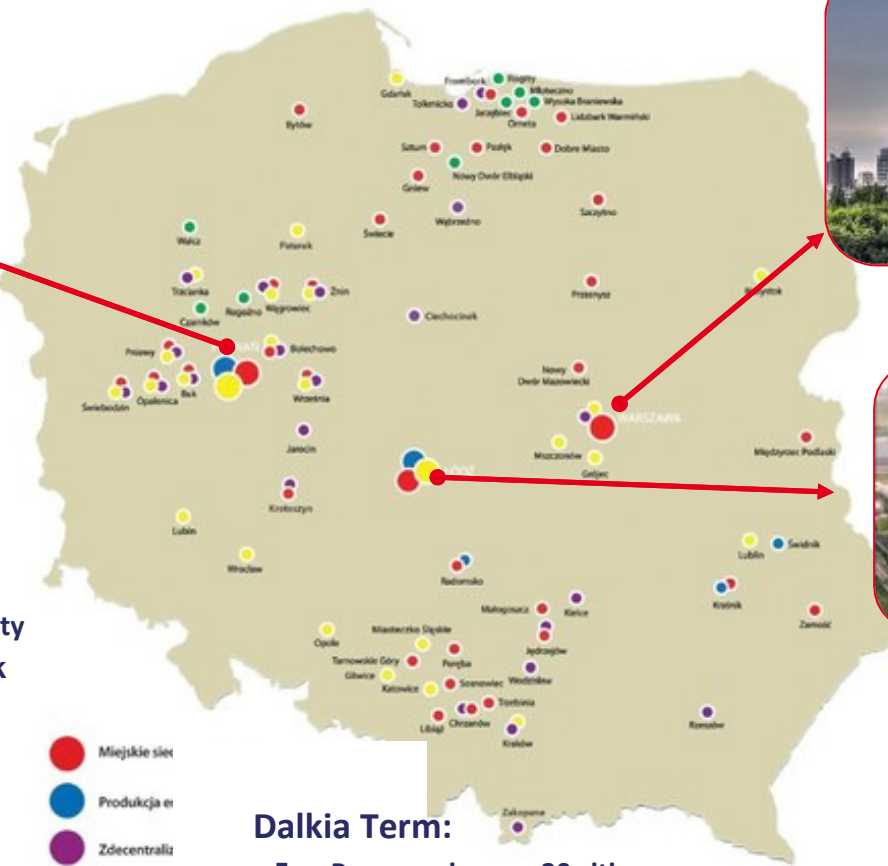




**District Heating and Renewables**

# Market Leader in District Heating in Poland...

1. Introduction to Dalkia Polska



- Warszawa:**
- 1,650 km of network
  - 800,000 residents connected (80%)



- Łódź:**
- 2,000 MW of heat
  - 510 MW of electricity
  - 750 km of network
  - 500,000 residents connected (60%)

- Poznań:**
- 1,100 MW of heat
  - 275 MW of electricity
  - 400 km of network
  - 370,000 residents connected (66%)

- Dalkia Term:**
- Presence in over 20 cities
  - 1,030 MW of heat
  - 18 MW of electricity

<span style="color: red;">●</span> Miejskie sieci	<span style="color: red;">●</span> Urban heating networks	<span style="color: green;">●</span> Energy crops
<span style="color: blue;">●</span> Produkcja energii	<span style="color: blue;">●</span> Combined power and heat production	<span style="color: yellow;">●</span> Other services
<span style="color: purple;">●</span> Zdecentralizowane	<span style="color: purple;">●</span> Boiler facilities	
<span style="color: green;">●</span> Plantacje biomasy		
<span style="color: yellow;">●</span> Inne usługi		

- The largest private operator of heating networks in Poland, with a presence in over forty towns and cities
- Largest integrated pure-heat player on the Polish cogeneration market
- Strategy based on sustainable development, supported by the use of renewable energy sources



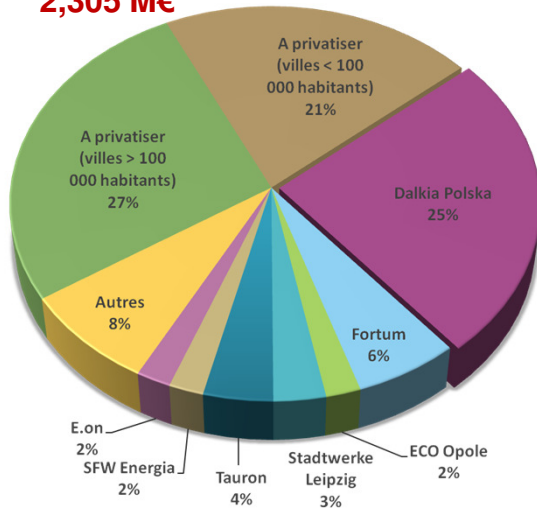
# Dalkia Polska's market shares

## DISTRICT HEATING MARKET

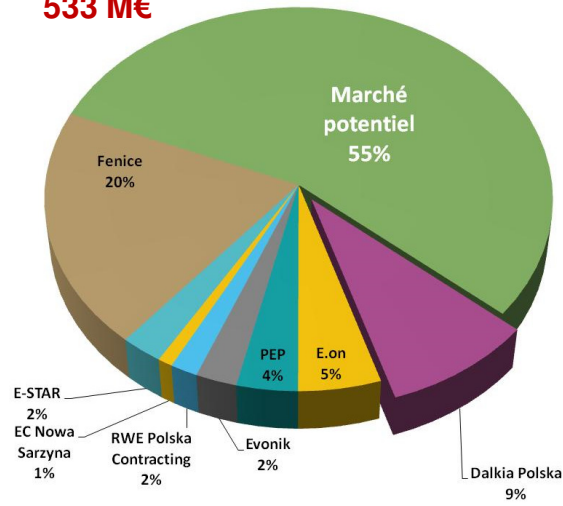
## INDUSTRIAL OUTSOURCING MARKET

## BES MARKET

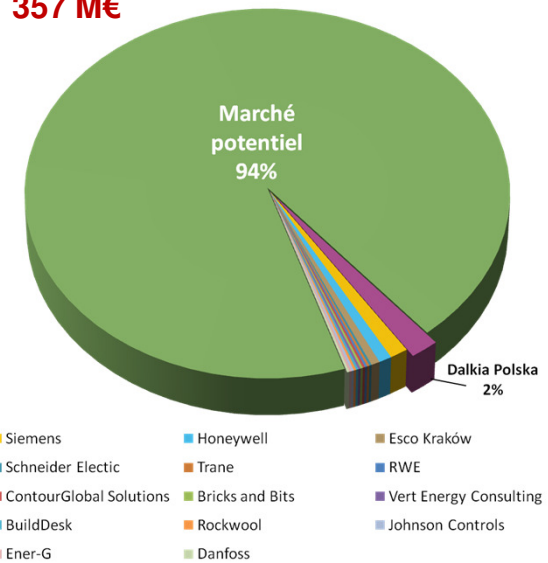
2,305 M€



533 M€

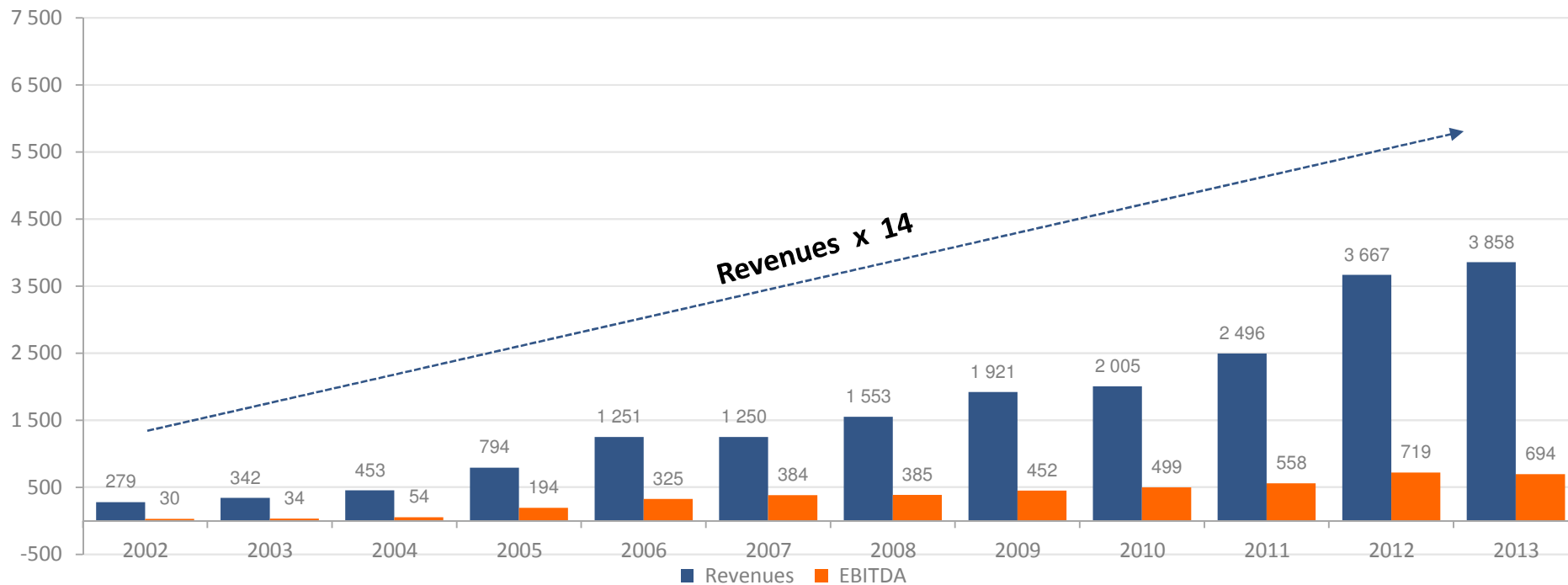


357 M€



# Dalkia Polska: a success story...

1. Introduction to Dalkia Polska



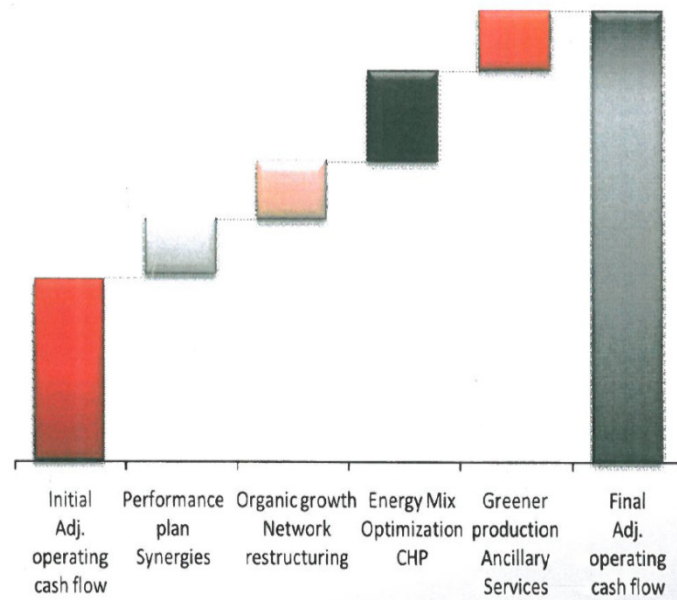
Note: (1) DETS = Dalkia Energy & Technical Services

# Main steps to develop the competitiveness of DH

- **The value creation on existing portfolio:**
  - Performance plan
  - Cogeneration plan
  - Biomass/Renewables introduction
  - Organic growth
  - Energy efficiency
  
- **-To develop fuel mix : renewable,waste,local fuels,**
- **-To maintain an affordable price for client,**
- **-To save money for further investments ,**

# Value creation steps

District Network value creation model



# Synergies in the local environment

1

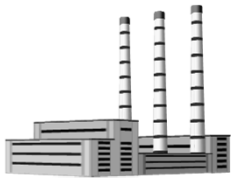
To create high added value to our customers

2

To close-up local loops of urban and environmental services

3

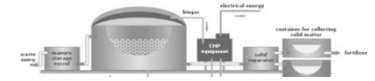
To manage inputs and outputs of facilities in order to secure financing



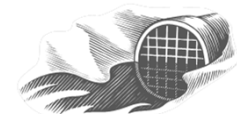
Multifuel CHP



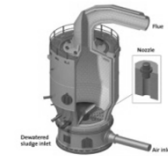
Waste-to-Energy facilities



Biogas production and energy recovery



Energy recovery from sewage waters



Sewage sludge treatment and energy recovery

## The polish legal environment:

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- DHs owned by Municipalities or private companies,
- Heat prices regulated based on benchmark or justified costs,
- DH act supports the development: obligation to connect,
- Support for cogeneration(certificates)and green electricity adjusted year by year within as stable frame,but nothing after 2018!,
- Current status: 7/8 % renewable heat within DH,

## Our feed back:

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- Dalkia in Poland: new contracted capacity of 3 %/year, by connecting new customers,
- Biomass has to be used base load, so in general, it has to be mixed with other fuel,
- Dalkia own DH: 13.5 % of renewable heat,
- Waste to energy heat to come in the next years,
- Necessity to look at the whole loop: fuel, generation distribution and of course customers,