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The District Heating Energy Efficiency Project (P132741)

REPORT NO.: RES35687

RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
THE DISTRICT HEATING ENERGY EFFICIENCY PROJECT
APPROVED ON MAY 22, 2014
TO
UKRAINE

ENERGY & EXTRACTIVES GLOBAL PRACTICE

EUROPE AND CENTRAL ASIA REGION

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ABBREVIATIONS AND ACRONYMS

CHP	Combined Heat and Power Plant
CO ₂	Carbon dioxide
CTF	Clean Technology Fund
DH	District Heating
EIRR	Economic Internal Rate of Return
FM	Financial Management
GHG	Greenhouse Gas
GWh	gigawatt-hour
IBRD	International Bank for Reconstruction and Development
IHS	Individual Heat Substation
LLC	Limited Liability Company
m ³	cubic meter
MJ	mega Joules
MWh	megawatt hour
NPV	Net Present Value
PDO	Project Development Objective
US\$	United States dollar



BASIC DATA

Product Information

Project ID P132741	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 22-May-2014	Current Closing Date 30-Oct-2020

Organizations

Borrower Ukraine	Responsible Agency Ministry of Regional Development, Building and Communal Services of Ukraine
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Project Development Objective (PDO)

Original PDO

The project development objective is to improve the energy efficiency and quality of service of selected Ukrainian district heating(DH) companies, improve their financial viability and decrease their CO2 emissions.

The global objective is to reduce greenhouse gas (GHG) emissions through avoided heat generation by improving heat generation efficiency, reducing heat losses in DH transmission and distribution systems, and reducing residential heat consumption.

Summary Status of Financing

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net		
					Commitment	Disbursed	Undisbursed
IBRD-83870	22-May-2014	26-May-2014	21-Nov-2014	30-Oct-2020	180.00	38.89	141.11
TF-16327	22-May-2014	26-May-2014	21-Nov-2014	30-Oct-2020	50.00	5.10	44.90



Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

- A.** During the first two years following effectiveness, project implementation has suffered from significant delays compared to the original implementation schedule. As a result, total disbursements for the Project, typically a lagging indicator for infrastructure contracts, are currently at US\$ 43.99 million (as of January 17, 2019), corresponding to a 19.12 percent disbursement rate. Total Project commitments are at US\$ 97.4 million. Since 2016, most participating District Heating (DH) utility companies have improved implementation performance. Unfortunately, for two companies, very limited implementation progress was achieved which led to two restructurings with cancellation of funds which were carried out in May 2017 and June 2018 in order to remove the utility companies for the cities of Vinnytsia and Chernihiv from the Project.
- B.** Since the latest Project restructuring in June 2018, five out of the six remaining participating utilities have continued to make satisfactory implementation progress. These five utilities are: Mykolaivoblteploenerho (Mykolaiv), Miskteplovodenerhia (Kamianets-Podilskyi), Khersonteploenerho (Kherson), Ternopilmiskteplokunenerho (Ternopil) and Kharkivski Teplovi Merezhi (Kharkiv). Based on the mutually agreed implementation schedules for these cities, the major investments planned under the Project - related to boiler house reconstruction and modernization, installation of mini combined heat and power plants (CHPs), heat network reconstruction, and installation of Individual Heat Substations (IHS) - are on track to be completed by the Closing Date (October 30, 2020). This is however not the case for the activities in the city of Dnipro. The company Dniproteploenerho (owned and controlled by the Dnipropetrovsk Oblast) has not made any implementation progress over the last 10 months and has failed to complete the bid evaluation process for the largest planned investment in Dnipro (reconstruction of boiler houses). In addition, the utility's management has expressed repeated concerns regarding the financial return on the planned investments because of the prospect of reduction in heat demand resulting from the probable loss of major public-sector clients, as well as demand-side energy efficiency investments. Given the absence of commitment of the Dnipro utility to implement the Project as originally designed, it was agreed, after consultation with the Ministry of Regional Development and with the Dnipropetrovsk Oblast Council, that the preferable way forward for all parties would be for Dniproteploenerho to request its withdrawal from the Project.
- C.** The rationale for the restructuring is to improve project performance and to remove a utility which has failed to implement the Project in accordance with the Project legal agreements and Bank procedures. After the restructuring, the Project Development Objective (PDO) will continue to be achievable for all remaining participating utilities.



- D. There is no qualified audit report. Based on the latest Financial Management (FM) review, FM rating for the project continues to be Moderately Satisfactory.

II. DESCRIPTION OF PROPOSED CHANGES

- E. The proposed changes are in line with the Project restructuring request of letter number 19040-15/9-10/35031 from the Ministry of Finance dated December 28, 2018. With regard to the IBRD loan, the restructuring will result in the cancellation of US\$20,000,000 corresponding to a reduction of the total IBRD loan amount from US\$180,000,000 to US\$160,000,000. The restructuring will also entail: (a) the reduction from US\$17,410,000 to US\$ 767,000 of the loan amount allocated to Dniproteploenerho; (b) the reduction of the allocation to Kharkiv from US\$76,545,000 to US\$71,645,000, and (c) the increase of the amount of the “Unallocated” category to US\$9,642,000 (from US\$8,099,000). With regard to the CTF loan, the restructuring entails the following reallocations: (a) the amount allocated to Dniproteploenerho (currently US\$4,755,000) will be reduced to zero; (b) the allocation to Kharkiv will be increased to US\$35,655,000 (from US\$30,755,000); and (c) the amount in the “Unallocated” category will be reduced from US\$163,000 to US\$18,000. The total amount of funding under the Project will not change for any of the remaining participating utilities. For Kharkiv, the reduction in the IBRD allocation is compensated by an increase in its CTF allocation of an equal amount. This will not impact the investment program in Kharkiv, but only change the funding sources for activities (such as the installation of building-level heat meters) which are eligible expenditures under the CTF loan agreement.
- F. Furthermore, the restructuring has triggered the following revisions to the Project:
- a. The PDO Level Results Indicators were revised to reflect the reduction of project investments. As a result, the estimated Projected Lifetime Fuel Savings at the end of the Project are reduced from 1,313,255,000 MJ to 1,091,000,000 MJ. The end target for intermediate Results Indicators related to “Fuel Saved to efficiency gains (MWh)”, Reduction in network heat losses (MWh), and “Reduction in residential heat consumption in building where IHSs were installed (MWh)” were also revised to reflect the removal of investments in Dnipro from the Project scope.
 - b. The disbursement estimates were revised to (i) reflect the removal of Dnipro, and (ii) align the forecast with the updated implementation schedule for the remaining participating utilities.
 - c. The economic analysis of the Project was revised to reflect the reduction in the scope of investments. Due to the lower estimated return of investments in Dnipro compared to other utilities, the removal of Dnipro will only marginally reduce the estimated Project Net Present Value (NPV) from US\$131.2 million to US\$131.0 million, and slightly increase the estimated Economic Internal Rate of Return (EIRR) from 25.0% to 26.4%.



III. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Cancellations Proposed	✓	
Reallocation between Disbursement Categories	✓	
Disbursement Estimates	✓	
Economic and Financial Analysis	✓	
Implementing Agency		✓
DDO Status		✓
Project's Development Objectives		✓
Loan Closing Date(s)		✓
Disbursements Arrangements		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Implementation Schedule		✓
Other Change(s)		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓

IV. DETAILED CHANGE(S)



COMPONENTS

Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
Component 1: Energy Efficiency Investments	224.50	Revised	Component 1: Energy Efficiency Investments	204.50
Component 2: Technical Assistance and Capacity Building	5.50	No Change	Component 2: Technical Assistance and Capacity Building	5.50
TOTAL	230.00			210.00

CANCELLATIONS

Ln/Cr/Tf	Status	Currency	Current Amount	Cancellation Amount	Value Date of Cancellation	New Amount	Reason for Cancellation
IBRD-83870-001	Disbursing	USD	180,000,000.00	20,000,000.00	03-Jan-2019	160,000,000.00	BORROWER'S REQUEST FOR COUNTRY REASONS
TF-16327-001	Disbursing	USD	50,000,000.00	0.00	03-Jan-2019	50,000,000.00	BORROWER'S REQUEST FOR COUNTRY REASONS

REALLOCATION BETWEEN DISBURSEMENT CATEGORIES

Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)	
			Current	Proposed
IBRD-83870-001 Currency: USD				
iLap Category Sequence No: 1-I	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Chernihiv			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-II	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Dnipropetro			



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17,410,000.00	374,025.32	767,000.00	100.00	100.00
iLap Category Sequence No: 1-III	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Donetsk			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-IV	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for IvanoFrank			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-IX	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Mykolaiv			
19,340,000.00	1,825,894.34	19,340,000.00	100.00	100.00
iLap Category Sequence No: 1-V	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kharkiv			
76,545,000.00	6,628,495.88	71,645,000.00	100.00	100.00
iLap Category Sequence No: 1-VI	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kherson			
19,955,000.00	1,431,428.16	19,955,000.00	100.00	100.00
iLap Category Sequence No: 1-VII	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kirovograd			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-VIII	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kamyanets-P			
15,830,000.00	11,467,345.77	15,830,000.00	100.00	100.00
iLap Category Sequence No: 1-X	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Vinnytsia			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-XI	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Ternopil			
16,491,000.00	699,722.85	16,491,000.00	100.00	100.00
iLap Category Sequence No: 2	Current Expenditure Category: GD,CW,Non-CS,CS,TRNG,AUD,IOC for P2			



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	5,500,000.00	1,600,181.35	5,500,000.00	100.00	100.00
iLap Category Sequence No: 4		Current Expenditure Category: Interest Rate Cap & Collar Premium			
	0.00	0.00	0.00		
iLap Category Sequence No: 5		Current Expenditure Category: UNALLOCATED			
	8,099,000.00	0.00	9,642,000.00		
Total	179,170,000.00	24,027,093.67	159,170,000.00		

TF-16327-001 | Currency: USD

iLap Category Sequence No: 1-I		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Chernihiv			
	0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-II		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Dnipropetro			
	4,755,000.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-III		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Donetsk			
	0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-IV		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for IvanoFrank			
	0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-IX		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Mykolaiv			
	2,370,000.00	1,170,993.53	2,370,000.00	100.00	100.00
iLap Category Sequence No: 1-V		Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kharkiv			
	30,755,000.00	1,279,852.53	35,655,000.00	100.00	100.00

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iLap Category Sequence No: 1-VI	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kherson			
1,640,000.00	0.00	1,640,000.00	100.00	100.00
iLap Category Sequence No: 1-VII	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kirovograd			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-VIII	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Kamyanets-P			
1,990,000.00	90,125.78	1,990,000.00	100.00	100.00
iLap Category Sequence No: 1-X	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Vinnytsia			
0.00	0.00	0.00	100.00	100.00
iLap Category Sequence No: 1-XI	Current Expenditure Category: GD,CW,Non-CS,CS,IOC for Ternopil			
8,102,000.00	771,042.81	8,102,000.00	100.00	100.00
iLap Category Sequence No: 3	Current Expenditure Category: UNALLOCATED			
163,000.00	0.00	18,000.00		
Total	49,775,000.00	3,312,014.65	49,775,000.00	

DISBURSEMENT ESTIMATES

Change in Disbursement Estimates

Yes

Year	Current	Proposed
2014	0.00	0.00
2015	0.00	0.00
2016	1,831,800.00	1,840,000.00
2017	8,835,531.50	9,500,000.00
2018	30,000,000.00	15,100,000.00



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2019	75,000,000.00	40,000,000.00
2020	80,000,000.00	100,000,000.00
2021	34,332,668.50	42,000,000.00



Results framework

COUNTRY: Ukraine

The District Heating Energy Efficiency Project

Project Development Objectives(s)

The project development objective is to improve the energy efficiency and quality of service of selected Ukrainian district heating(DH) companies, improve their financial viability and decrease their CO2 emissions.

The global objective is to reduce greenhouse gas (GHG) emissions through avoided heat generation by improving heat generation efficiency, reducing heat losses in DH transmission and distribution systems, and reducing residential heat consumption.

Project Development Objective Indicators by Objectives/ Outcomes

Indicator Name	DLI	Baseline	End Target
Improve the energy efficiency and decrease CO2 emissions (Action: This Objective has been Revised)			
Projected lifetime fuel savings (Mega Joules (MJ))		0.00	1,091,000,000.00
Action: This indicator has been Revised	Rationale: Recalculation to reflect removal of Dnipro and revised work implementation schedule.		
Project lifetime fuel savings, calculated as decreased gas needs of participating utilities for heat production (Cubic Meter(m3))		0.00	32,200,000.00
Action: This indicator has been Revised	Rationale: Removal of Dnipro		
Energy savings of participating DH companies (Gigawatt-hour (GWh))		0.00	380.00
Action: This indicator has been Revised			



Indicator Name	DLI	Baseline	End Target
Avoided CO2 emissions of participating DH companies (Tones/year)		0.00	115,840.00
<i>Action: This indicator has been Revised</i>			
Improve quality of service of selected Ukrainian DH companies and improve their financial viability (Action: This Objective has been Revised)			
People that gained access to more energy-efficient cooking and/or heating facilities (Number)		0.00	497,600.00
Percentage of households that reported improved quality of service in buildings where IHSs were installed (Percentage)		0.00	80.00
<i>Action: This indicator has been Revised</i>			
Ratio of total revenues to total operating costs (including debt service requirements) (Percentage)		0.80	1.00
<i>Action: This indicator has been Revised</i>			

Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
Component 1: Energy Efficiency Investments			
Improved efficiency of heat generation (Percentage)		0.00	2.90
<i>Action: This indicator has been Revised</i>			
Fuel saved due to efficiency gains (Megawatt hour(MWh))		0.00	216,000.00
<i>Action: This indicator has been Revised</i>			
Reduction in network heat losses (Megawatt hour(MWh))		0.00	49,000.00



Indicator Name	DLI	Baseline	End Target
<i>Action: This indicator has been Revised</i>			
Reduction in residential heat consumption in buildings where IHSs were installed (Megawatt hour(MWh))		0.00	114,000.00
<i>Action: This indicator has been Revised</i>			



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