

# How to address regulatory, financing and ownership challenges in district heating systems: Lessons from the Energy Community

Violeta Kogalniceanu  
Biljana Grbić

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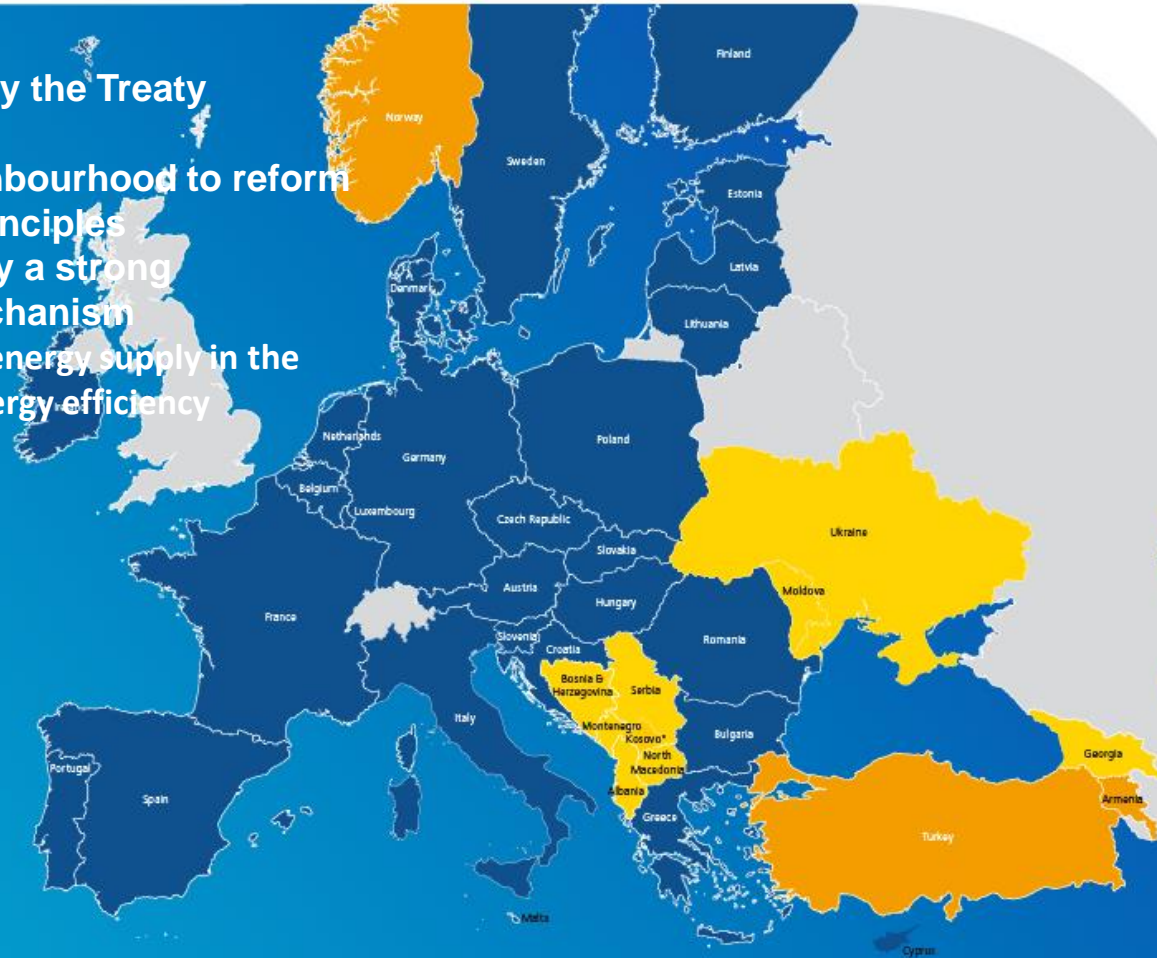
# Agenda

- ☀ A few words about the Energy Community
- ☀ The Heating and Cooling Acquis
- ☀ District Heating Systems in the Energy Community
- ☀ Two means for integrating RE and waste heat in DH

- ☀ International organization established in 2005 by the Treaty establishing the Energy Community;
- ☀ Instrument to assist countries in the EU's neighbourhood to reform their energy markets in line with EU law and principles
- ☀ Treaty obligations are binding and backed up by a strong institutional setting and dispute settlement mechanism
- ☀ Improve the environmental situation in relation with energy supply in the region and foster the use of renewable energy and energy efficiency

## OUR MEMBERS

- Contracting Parties
- European Union
- Observers



## Heating and Cooling Acquis

**Energy Efficiency Directive** – comprehensive assessment, policies, DH infrastructure development

**Renewable Directive II** – target for DH (1 ppt/year) and third party access (TPA)

**Governance Regulation** – DH measures to be included in NECPs

**Strategy on Energy System Integration** – waste heat to be reused through DH



# Heating and Cooling Acquis

Energy Efficiency Directive 27/2012/EU, amended by Directive (EU) 2018/2002

- Prepare a **comprehensive assessment** of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling,
- Adopt **policies** which encourage the due taking into account at local and regional levels of the potential of using efficient heating and cooling systems, in particular those using high-efficiency cogeneration,
- Shall take adequate **measures for** efficient district heating and cooling **infrastructure** to be developed and/or to accommodate the development of high-efficiency cogeneration and the use of heating and cooling from waste heat and renewable energy sources.

# District Heating Systems in the Energy Community

	Bosnia and Herzegovina	Kosovo*	Moldova	North Macedonia	Serbia	Ukraine
Number of DH systems	33	4	2	1	58	cc. 1400
Regulatory Authority	Local Authorities	ERO	ANRE	ERC	Local Authorities	NEURC, Local Authorities
Legislation	Decisions of local authorities	National law and regulations of ERO	National law and regulations of ANRE	National law and regulations of ERC	National law and decisions of local authorities	National law and regulations of NEURC
Ownership	Public and private	Public	Public	Public and private	Public	Public and private

\*This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.

\*\*At present, district heating network does not exist in Albania and Georgia  
Montenegro is in the process of developing new biomass DHS in Zabljak municipality

## District Heating Systems in the Energy Community

- In all CPs, DH is regarded as a **service of public interest**
- The service is provided by **vertically integrated undertakings**, except in North Macedonia
- Tarrifs are regulated and do not reflect true costs
- **No comption** developed at the wholesale market

## Two means for integrating RES and waste heat in DH

1. Development of projects by DH companies
2. Independent heat producers from RES, and waste heat –Third Party Access



## Development of projects by DH companies

**DH operators lack** funds for investments: tariffs regulated, low payment disciplines, disconnections

**Financing:** loans, investment grants, technical assistance of IFIs & donors, also state aid

### Challenges:

- Meeting IFIs/donor conditions for financing:
  - Pre-feasibility study conducted
  - Guarantee of public institution
  - Certain % of self-financing
- State aid rules
- EU taxonomy



[The Energy Community Donor Coordination Platform](#)

## DH Geothermal projects in EnC

Bosnia and Herzegovina, Kosovo\*, North Macedonia, Serbia and Ukraine are rich in geothermal sources



- In Bosnia and Herzegovina, DH company **Sarajevo** launched in July 2020 a geothermal energy research project
- In North Macedonia, **Municipality of Kočani** geothermal energy for heating of public institutions
- In Serbia, **Municipality of Bogatić** uses, as of 2019/2020, geothermal energy for heating of 8 public buildings; water temperature – 75 degrees; 25l/s; projected capacity 2.62 MWth; IPA fund EUR 2.6 mil
- In Ukraine, two geothermal plants: in the **village of Medvedivka** (0.7 MW), and the **village of Kosino** at Zakarpattia oblast (0.2 MW)

**EBRD - the ReDEWeB projects in pipeline:**

1 heat pump utilizing geothermal energy in Bosnia and Herzegovina

## Solar thermal projects in DH in EnC

### City of Pančevo, Serbia – 900 MWh of heat/year from two solar thermal plants for sanitary hot water

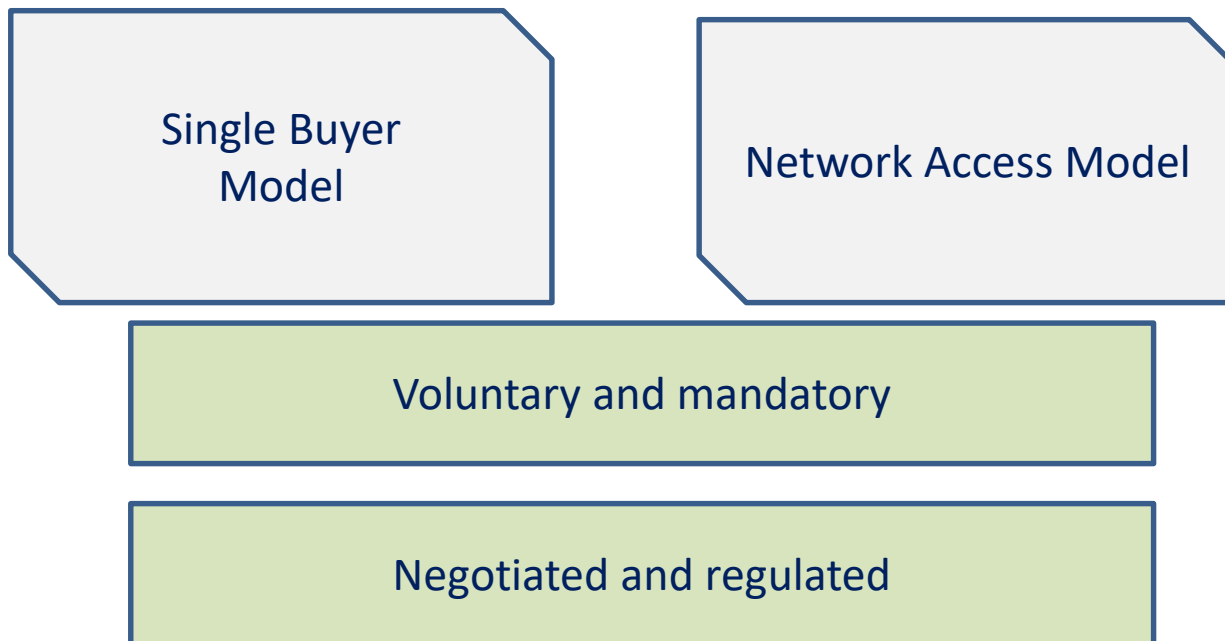
Supported by **the USAID**'s Program  
Serbia Energy Efficiency Activity (SEEA)

Co-financed by **the EU's IPA** Cross-border Cooperation  
Programme (75%) and city of Pančevo (25%)



**EBRD - the ReDEWeB projects in the pipeline:**  
1 solar thermal in Kosovo\*  
5 solar thermal in Serbia

## Third Party Access



Soderholm, P., Wårell, L., 2011. Market opening and third-party access in district heating networks

## Third Party Access - Regulatory and Financing Challenges

- Defining **technical requirements** for the network access in a network code
- Costs of **network connection** and extension of the infrastructure
- Network charge
- Cost allocation of **network losses**
- Means for **procuring** renewable heat – auctioning or direct negotiation
- Contractual terms and conditions (duration of the contract, take or pay clause, etc), if negotiated

## Third Party Access in the Energy Community

- All CPs with DH allow TPA
- Some CPs have enabling provisions:
  - Moldova - priority of access to RE and waste heat
  - Ukraine - tender to be organised if two or more producers are connected
- None of CPs has organised auctions nor support schemes for heat from RES, or waste heat



## Conclusions

- Integration of RES heat/waste heat in DH in the Energy Community is in **an early phase, a lot of work to be done** in the upcoming period
- **Comprehensive assessment and planning** of infrastructure development have to be conducted
- General legal frameworks for TPA exist
- **Independent regulatory body** for regulating and monitoring of DH
- Support schemes for integrating RES heat and waste heat needed
- **Technical assistance** needed to local and national authorities for organising support schemes and auctions



# THANK YOU FOR YOUR ATTENTION

[violeta.kogalniceanu@energy-community.org](mailto:violeta.kogalniceanu@energy-community.org)  
[biljana.grbic@energy-community.org](mailto:biljana.grbic@energy-community.org)

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