

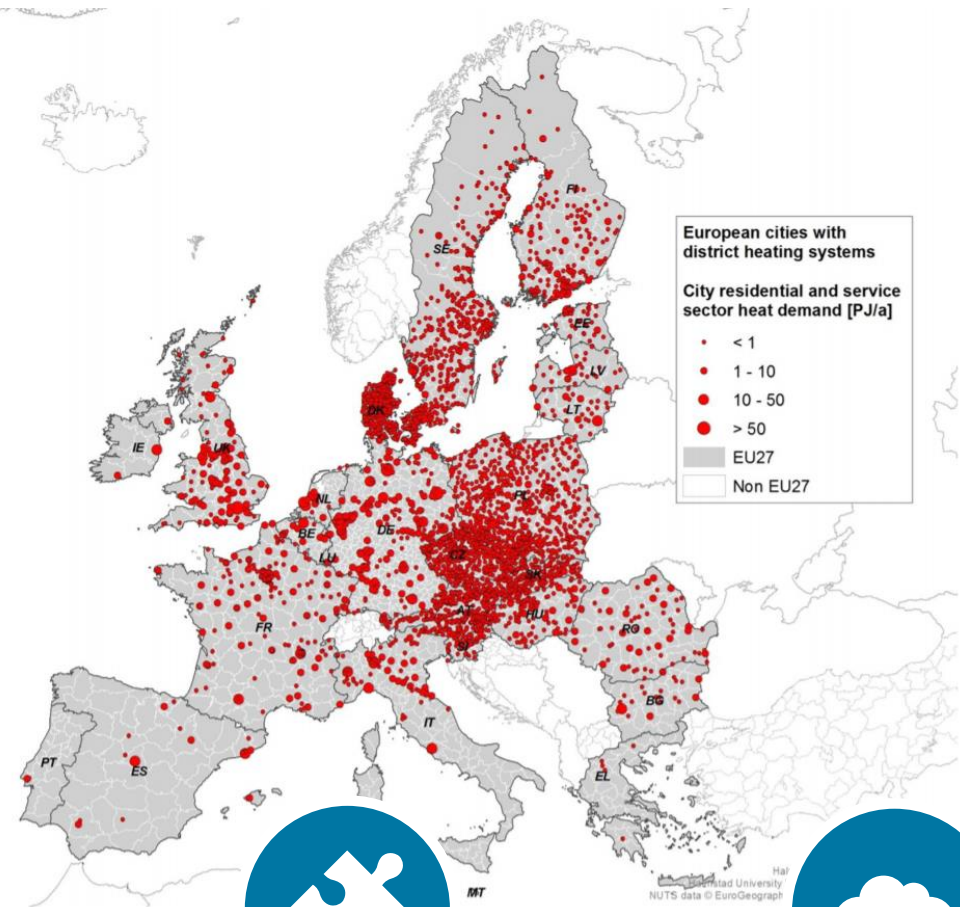


Business Models for District Heating Networks

25th of October 2019

Janka Vanschoenwinkel

The TEMPO project develops technical innovations that help to lower temperatures in district heating networks for a future sustainable energy system.



**Individual
Building
Optimization**



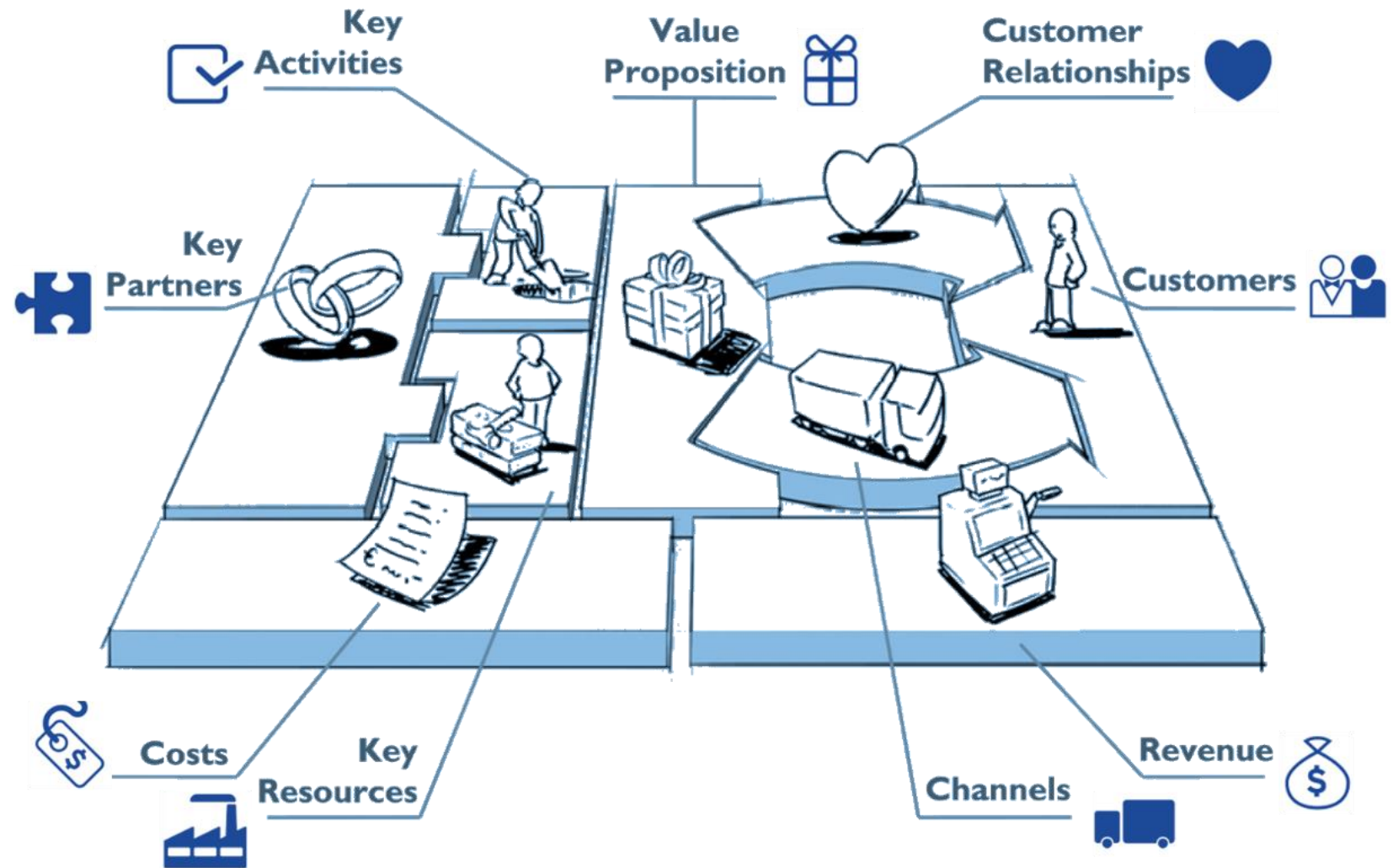
**Network
Optimization -
Infrastructure**



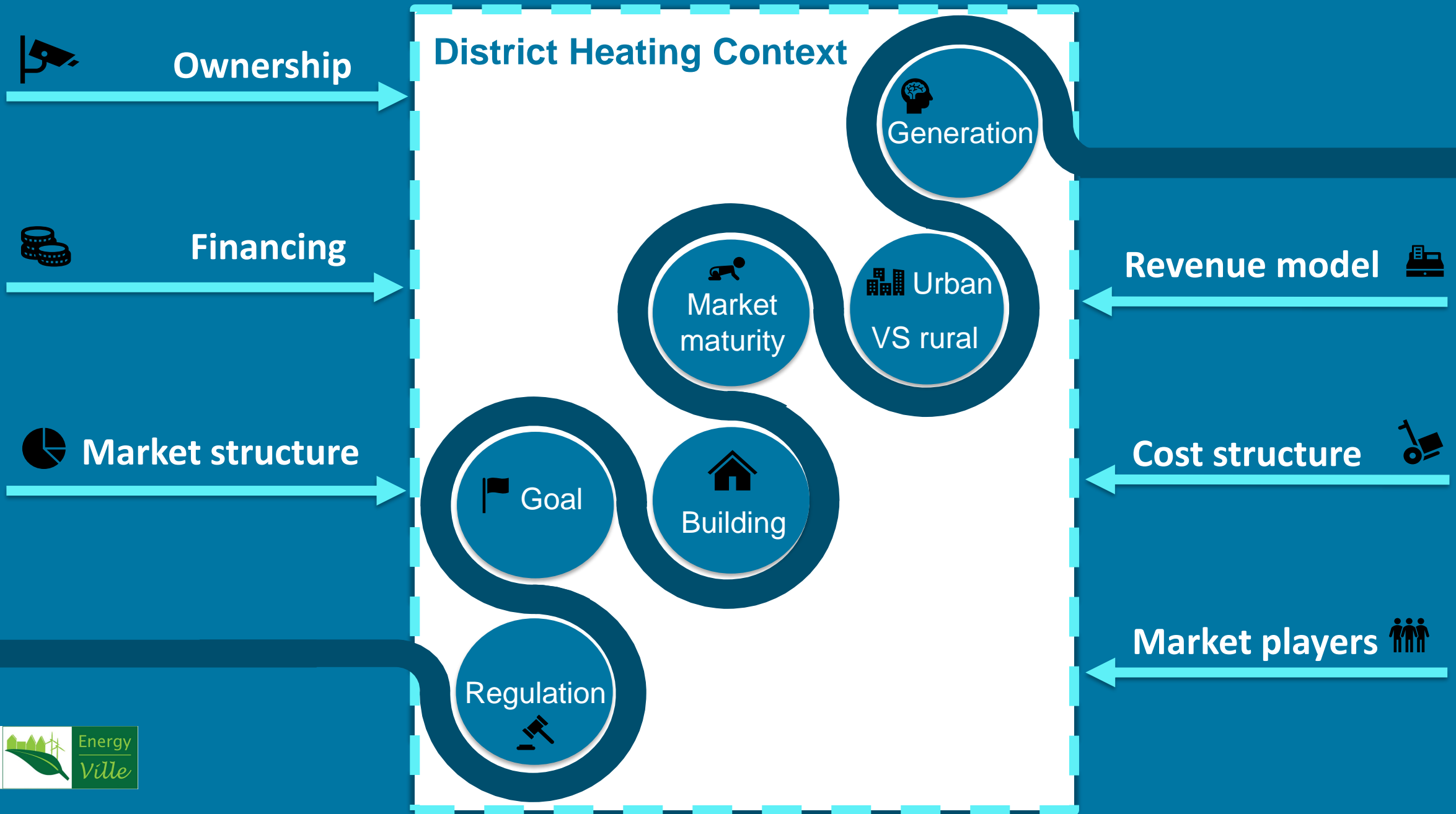
**Network
Optimization -
Digitalization**



Business Model



Business model components to be adjusted to



Concept

	DHC Generation		Type of Building			Market Maturity		Area	
	<3	4	Tenant	Old	Residential	New	Refurbishment	Rural	Urban
Revenue model	A	B							
Ownership								A	B
Market structure						A	C		
Financing									
Market players									

Revenue model

Ownership

Market structure

Financing

Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Revenue model

Ownership

Market structure

Financing

Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Lower Return Temperature = More Efficient DH System



Variable fee → Return Flow Based Incentives

Fixed price / m³
through substation

Return temperature (%
of price)

Bonus malus based on
return temperature

Revenue model

- Ownership
- Market structure
- Financing
- Market players

DHC Generation		Type of Building			Market Maturity		Area	
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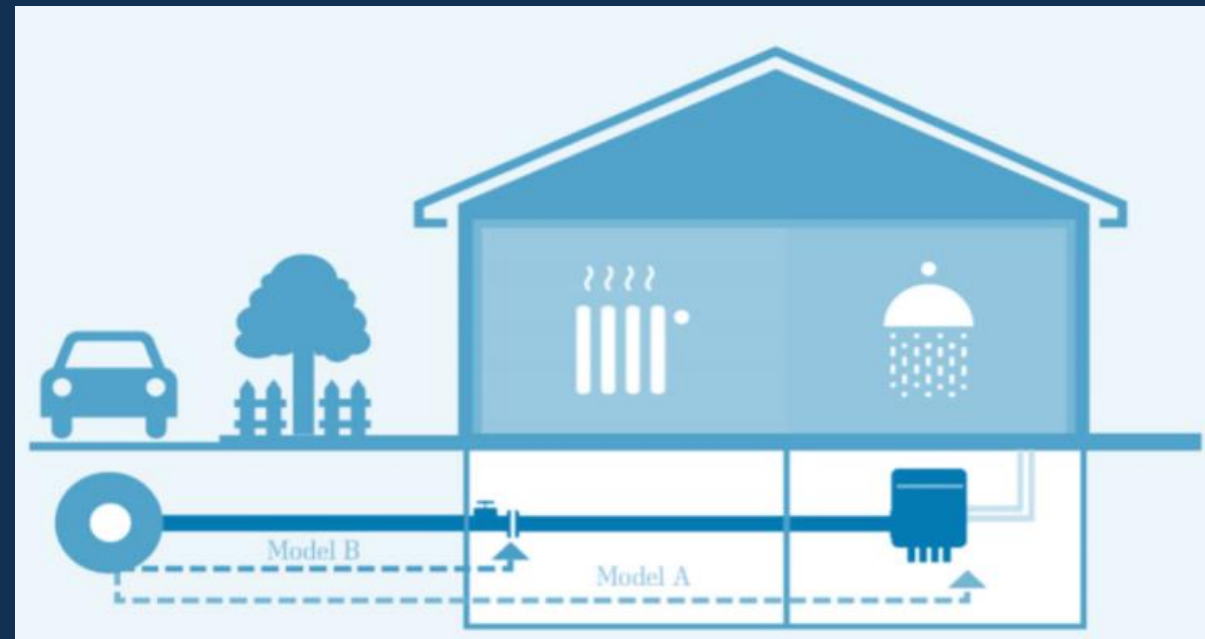


Lower Return Temperature = More Efficient DH System

Upgrading older heating systems



DH Company updates heating system



Model A or B (up to 80 kW)
Gentofte Gladsaxe Fjernvarme
(Sølvhøj Heinesen, 2018)

Revenue model

Ownership

Market structure

Financing

Market players

DHC Generation		Type of Building			Market Maturity		Area	
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High heat demand / density



Avoid Connection Cost burden

Neglected

Heat
Emergency
Solution

District Heating
Shares /
Retirement Fund

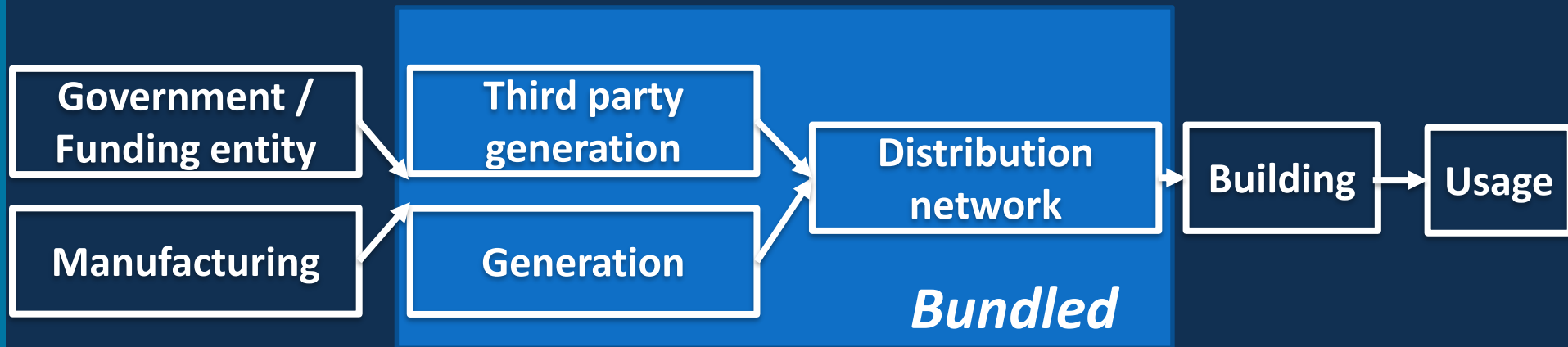
Paying
Disconnection
cost of gas

Compensation
for current
heating device

...

- Revenue model
- Ownership
- Market Structure
- Financing
- Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Revenue model

Ownership

Market Structure

Financing

Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Cost savings, Sustainability, Efficiency



Third Party Access, Open Market Model

Revenue model

Ownership

Market Structure

Financing

Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Right now, we're heating more than 25,000 apartments with excess heat

With Open District Heating, Stockholm Exergi is leading the development of sustainable heat recovery. You can also support this development while at the same time transforming your cooling costs into a revenue stream from heat recovery. Open District Heating is a unique offering for data centers, supermarkets and other businesses that generate excess heat.

[How to become a supplier](#)



A PART OF STOCKHOLM EXERGI



- Revenue model
- Ownership
- Market structure
- Financing
- Market players

DHC Generation		Type of Building			Market Maturity		Area	
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Upgrading elder buildings & systems



Easy access to financing

- Key project financing
- Sub-project financing
- Operational Support



Revenue model

Ownership

Market structure

Financing

Market Players

DHC Generation		Type of Building			Market Maturity		Area	
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VS

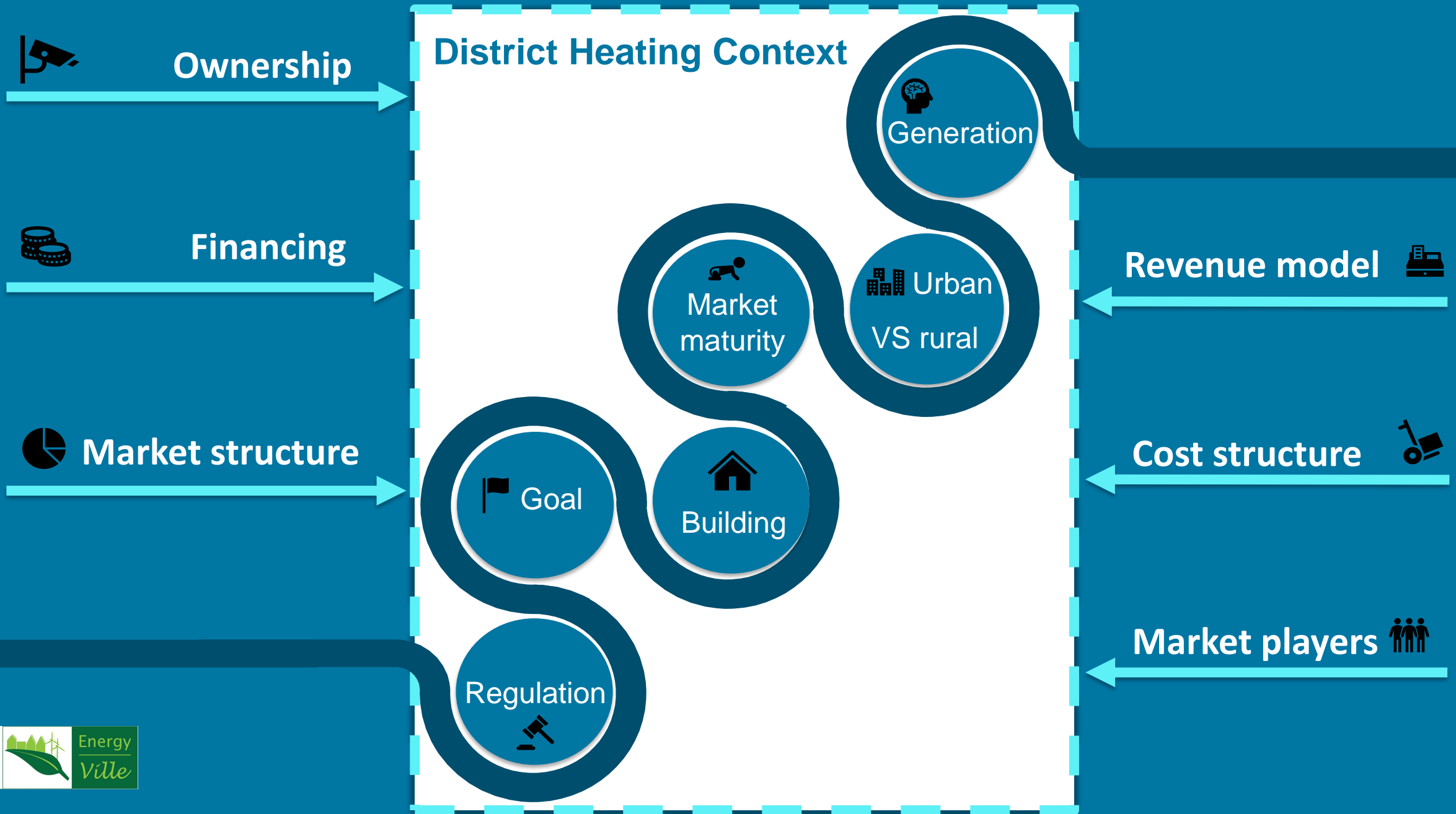
Autoriteit
Consument & Markt



Tax shift from
Electricity to Gas

Heat Tariff based
on Gas Price

Business model components to be adjusted to





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