

Belgrade district energy & building renovation strategies

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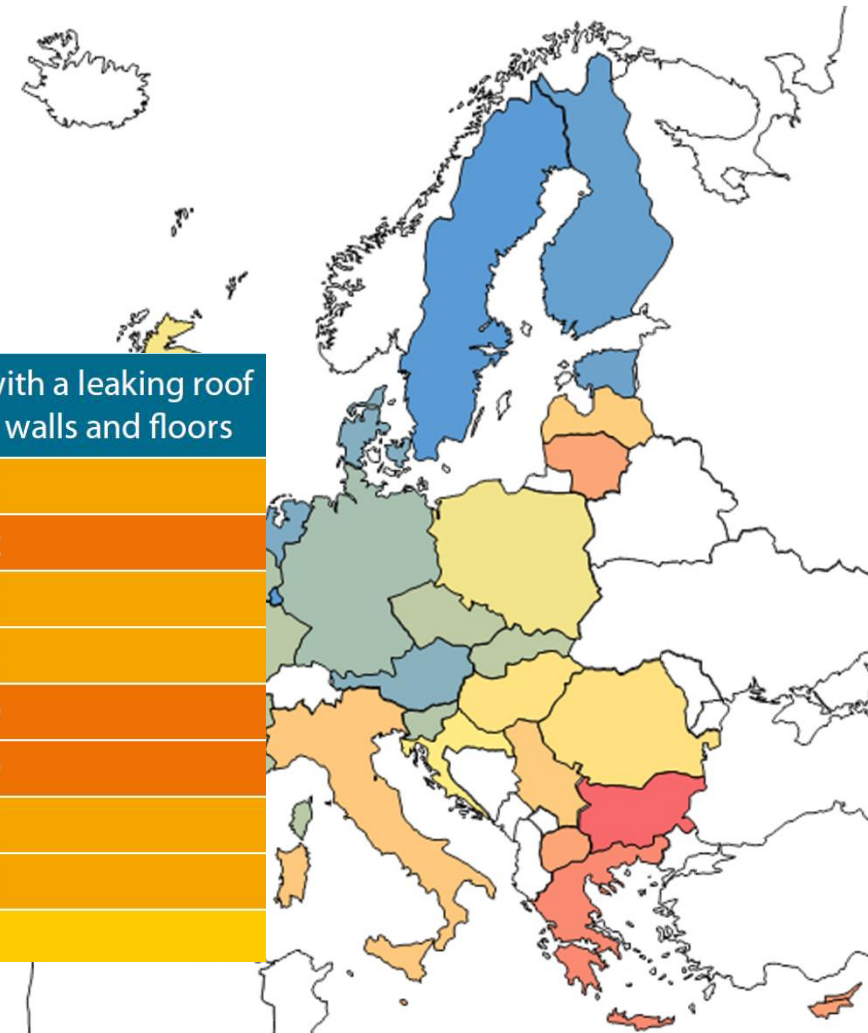
Poland, 16 June 2018
C4E Forum



One Serbian family in six ...

is not able to keep their home adequately warm & experiences higher incidences of poor health and damp-induced illnesses and diseases

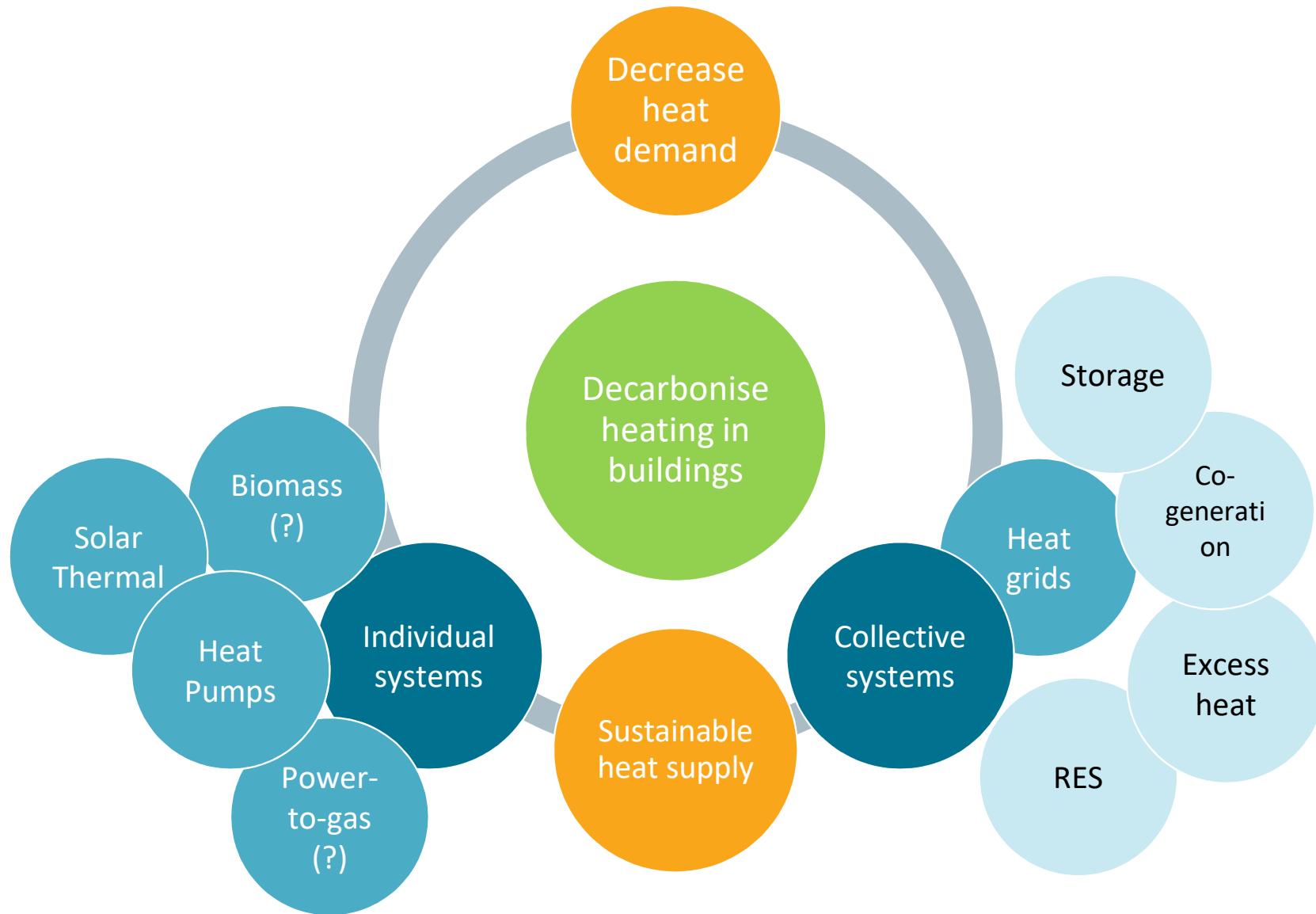
Country	Inability to keep home adequately warm	Arrears on utility bills	Living in a dwelling with a leaking roof and damp or rotten walls and floors
Bulgaria	40.5	32.9	13.2
Serbia	17.1	41.4	26.2
Greece	32.9	37.3	13.7
FYROM	26.1	38.8	15.2
Hungary	11.6	22.3	26.9
Slovenia	5.6	20.3	29.9
Croatia	9.7	29.1	11.7
Romania	12.3	21.1	12.7
Slovakia	6.1	6.1	7.0



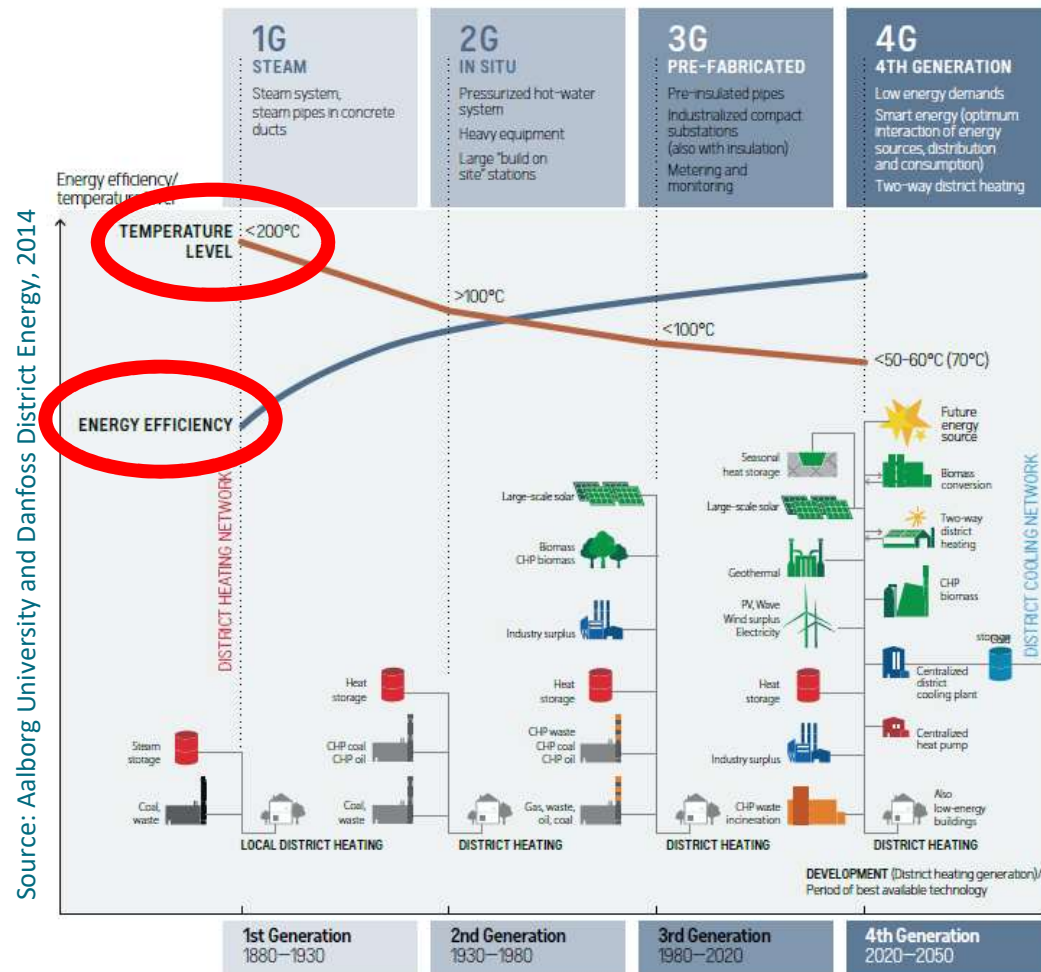
Belgrade city



- Buildings are one of the biggest consumers of energy, particularly for heating and cooling
- >300,000 residential buildings connected to the district energy system
- The majority of the Serbian district heating network is supplied by gas, of which 71% is imported
- Objective
 - Connect 200,000 m² of buildings per year over the coming years
 - Transition the current district energy system to sustainable and modern “4th generation” system



4G District Heating as a game changer



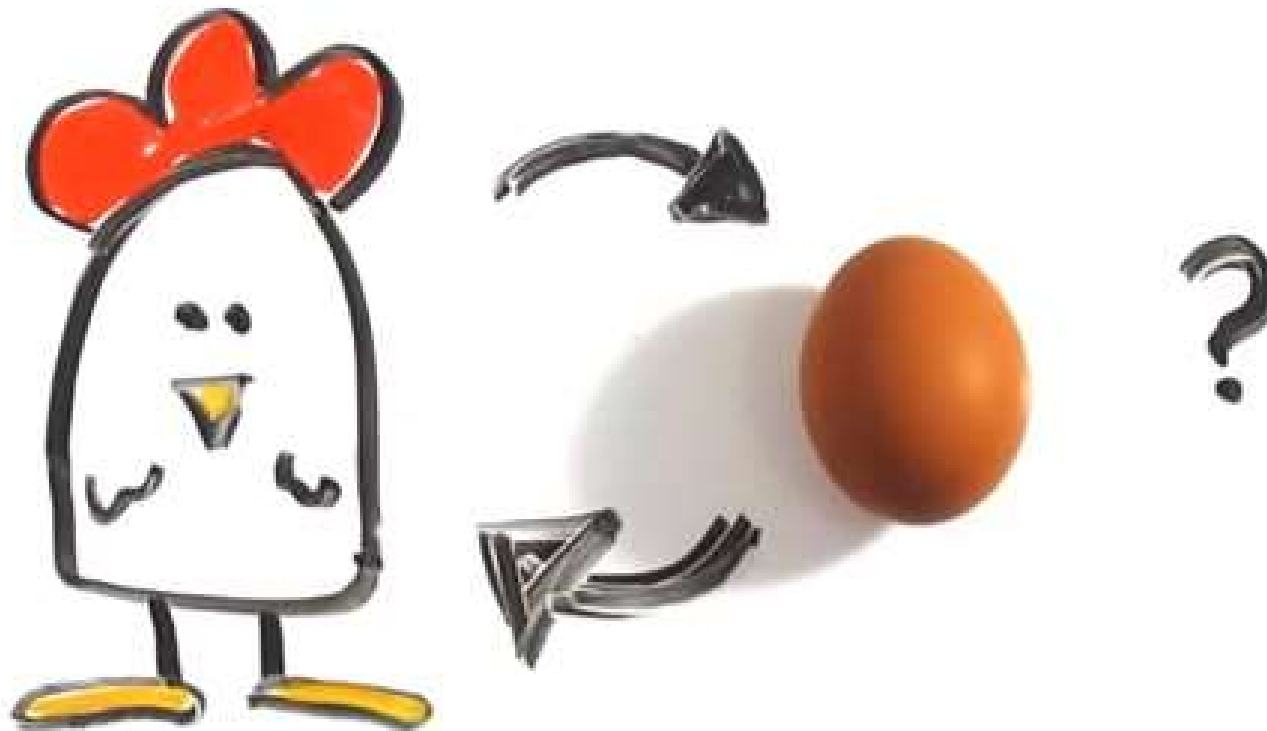
Technology market mature in 2020

Low heat demand in buildings

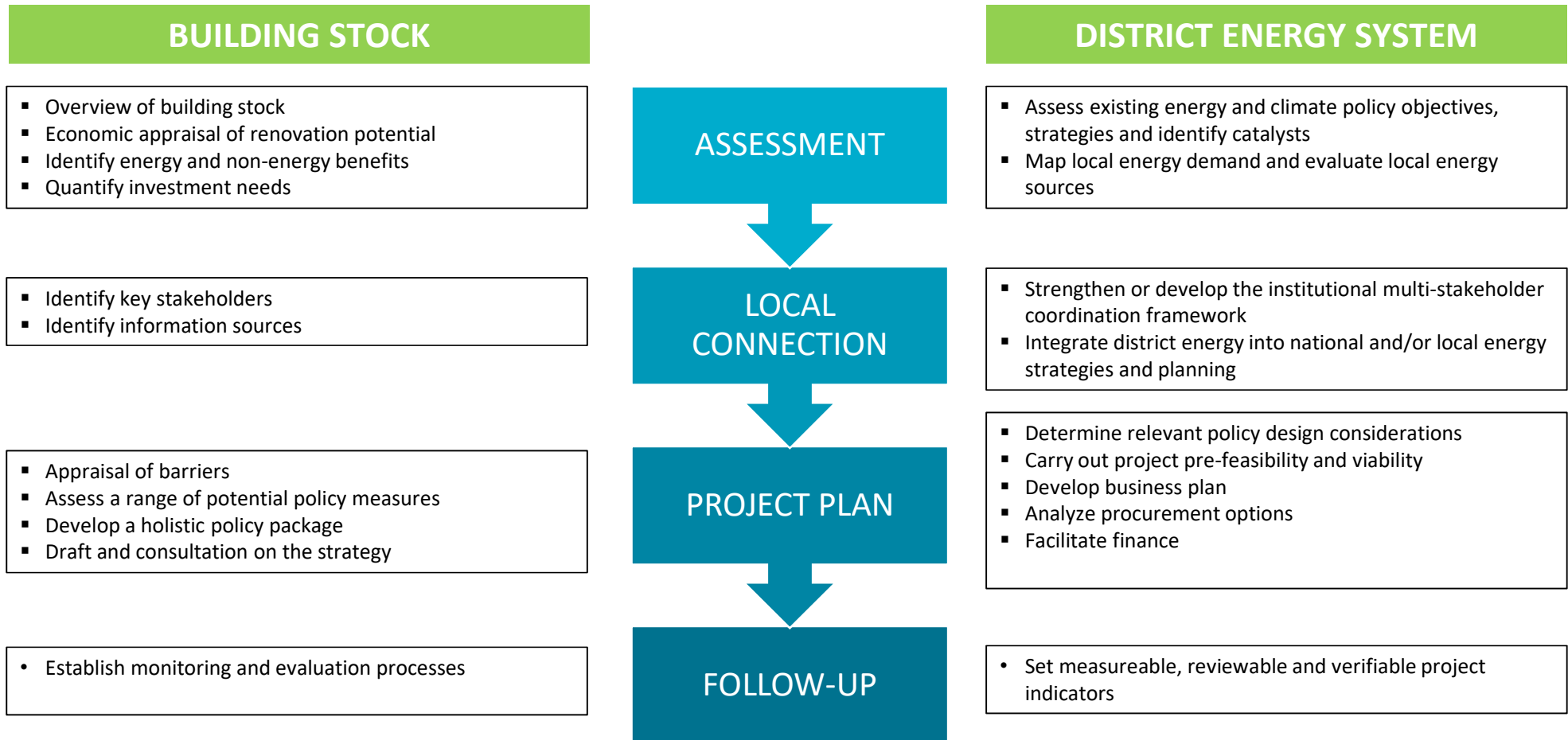
Consumers can become suppliers

New installation approach

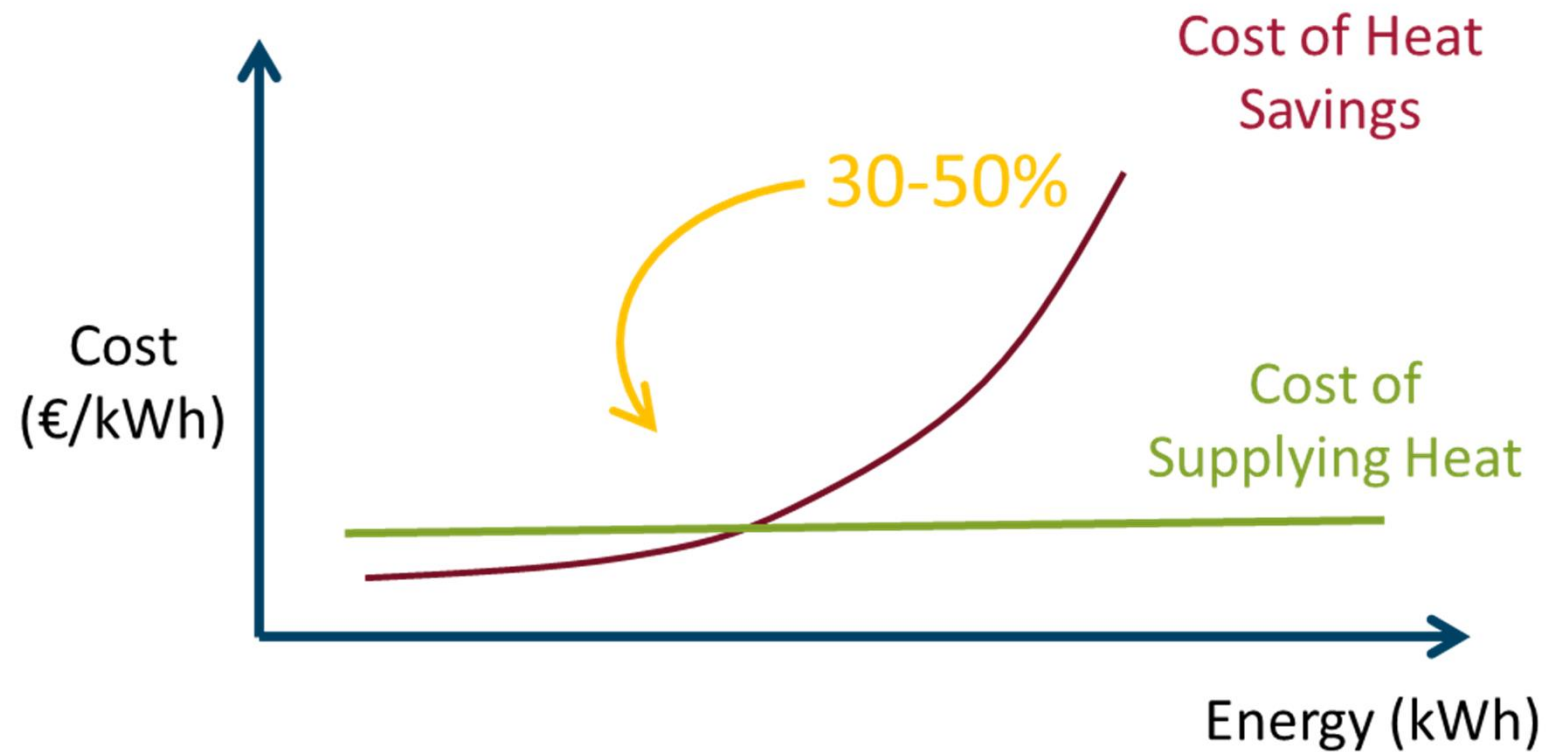
Efficiency in buildings vs district heating



Aligning energy efficiency in buildings & district energy strategies

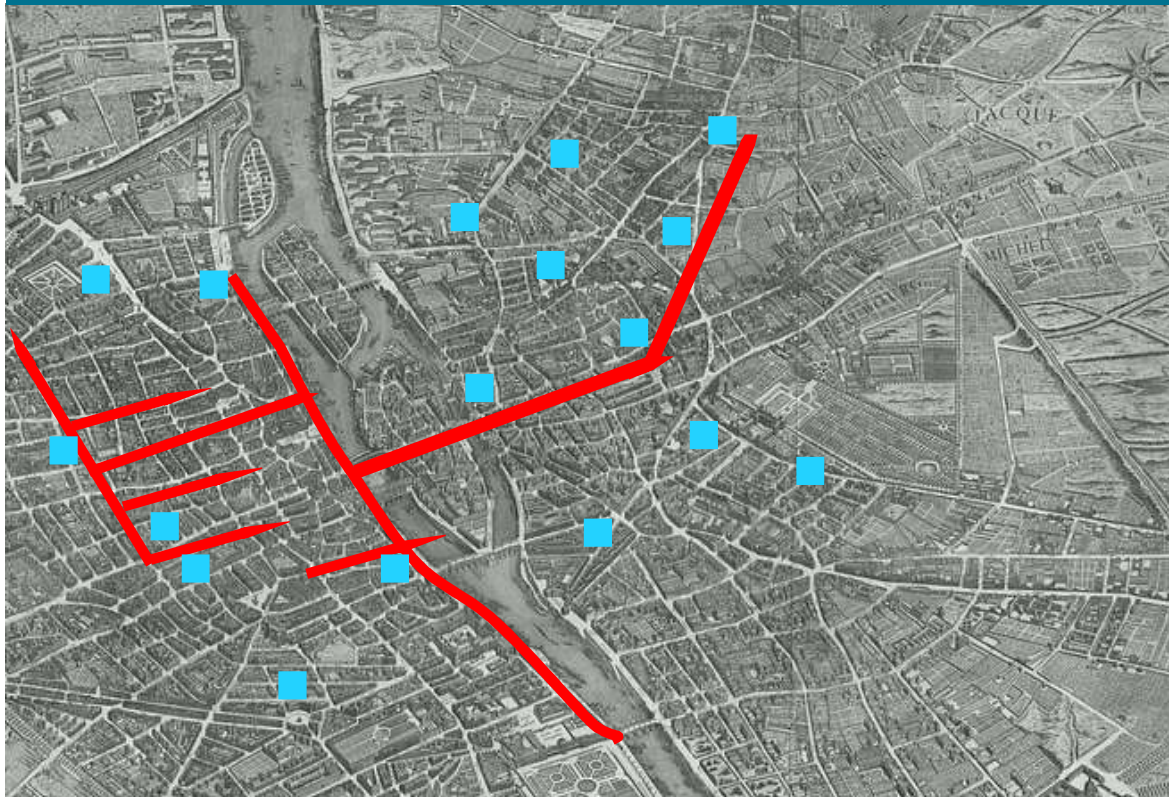


How to find the balance?



From fragmented to extended district approach

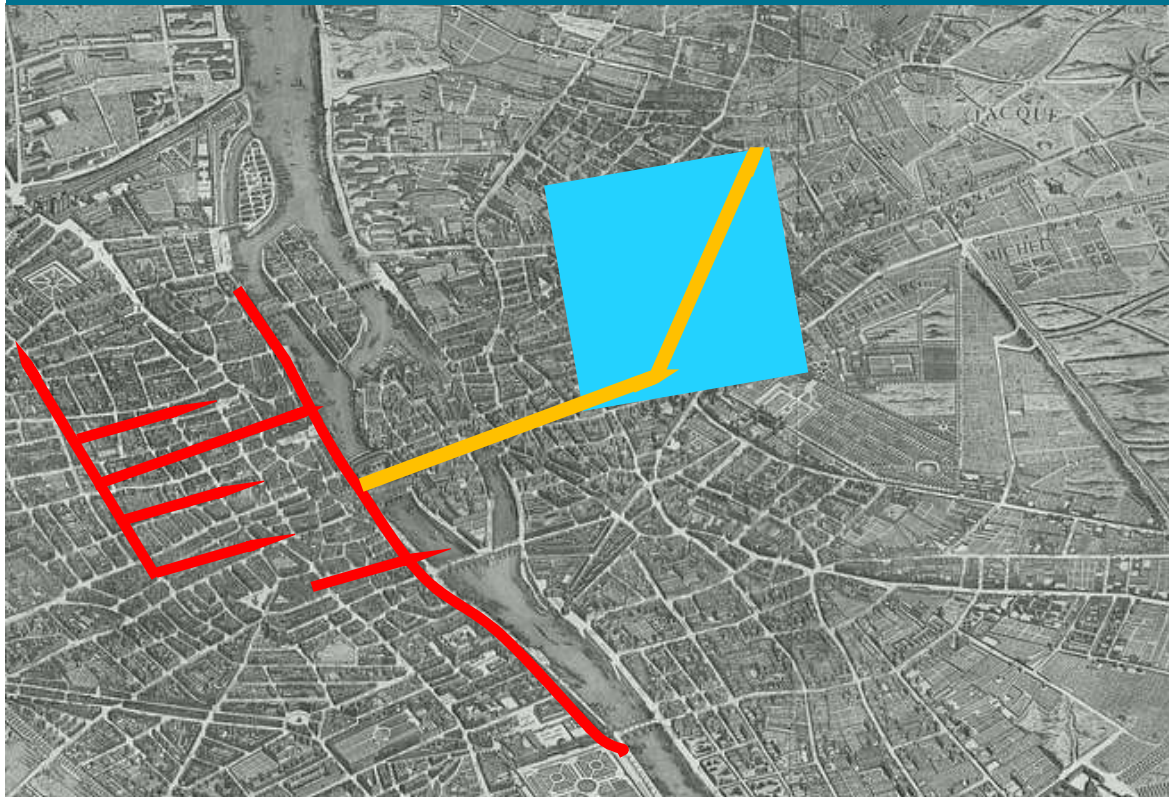
Fragmented approach






-  DH Network
-  Renovation project

From fragmented to extended district approach

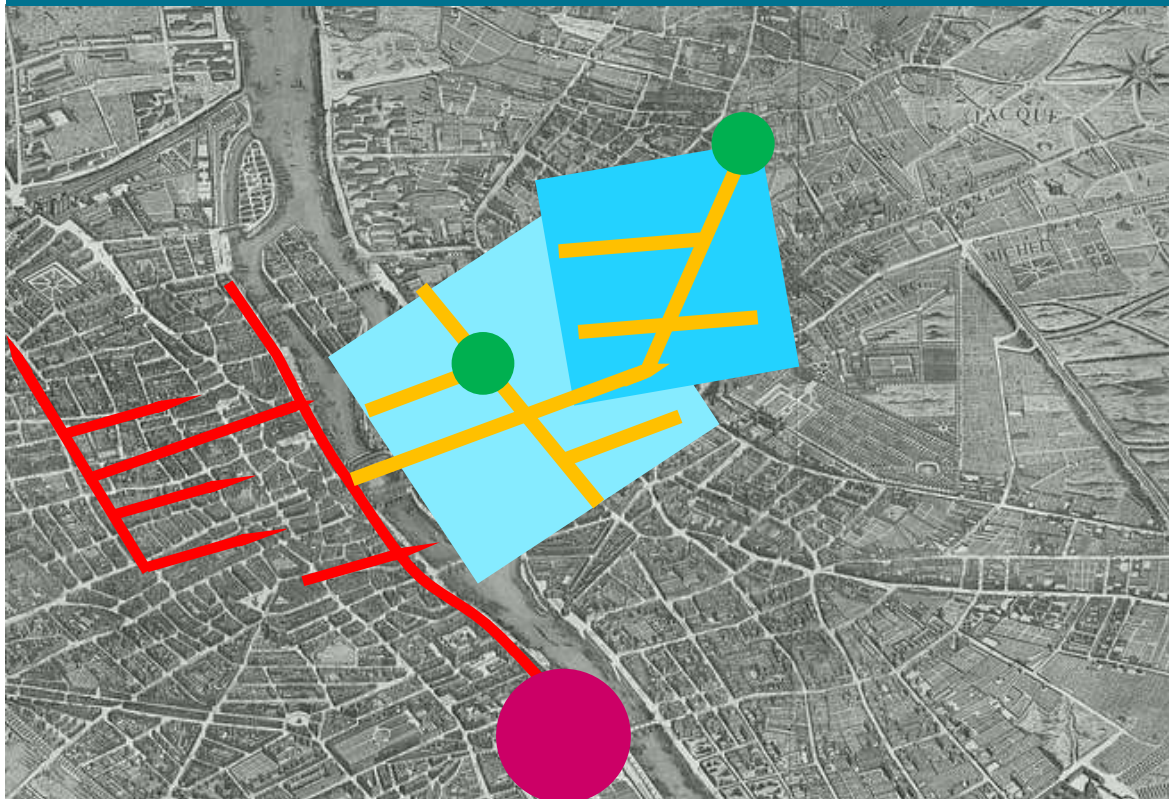
District approach - initial



-  DH Network
-  DH Network - Upgraded
-  Renovation project

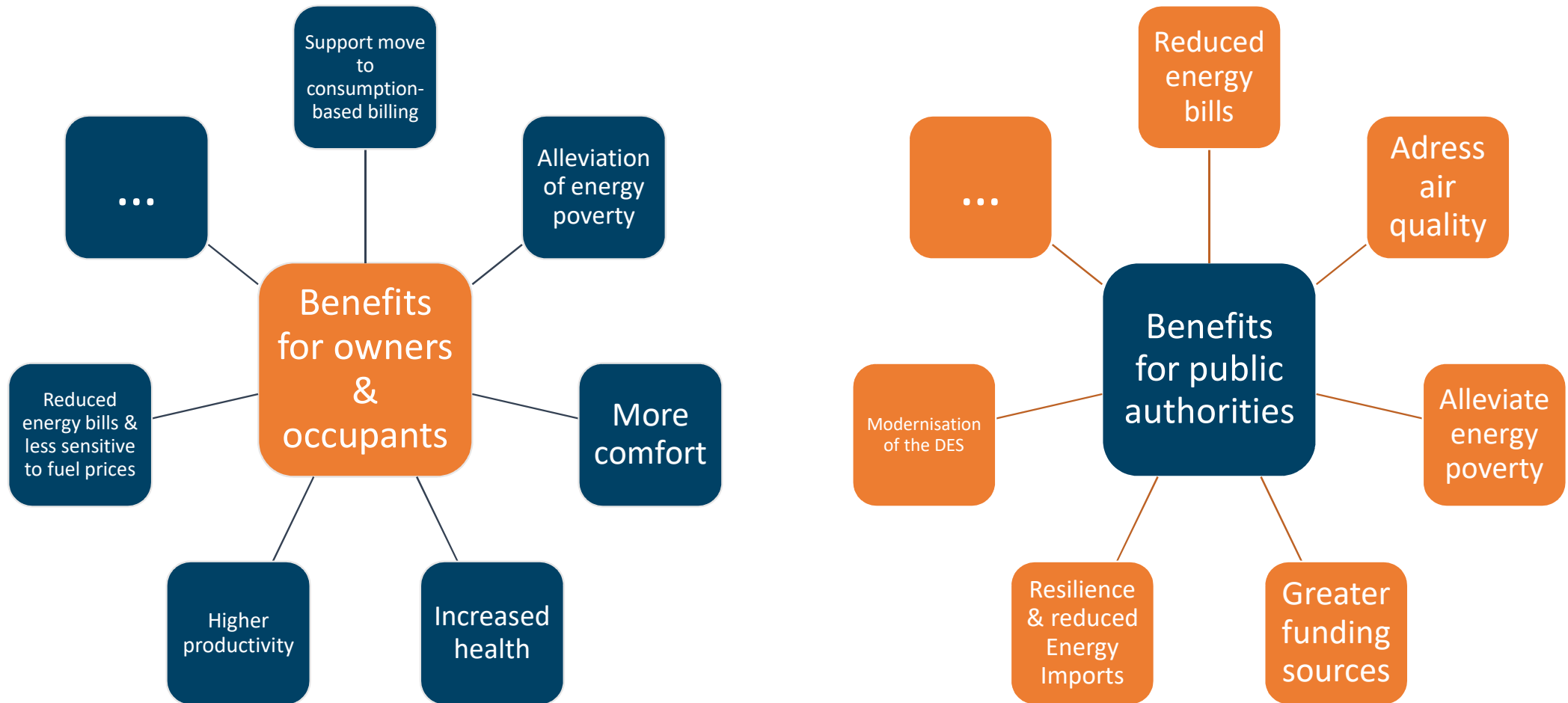
From fragmented to extended district approach

District approach - extended

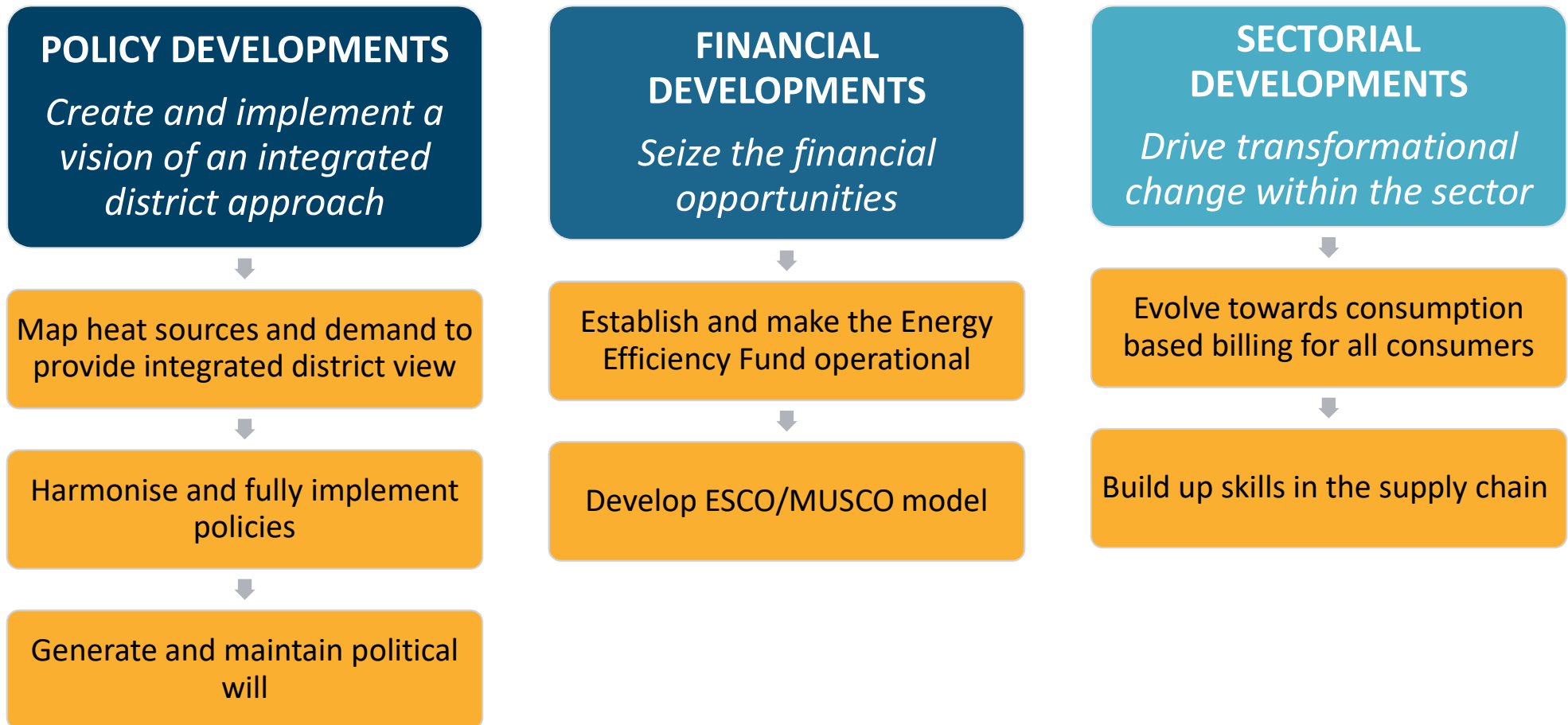


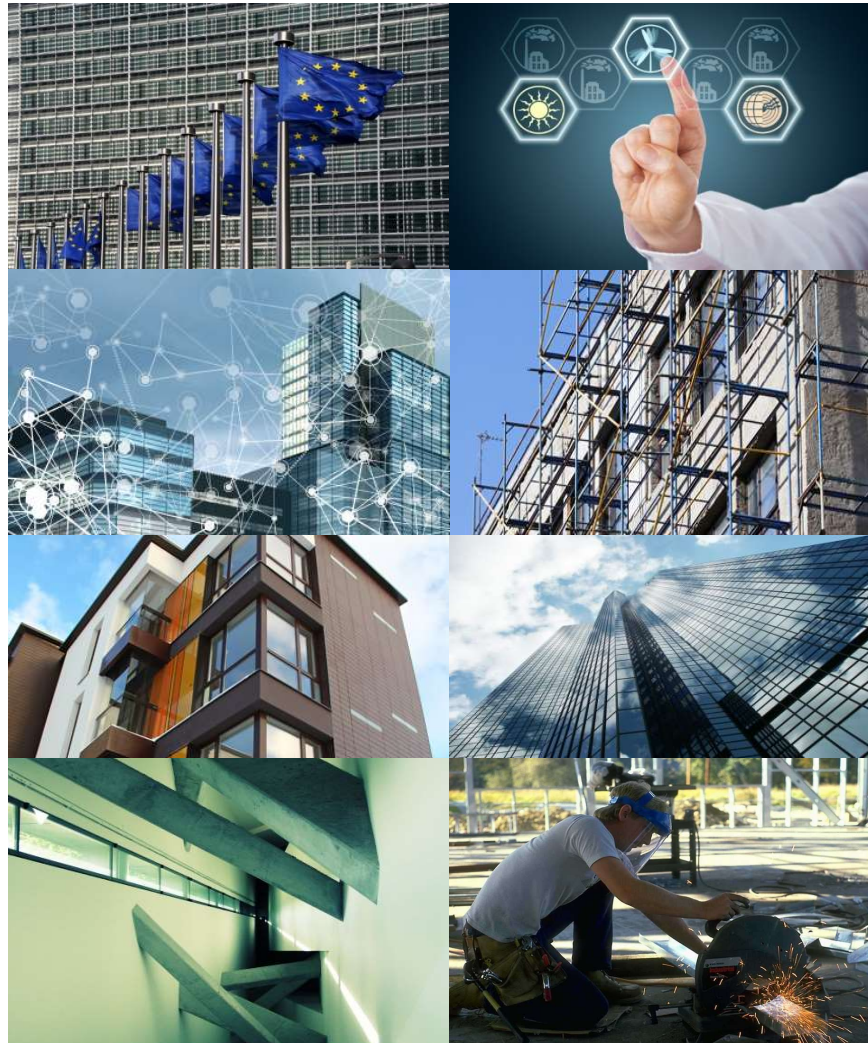
- RES plants
- Available excess heat
- DH Network
- DH Network - Upgraded
- Renovation project

The multiple benefits of a synergetic approach



Conclusions and recommendations to align district energy and building energy efficiency developments in Belgrade





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Thank you...

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