. Lessons learnt for such cooperation involving multiple implementing partners responsible for a particular section of the project in the future (for the CzDA and Embassy sake): - try to find a way in which complementarity of each component within the project can be achieved - establish working group consisting of each respective implementing party which would meet on a regular basis and would discuss project in detail (quarterly? semi-annually?) - establish annual stakeholder and donor meeting – discuss sectoral opportunities, synergies, connections etc.	Subject of the evaluation is the project "Using Biomass for Development of Rural Areas in Bosnia and Herzegovina" funded to some 80% by the Czech Development Cooperation, implemented by the UNDP (soft components), Contractors (demonstration/model projects), GIZ (Biomass Atlas). It is understood that CZDA TA was involved in clarifying the project documentation. The role of UNDP included implementation of most soft components, facilitation and coordination while the main role of CZDA was monitoring. The limited capacities of CZDA and high turnover of staff (compared to other European institutions with similar mandates) are understood. Milestones foreseen under the Component 3: *Business models and financing schemes developed and enabled for investments in biomass infrastructure projects / Implementation of demonstration projects.* Under the Component 3, UNDP was implementing business models and financing schemes, the CZDA contractors the demonstration projects. Synergies between the 3 components are described in the project documentation. Related output 1.3: *Number of implemented infrastructural RES projects increased due to the new business models and financial schemes for investment in biomass* was not achieved. The financing mechanism was not accepted by the Environmental Funds of FBiH and RS. Implementation of the demonstration projects has been delayed. The LFM/ Output 1.3 has not been modified to reflect the changing scenario. The projects provided an opportunity to demonstrate, to the general public, relevant institutions or potential investors their environmental and economic advantages, using the business models. They were implemented as isolated local RES projects, out of the project context. Lessons learned are reflected in the evaluation report

3	***Page ii, Executive Summary, Most important findings and conclusions, Coherence*** Each donor institution approaches its foreign development assistance in each selected priority country in a different manner. As far as I know, energy sector in BA is not covered by many donors, esp. not in a way the CzDA does. This comes down to how the bilateral programme of the Czech Republic Development Cooperation is conceived – for the CzDA, this document stands as a fundamental basis on what each project should focus on thematically and structurally.	The evaluated project is consistent with the objectives and outputs of the Bilateral Development Cooperation Programme of the Czech Republic Bosnia and Herzegovina, 2018–2023. Coordination with other donors in the thematic areas of its priority interest is addressed in section 2.4 of the Programme.
4		Information on follow up by the CZDA has been included in the text. Defects indicated in Centre for Old and Infirm Persons in Mostar during the field visit on 03 October 2021 are outlined in Annex O to the Evaluation Report.
5	***Page iii, Executive Summary, Most important findings and conclusions, Effectiveness*** Should be elaborated on as it is evaluated "quite low"	Effectiveness has been assessed against evaluation questions (Evaluation matrix is included in Annex C). Findings to each evaluation question are presented in section 4.4. of the evaluation report. Conclusions based on these findings are presented in section 5.4. Effectiveness has been assessed as quite low because: • There is no evidence of the project's implementation contribution to the economic development of the selected region (It may have been different if Output 1.3 materialized) • There is no evidence of increased employment due to the project implementation (possibly for the same reason as above) • Specification of long-term outcomes has been documented with few gaps. It is not clear how problems arising from delays in implementation and non-adoption of the financing schemes were solved. The relevant section in the summary has been re-worded for clearer understanding of the rationale behind "quite low".
6	**Text:** The project implementation did not influence economic development and did not contribute to economic employment. **Comment:** To institutionalise such changes takes time and additional effort which, unfortunately, the CzDA cannot affect.	Perhaps the authors of the PD/LFA were overoptimistic when setting this target. Moreover, output 1.3 has not been generated. The logframe has not been revised to reflect the changes in the project and revised the targets to be more realistic.
7	***Page iii, Executive Summary, Most important findings and conclusions, Effectiveness*** Not so much as due to the inadequate choice of the subcontractor by the implementer side as well as the size of the implementation team.	CZDA's rationale has been reflected in the evaluation report. The evaluators maintain that the tight time schedule was the main reason. The system is working, and the hospital expressed satisfaction with the subcontractor's work.
8	*… Some delays occurred also in Mostar, the system is not functional.* – Comment: Possibly repetitive	Text "the system is not functional" has been deleted
9	Added "*as the project is still not concluded*"	Included in the text
10	***Page iii, Executive Summary, Most important findings and conclusions, Sustainability and replicability*** Official handover and the invoice for the second phase of implementation was paid in January 2021.	Reflected in the text
11	once the remediation has been carried out as suggested in one of the comments above, the system in Mostar should be operational in a similar way to the systems in Doboj, Ljubuški and Novi Travnik	Reflected in the text. The date for remediation is not yet known.

12	but could stand as an inspiration and best practice to other municipalities/public institutions etc. which would like to benefit from such a heating system structure. Also, sustainability in a sense of continuous and professional operation and maintenance from the beneficiary side should also be addressed. Maybe economic self-sufficiency for system operation, too.	Continued grants are not considered as best practice for replicability of projects where environmental and economic benefits have been demonstrated. *… the fuel switch systems could work without major repairs for 10 years or longer, provided they are properly operated and maintained* should cover these important aspects.
13	***Page iv: Important recommendations*** *Rehabilitating the heating system in Mostar…* is in process.	There is no evidence that the system is already rehabilitated and working. The recommendation remains unchanged.
14	*External technical monitoring shall be carried out during the trial period of operation and before the last payment to the implementer* *Conclude with the implementer an agreement on post-guarantee services where the recipients are satisfied with the performance* has already been taken into account when preparing new projects in the energy sector. Project implementation is extended for the duration of the warranty period, with part of the funds to be reimbursed only after remote monitoring of system functionality and possible defects and once warranty works have been demonstrated. Once the implementation part is complete, the CzDA also plans to sign a document called the Joint Agreement (between the beneficiary, the CzDA and other relevant project actors), which defines the duties and responsibilities after the end of the project - key in terms of sustainability. The document shall take into account the signed MoU at the beginning of the project and expands it to include other components unknown or not considered before the project initiation. This document could also include recommendations such as stated in the third line, however, the CzDA/Embassy cannot enforce such post-warranty cooperation between the implementer and the recipient. Moreover, not every beneficiary has sufficient financial means to finance such activities and if they do, they will tend to cooperate with local companies whose tariffs are, compared to the Czech ones, on a lower note. I believe that as soon as the donation from the CzDA is complete, the Czech companies (at least those operating in the energy sector) are not financially motivated enough to established additional cooperation with the beneficiary.	This important information is reflected in the evaluation report The recommendation to conclude post-warranty agreements is addressed to the recipients. It is up to them whether they accept or reject it. It is understood that neither the CZDA nor the Embassy can make any guarantees.
15	*Utilize the demonstration potential of the three functioning fuel switch projects*	Primary addressee changed to the Embassy
16	*Reconsider the amount IRCON has to pay on fines.* Do not agree with this recommendation whatsoever, unfortunately. The tender documentation including the draft contract (and respective penalties and the amount by which the invoice will be reduced in the event of non-compliance during project implementation) is published in the National Electronic Tool and is accessible to all potential tenderers. The implementation of projects in developing countries has certain pitfalls, however, by signing the contract, IRCON as the successful bidder accepted all challenges which can occur during the implementation and should therefore be held fully responsible for the failure to perform in accordance with the Contract and its annexes. As a public body, the CzDA must manage public funds properly and in accordance with the 3E. The unjustified waiving of penalties is non-transparent and subject to challenge by external audits.	The recommendations should be understood as such. The addressee can accept or reject the recommendation and related justification.

	Early communication with the contracting authority is a way to avoid complications during implementation, including the possibility of sanctions.	
17	*Aim for internal coherence of interventions*	CZDA has been included as the main addressee because of its formulation and coordination role. This can be further discussed and possibly changed during the presentation of the evaluation report.
18	*Aim for external coherence*	CZDA has been included as the main addressee because of its formulation and coordination role. This can be further discussed and possibly changed during the presentation of the evaluation report.
19	***Page 1 Introduction, Context, paragraph 3*** **Text**: The intended purpose was to demonstrate on these model fuel switch projects the "green package" concept, including retrofitting and subsequent fuel switch using business model and financing scheme developed and introduced under activities 1.3.1 and 1.3.2. It was expected that these demonstrations will show the economic benefits of and facilitate further investments based on business models. **Comment:** That was the purpose of the whole output, however, the CzDA's part was solely focused on the A1.3.4. The delays caused by the complexity and time-constraint of tender procedures of each infrastructure project (namely Doboj and Mostar), certain soft activities couldn't applied in the full extend. However, in the PD, soft activities are not tied to the selected public institutions selected by the CzDA.	The activities and outputs are linked by the project intervention logic in the form of logical framework matrix ("IF-AND-THAN"). In this case, if activities 1.3.1 – 1.3.5 are implemented and assumptions met, then the output 1.3 is generated. (The assumption "…. "supporting financial mechanisms will be accepted" …. did not materialize.) Activities 1.3.1 – 1.3.5 are also interlinked: Activity 1.3.5 can only be implemented after the completion of activities 1.3.1 – 1.3.3. and (at least partially) 1.3.4. Activity 1.4.4 has been implemented as "stand alone", out of the project context. The Administrator of the project is the CZDA, responsible for project-based development cooperation (CZ Development Cooperation Strategy 2018 - 2030). The Third-party Cost Sharing Agreement between the CZDA and the UNDP defines the CZDA as the Donor and the UNDP as Implementing Partner for the implementation of the Project. Article II of the Agreement however states … "The implementation of the responsibilities of UNDP and of the Implementing Partner (*not clear who that is*) pursuant to this Agreement and the Project document….". In the Identification Form of the Project Document (PD), the CZDA is mentioned as the Implementing Institution, the UNDP as Partner Institution. PD Section 2.2 Context of Cooperation: "The cooperation is aimed at co-financing between the partners, whereas partial allocation of funds is aimed to be transferred to UNDP for direct project implementation and another part is to be co-financed by direct tendering for infrastructure projects through the CZDA". From the relevant documents, responsibility for the overall project management and coordination is not clear. In practice, the soft components and retro-fitting of the demonstration projects were implemented and monitored by the UNDP, fuel switches by companies contracted by the CZDA who monitored their implementation. The absence of overall coordination resulted in disassociation (separation) of project activities and breaking the logic of the project. This is not uncommon for multi-donor projects with several implementers. Clear coordination responsibilities and modalities of communication have been included as a new systemic recommendation in the Evaluation Report.
20	***Page 1 Introduction, Context, paragraph 5***	The text only states the findings.

	Text: For various reasons, all four projects were formulated as technical modernization of the heating systems in the respective public buildings, without the business plan and the demonstration role. **Comment:** Not the CzDA's responsibility	
21	***Page 3 Section 2.1 Context Table 1*** **Text:** Status: handing over protocol missing, operational. **Comment:** Not finalised, handover protocol in process of being signed by the CzDA	The Evaluation Report states findings at the time of drafting the report. If handing over protocols will be available before completion of the final report it will be reflected in the table.
22	***Page 11 section 4.2.1 last paragraph*** **Text:** Why business plans were not developed for the fuel switch demonstration projects, or why the CZDA initiated their implementation without link to the soft components could not be clarified. The evaluators' see as a possible reason the division of implementation and monitoring responsibilities **Comment:** Each side had their own responsibilities, finding synergies between soft and infrastructure activities would be beneficial, however, was not an overall goal of the project.	The synergies/linkages were implied in the project design (Logical framework matrix) where the project Overall Objective/Goal is defined as follows: "Contribute to the improvement of the B&H local population living standard by long-term reduction of the CO2 emissions." As reasons for disassociation (separation) of project activities and breaking the logic of the project were identified the lack of clarity about/the absence overall coordination. (see response to comment 17)
23	***Page 18 Section 4.6.1 second paragraph*** **Text:** No *(long-distance monitoring)* reports are available for Mostar where the system does not work **Comment:** Since the handover of the project, the CzDA has received 3 reports in which no defects or malfunctions are reported	Reports available for Mostar where the system does not work indicate that between December 2020 – August 2021, the new system worked some 42 days. Most heat has been generated by the LTO boiler meant as a backup, some 5% the solar system. This is consistent with statements of the Director and operator (the pellet boiler ran after 1 month after commissioning until the first failure of the feed spiral After the delivery of two more spirals, it was always operational for 10 days).
24	***Page 20 Section 4.6.1. last paragraph*** **Text:** Other sources of biomass for which technologies in BiH have been developed include wood chips, wood briquettes made from sawdust and leftover woods, and fuel wood. ….. Sunflower husks are available only in the big oil pressing companies; market with agri-biomass does not exist. Advantages of pellets include better manipulation and transport compared to wood chips where extra labour force is needed. They can be delivered in bulk or in bags (this includes extra costs). The local market for briquettes is weak. **Comment:** Still unsure whether there is still a prospective potential in biomass in BA and whether the Czech foreign development assistance should support such projects in the future	Findings indicate potential of wood biomass (section 4.6.1) as well as potential in biomass for the Czech development cooperation in BiH (Section 4.2.4 of the Evaluation Report)
25	***Page 21 Section 5.1 Relevance*** **Text:** The amount foreseen for their funding at the time of signing the Agreement in 2016 was some xxx times below their actual cost **Comment:** The number should be added	The number has been left out in the draft report with the intention to insert the correct figure after the accounts for the 4 fuel switch projects are closed. We have now included the tentative number based on the currently available information (3.7 times).
26	***Page 24 Section 6.1 Recommendations related to project*** **Recommendation 2** **Comment:** correction of text	Text has been corrected
27	**Recommendation 3:** Conclude with the implementer an agreement on post-guarantee services where the recipients are satisfied with the performance (Hospital Doboj with Project Plus, Kindergartens with AQUA-GAS) (level of seriousness: 2). Primary addressee: Hospital Doboj, Municipalities in Novi Travnik and Ljubuski **Comment:** Was considered, but is impossible to implement. The CzDA is also not aware about the financial status of the respective institutions and whether they would be able to cover these extra costs – compared to the local ones, the Czech companies have a	This is a recommendation to the beneficiaries, they do not have to follow. The comment is valid; the Evaluation Report mentions the economic, logistical and communication advantages of implementing small size fuel switch project by local companies, with the equipment procured locally.

	higher price for rendered services and contracting them might not be financially viable for the beneficiaries nor Czech companies (only if they have a local branch).	
28	**Recommendation 4:** Utilize the demonstration potential of the three functioning fuel switch projects (level of seriousness: 2) Primary addressee: CZDA **Comment:** More so Embassy, this is out of reach for the CzDA	The primary addressee has ben changed
29	***Page 25 Section 6.2 Procedural and systemic recommendations*** **Recommendation 2:** Include clearly project context in the TOR. In the section Detailed information to the evaluated project, the TOR mentioned … *The project focused on increasing the energy security of rural areas across BiH through transfer of Czech technology and implementation of projects dealing with effective heating systems using biomass. … The project also, in cooperation with UNDP in Bosnia and Herzegovina, aimed to improve the legal framework in the field of energy in Bosnia and Herzegovina, to create action plans for dealing with biomass and to implement appropriate business and management models.* This does not reflect the project document and the LFA where the implementation of the fuel switch projects was meant to serve as a demonstration for facilitating future investments, in line with the trend to move away from grants to commercialization of the sector. **Comment:** In the TOR, the overall project abstract was citated and it, in fact, does reflect reality as i.e. Transfer of technology + effective heating system was addressed through the modernisation of heating systems in 4 public institutions supported by the CzDA	Quoted from the TOR: *The aim of this tender procedure, … is an independent evaluation of a multi-year project within the Foreign Development Cooperation (FDC) of the Czech Republic implemented from 2016 to 2021. This project was identified and managed by the Czech Development Agency (CzDA). Its name is "Using biomass for development of rural areas in Bosnia and Herzegovina".* The project was divided in to 2 independent interventions while maintaining the same logframe and project title. Both were co-financed by the CZDA. One was implemented by contractors, the other one by UNDP. It would be helpful (for the bidders) if this context and rationale behind this approach were explained in the TOR. The quoted section of the TOR refers to Activity 1.3.4, not to the project as a whole. If the CZDA perceives the activity as a separate project, it would have been necessary to have a project document with its own logframe as part of the tender documentation and the completed Initial Project Proposal Form from the intended beneficiaries.
30	**Recommendation 3:** Aim for internal coherence of interventions (Internal coherence addresses the synergies and interlinkages between the intervention ***(Comment 1***) and other interventions carried out by the same institution/ government, as well as the consistency of the intervention with the relevant international norms and standards to which that institution/government adheres) Primary addressee: CZDA***. (Comment 2)*** The linkages between the fuel switch demonstration projects and the remaining "soft" components of the project are weak/missing. ***(Comment 3)*** The potential of synergies has not been used. The donor could not provide information on consistency with the strategies and plans of the BiH. Evidence of complementarity and additionality with other CZ DC projects in BiH in the related sectors has not been detected. **Comments:** 1. Shouldn't it reflect whether the project is internally coherent with other intervention in said sector supported by the CzDA? If so, it should be considered fulfilled as the CzDA has supported plethora of similar projects in BA in the past, too. 2. More so Embassy in coop. with the CzDA 3. As it was not the overall idea behind the project	**Response to comment 1:** Some 12 similar projects supported by the CZDA are listed in section 4.2.2, based on information provided by the CZDA. Interlinkages and synergies in the form of additionality or complementarity however could not be established. Although the number of projects is high, their internal coherence could not be established. **Response to comment 2:** It is understood that the CZDA is responsible for project-based development cooperation and that project formulation falls is part of its mandate (with the exception of small projects at the discretion of the Embassies). This may be clarified during the presentation. **Response to comment 3:** The project logic is presented in its logframe.
31	**Recommendation 4: Aim for external coherence** *(External coherence considers the consistency of the intervention with other actors' interventions in the same context. This includes complementarity, harmonisation and co-ordination with others, and the extent to which the intervention is adding value while avoiding duplication of effort.)* Primary addressee: CZDA. It is recommended to continue with complementing UNDP project.	Options for possible cooperation with the UNDP are outlined in section 4.2.4. The evaluation did not include assessment of CZDA capacities. It is up to the decision makers to chose which of the proposed (or other) options for cooperation are within the capacities of the CZDA, if any.

	Comments: What would the dynamic of the cooperation be like (considering the limited capacities of the CzDA)?	
32	**Recommendation 5: Introducing retention fee, clarification of responsibilities, obligations and sanctions during retention period of implemented projects.** ***(Comment 1)*** Primary addressee: CZDA. The heating system in Mostar has been out of order during the past heating season and until now does not work in spite of repeated communication on the side of the recipient. The final payments have been reportedly released. The CZDA has a leverage on the implementor to rectify the defects based on paragraph 8.4 of the Contract, however, to the best knowledge of the evaluators this has not been applied yet. ***(Comment 2)*** This is an unfortunate situation that could be mitigated by retaining a portion of the final payment until after the retention/ guarantee period. **Comments:** 1. In the process 2. The CzDA has not applied par. 8.4 of the Contract as we have received the information about malfunction via the Embassy in September – it is in the process of being evaluated.	**Response to comment 1:** The recommendation is in line with the current policy of CZDA and is likely that it will be implemented. This is mentioned in the text. **Response to comment 2:** Reflected in the text
	MZV ORS	
33	Correct the abbreviation for Ministry of Foreign Trade and Economic Relations to MOFTER	Corrected in the text and Annexes

Annex K: Settlement of comments received during the discussion at the presentation

#	Comments	Response
1	Addition of the MFA as a co-sponsor of the recommendations on the external coherence of the DC CR and on the continuation of support in the sector of energy production and supply	MFA was added in accordance with the comment
2	Consider either adjusting the evaluation verdict or adjusting both the wording of the evaluation and the effectiveness criterion, in relation to the achievement of the stated objective (i.e. emphasize the inappropriate wording/over-ambitiousness of the objective more than the small contribution of the projects to its achievement)	Reflected in the text

Annex L: Checklist of mandatory requirements of the evaluation contract

General conditions	Fulfilled	Date if relevant
Application of min. three evaluation methods	x	
Submission of input evaluation report	x	Aug 6, 2021
Evaluation mission in BiH – min. 5 days, done in June – September 2021	x	Sept 12-18, 2021
Financial reporting	x	
Submission of Draft of final evaluation report	x	Oct 15, 2021
Settlement of Comments	x	Nov 6, 2021
Public presentation of evaluation report	x	Nov 11, 2021
Submission of final evaluation report	x	
Documentation		
Input report structured according to the mandatory outline	x	
Mandatory Annexes to the Input report	x	
Acronyms and abbreviations	x	
List of reviewed documents and other secondary sources	x	
Interviews and discussions conducted during the inception phase	x	
Draft schedule for mission to BiH	x	
Draft evaluation matrix	x	
Final report structured according to the mandatory outline	x	
Mandatory Annexes to the Final report	x	
Executive summary in Czech	x	
Acronyms and abbreviations	x	
Evaluation matrix	x	
Bibliography	x	
Interviews and group discussions	x	
Questionnaires	x	
Summary of the major results of interviews, focus groups with key respondents	x	
Evaluation of individual crosscutting themes	x	
Terms of Reference	x	
Settlement of comments from the Reference Group, Administrator and Implementers	x	
Settlement of comments received during the discussion at the presentation	x	
Checklist of mandatory requirements of the evaluation contract	x	
Selection of photos	x	
Presentation of the evaluation results	x	
Defects detected in the Centre for Old and Infirm Persons Mostar	x	

Annex M: Selection of photos

Novi Travnik, 14. 9. 2021 morning

Meeting at the Municipality Novi Travnik

Kindergarten in Novi Travnik

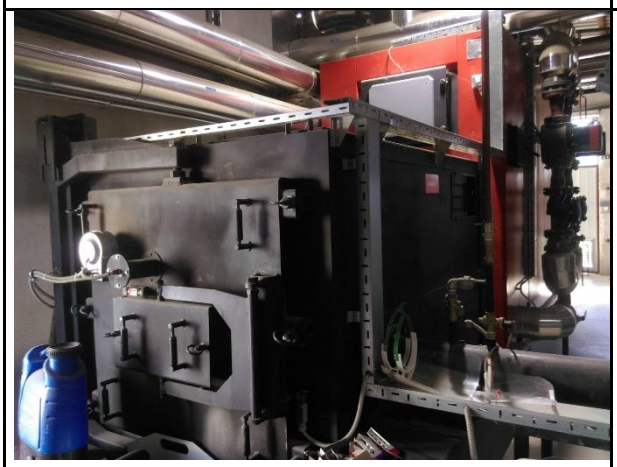
Container heating system is placed next to the main building and does not disturb neither the look nor the surrounding

The users in Novi Travnik of the technology Hargassner expressed their high satisfaction with it

Doboj, 14. 9. 2021 afternoon

The main heat outlet from the boiler room of the Hospital of St. Lukáš to a large hospital complex

The technology of feeding fuel - pellets - to Topling boilers is robust and fully automatic



Two Topling boilers heat 12 buildings in the area of the Hospital of St. Lukas in Doboj

The Bosch light fuel oil boiler only acts as a reserve and has not yet been used

Mostar, 16. 9. 2021 morning

Meeting at the City of Mostar

The new boiler room is located in two containers - for the boiler and for the fuel storage

The Czech boiler Verner Golem is to heat the entire building of the House for Old and Infirm People in Mostar

The system of feeding pellets into the boiler is out of operation, the reason may be a bent feed pipe with a rolling auger in the photo

Ljubuski, 17. 9. 2021 morning

The rooms in the kindergarten in Ljubuski are colourfully decorated to make them attractive to children

The heating is again located in a container outside the building

Hargassner technology was also described here as high-quality and trouble-free

The control visualization display on the boiler provides good information about the combustion process

Annex N: Itinerary of mission in BiH

Day	Date	Time	Location	Organization/entity
Su	12.09			*Travel from Prague to Sarajevo*
				Night in Sarajevo HOTEL ASTRA OLD TOWN
Mo	13.09	0900-1030	Sarajevo	Embassy of the Czech Republic in Sarajevo
		1100 - 1200	Sarajevo	UNDP (on-line)
		1330 - 1430	Sarajevo	Ministry of Foreign Trade and Economic Relations of BiH
		1500-1600	Sarajevo	EBRD
		1430-1630	Sarajevo	Association of biomass producers
				Night in Sarajevo HOTEL ASTRA OLD TOWN,
Tu	14.09	0700		*Travel to Novi Travnik*
		0930 - 1130	Novi Travnik	Municipality Novi Travnik
		0930 - 1130	Novi Travnik	Kindergarten in Novi Travnik
				Travel to Doboj
		1530-1700	Doboj	Clinical hospital "St. Luke the Apostle", Doboj
				Night in Doboj, Hotel Park
We	15.09	0800		*Travel to Banja Luka*
		1100-1230	Banja Luka	Ministry of Agriculture, Forestry and Water Management of the RS
		1100-1230	Banja Luka	Civil Engineering Institute "IG" LLC Banja Luka (CEI)
		1300 - 1330	Banja Luka	Environmental Protection and Energy Efficiency Fund of Republika Srpska ("EPEEF RS")
		1500-1630	Doboj	Suppliers in value chain of wood pellets
		1600 - 1900		*Travel to Sarajevo*
				Night in Sarajevo HOTEL ASTRA OLD TOWN
R	16.09	0900-1000	Sarajevo	Embassy of the Czech Republic in Sarajevo
		1000		*Travel to Mostar*
		1300-1400	Mostar	City of Mostar
		1430-1630	Mostar	Center for old and infirm persons in Mostar
				Night in Mostar Hotel Mostar
Fri	17.09	0900		*Travel to Ljubuški*
		1000-1100	Ljubuski	Ljubuški Municipality + Kindergarten meeting
		1130-1400	Ljubuski	Ljubuški Municipality + Kindergarten visit & observation
				Night in ….
Sa	18.09			*Travel to Prague*

Annex O: Defects indicated in Centre for Old and Infirm Persons in Mostar

Defects indicated in Centre for Old and Infirm Persons Mostar

The complete test operation of the heating system took place from October 3 to October 10, 2020. Several partial handover protocols were submitted, the overall handover protocol was not traced. *(Note: This date is important because it is covered by the warranty, it may be the end date of the comprehensive test operation October 10, 2020, not before!)*

According to UB, the cooperation with the implementer was good until the first failures appeared.

1. **Breaking the conveyor screw for transporting pellets to the hydraulic feeder to the boiler**. The screw is guided in a steel tube, which, however, is bent for space reasons. The screw broke for the first time about 30 days after the start of operation. UB repaired it for the first time by welding the screw, the repair lasted for ten days, then the screw broke again. Subsequently, the implementer sent two spare screws, which UB gradually installed. Even the new screws did not last in operation for more than 10 days. The cause is probably the guide tube bent according to the spatial possibilities. *Note: The Golem boiler's fuel feed system looks gracil compared to both Hargassner and Topling boiler feed systems.*
2. **Axis of hydraulic piston**. In about January / February 2020, the axis of the hydraulic piston of the fuel feeder into the boiler bent and thus the feed system did not work. The implementer replaced the axle, but the total outage due to this failure lasted about 20 days. No defects detected since then.
3. **Under certain circumstances, the boiler cannot be ignited automatically.** The implementer (Mr. Tomáš Beránek) of UB instructed how to clean the boiler before ignition and cites the poor quality of the pellets as a reason - high resin content and impurity content. *Note: UB with Hargassner and Topling boiler technologies do not complain about ignition, although it can be assumed that the quality of the pellets is comparable.*
4. **One Regulus boiler has a non-functional regulation**. Hot water tanks for social purposes are trivalent (can be heated by hot water from the boiler room or from photothermal panels or electricity). Failure reporting without response from the implementer.
5. **The second boiler made by Regulus blocks the heating (from photothermal panels) already when the temperature reaches 40°C** (*or 60°C? We received two different pieces of information*). After a manual restart of the electronics, the storage tank controller then heats up to the required 90°C.

Závady detekované v Domově seniorů v Mostaru

Komplexní zkušební provoz systému vytápění probíhal od 3.10. do 10.10. 2020. Bylo předloženo několik parciálních předávacích protokolů, celkový předávací protokol nebyl dohledán. *(Poznámka: Toto datum je důležité, protože od něj běží záruka, může to být datum ukončení komplexního zkušebního provozu 10. 10. 2020, dříve ne!)*

Dle sdělení UB byla spolupráce s implementátorem dobrá, dokud se neobjevily první poruchy.

1. **Zlomení dopravníkového šneku pro dopravu peletek do hydraulického podavače do kotle**. Šnek je veden v ocelové trubce, která však je z prostorových důvodů ohnuta. Šnek se poprvé zlomil asi 30 dnů od zahájení provozu. UB poprvé opravil sám svařením šneku, oprava vydržela v provozu deset dnů, poté se šnek opět rozlomil. Následně implementátor zaslal dva náhradní šneky, které UB postupně instaloval. I nové šneky nevydržely v provozu déle než 10 dnů. Příčinou je pravděpodobně vodící trubka ohnutá podle prostorových možností. *Poznámka: podávací systém paliva kotle Golem vypadá ve srovnání s podávacími systémy kotlů Hargassner i Topling gracilní.*
2. **Osa hydraulického pístu**. Cca v lednu/únoru 2020 došlo k ohnutí osy hydraulického pístu podavače paliva do kotle a tím nefunkčnosti podávacího systému. Implementátor osu vyměnil, avšak celková odstávka kvůli této poruše trvala cca 20 dnů. Od té doby bez závad.
3. **Za určitých okolností nelze kotel automaticky zapálit**. Implementátor (p. Tomáš Beránek) UB navedl, jak kotel před zapálením vyčistit a jako důvod uvádí špatnou kvalitu pelet – vysoký obsah pryskyřice a obsah nečistot. *Poznámka: UB s technologiemi kotlů Hargassner i Topling si na zapalování nestěžují, přestože se dá předpokládat, že kvalita pelet je srovnatelná.*
4. **Jeden boiler výrobce Regulus má nefunkční regulaci.** Zásobníky na teplou vodu pro sociální účely jsou trivalentní (možno vyhřívat horkou vodou z kotelny nebo z fototermických panelů nebo elektřinou). Ohlášení poruchy bez odezvy ze strany implementátora.
5. **Druhý bojler výrobce Regulus blokuje vytápění (z fototermických panelů) již při dosažení teploty 40°C** *(nebo 60°C? dostali jsme dvě rozdílné informace).* Po manuálním restartu elektroniky regulátoru zásobníku následně vytopí až na požadovaných 90°C.

Annex P: Presentation of the evaluation results

Ministerstvo zahraničních věcí České republiky | Ministry of Foreign Affairs of the Czech Republic

VYHODNOCENÍ PROJEKTU
VYUŽITÍ BIOMASY PRO ROZVOJ RURÁLNÍCH OBLASTÍ BOSNY A HERCEGOVINY
Prezentace závěrečné zprávy

Realizátor evaluace: 4G eval s.r.o.

Dne: 15.11.2021

eval

OSNOVA PREZENTACE

- Kontext
- Přístup a metodika, omezení evaluace
- Zjištění a závěry k evaluačním kritériím
- Identifikované možnosti pro české realizátory
- Doporučení
  - K hodnocenému projektu
  - Systémová a procesní
- Diskuze

4G eval s.r.o.

KONTEXT

- **Cíl : Zvýšit podíl obnovitelné energie v energetickém mixu BiH**
- **Výstupy:**
  1. **Politika využívání biomasy reflektovaná v legislativě, využití v praxi**
  2. **Lepší kvalita a dostupnost dřevní biomasy pro účely vytápění**
  3. **Zvýšený počet realizovaných infrastrukturních projektů OZE**
- **Realizátoři**
  - **UNDP BiH (Výstupy 1.1, částečně 1.2 a 1.3)**
  - **AQUA-GAS, s.r.o.; BFS Industry, s.r.o.; Ircon, s.r.o.; Civil Engineering Institute „IG" LLC Banja Luka (část výstupu 1.3)**
  - **GIZ (část výstupu 1.2)**
- **Financování a výdaje**

ČRA:	**49,884,104 CZK** (předběžně)
UNDP, GIZ, EPEEF RS	**13,155,949 CZK**

4G eval s.r.o.

PŘÍSTUP A METODIKA

- **Metody sběru dat:** Rešerše sekundárních zdrojů; polo-strukturované dotazníky k rozhovorům, skupinovým diskuzím, emailové komunikaci; návštěvy a pozorování; transect walk; case study; expert opinion; Metodika hodnocení průřezových témat v rozvojové spolupráci (INESAN); brífinky a de-brífinky; evaluační zpráva: komentáře, diskuze.
- **Překážky a řešení**
  - Mise mimo topnou sezónu omezila hodnotu informací o provozu hodnocených otopných soustav
  - Inkonzistentní informace o nákladech projektu -> konsolidace
  - Dostupnost a důvěryhodnost sekundárních dat -> triangulace zdrojů
  - Nedostupnost zástupců zainteresovaných stran -> triangulace metod
  - Omezení osobních schůzek z důvodu COVID-19 -> setkání on-line, e-mails

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ZJIŠTĚNÍ A ZÁVĚRY - Relevance

Projekty změny paliva nesplnily roli modelů, tři fungující technologie jsou vysoce relevantní pro přímé příjemce

- **Zadávací dokumentace nezohlednila propojení čtyř demonstračních projektů s dalšími milníky výstupu 1.3 a s cíli projektu**
- **Environmentální fondy nepřijaly mechanismus financování, ale příslušné milníky, aktivity/logika projektu nebyly upraveny**
- **Demonstrační potenciál projektů výměny paliva zůstal nevyužitý**

Hodnocení: Spíše vysoká

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ZJIŠTĚNÍ A ZÁVĚRY - Koherence

Projekt je v souladu s relevantními plány a strategiemi ČR a BiH, ale vnitřní i vnější koherence jsou slabé

- Projekt se s jinými projekty ČRA nepřekrývá, ale nestaví na nich ani je nedoplňuje. Totéž platí pro projekty financované jinými dárci/institucemi s výjimkou předchozího projektu UNDP
- Česká expertíza v sektoru OZE je na základě dobrých zkušeností a vztahů oceňována na centrální i lokální úrovni, poptávka po české expertíze existuje

Hodnocení: Spíše vysoká

4G eval s.r.o.

ZJIŠTĚNÍ A ZÁVĚRY - Efektivita

Tři ze čtyř kotelen fungují se sníženými náklady, kombinace se zateplením vede k energetickým úsporám při komfortních teplotách. Nákladovost je vysoká, realizace zpožděná

- Podle předběžných kalkulací byl z prostředků české rozvojové spolupráce financován zhruba dvojnásobek odhadované částky
- Místní realizátoři mají výhodu nižších cen a jsou dostupní v případě problémů s technologií

Hodnocení: Spíše vysoká

4G eval s.r.o.

ZJIŠTĚNÍ A ZÁVĚRY - Efektivita

Rozpočet projektu
(dle dostupné dokumentace)

Položka	CZK
4 ČRA projekty výměny paliva	35 812 974
BFS technický dozor	1 700 000
ČRA příspěvek UNDP na soft komponenty	12 371 130
UNDP matching grant (*retrofitting*)	10 182 000
EPEEF RS příspěvek na Doboj	1 827 140
GIZ příspěvek UNDP na *Biomass Atlas*	1 146 810
Celkové náklady projektu	**63 040 054**

4G eval s.r.o.

ZJIŠTĚNÍ A ZÁVĚRY - Efektivnost

Projekt nevygeneroval výstup 1.3 a nedosáhl svého cíle – zvýšení podílu obnovitelné energie v energetickém mixu BiH je nevýznamné

- Projektová logika byla narušená rozpojením jejích komponentů i materializací rizik a nebyla zrevidována
- Informace z projektových zpráv a monitoringu softových a infrastrukturálních komponentů nebyly v plánování propojeny
- Časový plán pro nemocnici Doboj nebyl reálný, informace o problémech a navrhovaných řešeních nebyly systematicky hlášeny
- Technické specifikace byly splněny ve všech 4 projektech výměny paliva

Hodnocení: Spíše nízká

4G eval s.r.o.

ZJIŠTĚNÍ A ZÁVĚRY – Pravděpodobnost dopadů

4 projekty změny paliva nemohou vést k dlouhodobému snižování emisí CO2 a zvýšení životní úrovně v celé BiH; posouzení se zaměřilo na jejich místní dopady

- Environmentální dopad - pozitivní vliv na životní prostředí včetně provozního zdraví a bezpečnosti v nemocnici Doboj a dvou školkách
- Ekonomický dopad – snížení nákladů na topení ve všech třech fungujících objektech
- Sociální dopad – školky navštěvuje více dětí a údajně méně onemocní - úspora času rodičům
- Nebyly zjištěny žádné negativní dopady

Hodnocení: vysoká

4G eval s.r.o.

ZJIŠTĚNÍ A ZÁVĚRY – Udržitelnost a replikovatelnost systémů výměny paliva

Ze 4 instalovaných systémů fungují 3; komerční replikovatelnost nelze posoudit z důvodu absence podnikatelských plánů

- Projektové dokumenty pokrývají pouze rizika pro udržitelnost provozu, posouzení dlouhodobé ekonomické či ekologické udržitelnosti chybí
- Nefunkčnost systému v Mostaru a její příčiny nejsou uvedeny; z hlášení vyplývá, že systém byl používán jenom něco přes 40 dní
- Demonstrace výhod přístupu kombinace zateplení a změny paliva, která měla vést k replikacím se neuskutečnila, replikovatelnost je možná, jsou-li nové systémy financovány z grantů

Hodnocení: Spíše nízká

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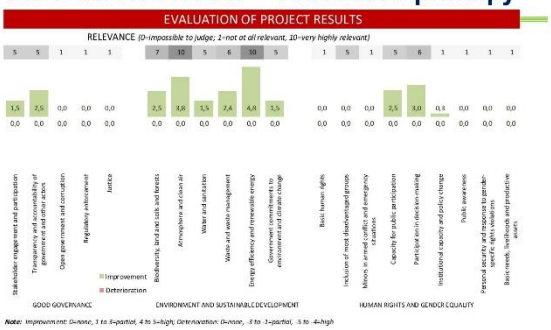
ZJIŠTĚNÍ A ZÁVĚRY – Průřezové principy



Hodnocení: zlepšení v oblasti životního prostředí – vysoké, dobrého vládnutí – spíše nízké, genderové rovnosti – spíše nízké

ZJIŠTĚNÍ A ZÁVĚRY – vnější prezentace

Vnější prezentace byla zajištěna UNDP a realizátory 4 modelových projektů

Hodnocení: Vysoká

IDENTIFIKOVANÉ MOŽNOSTI PRO ČESKÉ REALIZÁTORY

Příležitosti v rámci nového projektu UNDP

(spolufinancování, před zahájením konzultovat s UNDP)

- **Podpora odpovědných institucí při vývoji rámce pro zajištění urychleného využití biomasy**
- **Podpora rozvoje efektivního a spolehlivého trhu s biomasou**
- **Rozvoj kapacity zúčastněných stran pro implementaci udržitelného hodnotového řetězce biomasy**
- **Vývoj a realizace pilotních projektů energetických družstev na bázi dřevěné biomasy**
- **Prosazování a podpora přechodu od fosilních paliv a neefektivního vytápění palivovým dřevem k nosičům energie na bázi dřevní biomasy**

IDENTIFIKOVANÉ MOŽNOSTI PRO ČESKÉ REALIZÁTORY

Technologické příležitosti identifikované v průběhu evaluace

- **Technologie pro energetické využití biomasy** (Novi Travnik)
- **Rekonstrukce a výstavba systémů ústředního vytápění** (Novi Travnik)
- **Rekonstrukce větších budov jako jsou staré továrny, kancelářské budovy** (Novi Travnik)
- **Solární systém přípravy teplé vody a vytápění pro veřejné budovy, fotovoltaické systémy na budovách** (Ljubuski)

IDENTIFIKOVANÉ MOŽNOSTI PRO ČESKÉ REALIZÁTORY

Příležitosti v softových aktivitách identifikované v průběhu evaluace

- **Dozor nad rekonstrukcí ve veřejných budovách v RS** (Public Tender, EBRD/EPEEF RS)
- **Podpora BHAS (Agentura pro statistiku Bosny a Hercegoviny) s aktualizací, modernizací a hostováním Atlasu biomasy** (diskutováno s UNDP, který doporučil další možné kroky)

DOPORUČENÍ k hodnocenému projektu

Doporučení	#	Adresát	Odůvodnění
Oprava systému v Mostaru	1	AQUA-GAS	Od ledna 2021 nefunkční
Monitoring během zkušební fáze	1	ČRA	Vyšší záruka kvality
Smlouvy o pozáručních službách	2	Příjemci	Zvyšuje spolehlivost
Využití ukázkového potenciálu	2	ČRA	Přispěje k replikacím
Záložní zdroje energie	2	ČRA	Zvyšuje provozní kvalitu
Přehodnocení výše pokut	2	ČRA	Motivace budoucích uchazečů
Pokračující podpora sektoru	1	ČRA	Přispívá k dekarbonizaci

DOPORUČENÍ -Systémová a procesní

Doporučení	#	Adresát	Odůvodnění
Poskytnout kompletní dokumentaci	1	ČRA	Přispěje ke kvalitě evaluací
Zaměření na vnitřní soudržnost	1	ČRA	Lepší synergie-dopady
Zaměření na vnější soudržnost	1	ČRA	Lepší synergie-dopady
Zavedení zádržného	2	ČRA	Přispěje k udržitelnosti
Jasně definované koordinační odpovědnosti a způsoby komunikace	1	ČRA	Zvýší efektivitu a efektivnost realizace

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DĚKUJEME ZA VÁŠ ČAS A POZORNOST

Marie Körner
Barbora Latečková
Jana Mazancová
Monika Přibylová
Jan Štejfa
Lejla Šuman

ČESKÁ REPUBLIKA POMÁHÁ

4G eval s.r.o.

Annex Q: Summary of project budget

Items	CZK	EUR	USD	BAM
4 CZDA fuel switch projects	35 812 974	1 406 913		
Consultancy to CZDA done by BFS	1 700 000	66 785		
Contribution of CZDa to UNDP for soft components	12 371 130	486 000		
UNDP matching grant (retrofitting)	10 182 000	400 000		
EPEEF RS contribution to Doboj	1 827 140	71 779		140 000
Contribution of GIZ to UNDP for Biomass Atlas	1 146 810	45 052	52 500	
TOTAL COSTS of the project	**63 040 054**	**2 476 529**		

Exchange rates (CNB, 24.09.2021): 1 EUR = 25.544 CZK; 1 USD = 21.844 CZK; 1 BAM = 13.051 CZK