

**VISION FOR  
UKRAINIAN  
DISTRICT  
HEATING  
BASED ON  
SWEDISH  
EXPERIENCE**



**SUDH**  
SWEDEN-UKRAINE  
DISTRICT HEATING

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# DISTRICT HEATING IN SWEDEN – SUMMARY

## General characteristics

- DH is the main source of heat for 253 out of 290 Swedish municipalities
- 52% of the energy supply is recovered heat, 40% - renewable energy, 5% - fossil, 2% - other (mainly peat)
- 51% - DH share in the residential sector
- 45% - share of CHP in DH generation
- DH dominates the business-to-business segment with over 90% of the market share for multi dwelling buildings, around 80% of the market share for non-residential buildings and 15% - single-family residential houses.
- Customer is the building, not the apartment
- Heat pumps is the dominant heat source for stand-alone houses, sometimes also a competitor to DH
- About 200 DH companies (both municipal and private)

# KEY TO SUCCESS OF DH IN SWEDEN

## Clear, enabling and consistent state policy

- Strategic vision based on DH advantages
- Readiness to face challenges (70s' oil crisis, ecological consciousness, requirements to improved EE etc.), CO<sub>2</sub> tax on fossil fuels since 1991 and always increased since then
- Clear legislation, Clear responsibilities
- Incentives for application of advanced technologies
- No regulator (DH companies may make managerial decisions without pressure) – but there are ways to handle improper or unjustified price escalation organized both by authorities and by customer organizations (Energy Markets Inspectorate, Swedish Consumer Agency, Consumer Ombudsman (the Head of SCA), Prisdialogen etc)
- Municipal energy strategies
- Efficient domestic waste disposal system (prohibited landfills!)

# VISION FOR UKRAINIAN DH

## DH customer in focus

- **Competitive DH services for Customers; DH is customer (not consumer) - oriented** switch from “DH consumers” to “DH customers”, start caring about customers experience
- **Move away from “heating season”** in order to increase customer’s experience and therefore customers’ satisfaction
- **Less is more** when it comes to **regulation**; the price is shaped by demand and supply, it is not subjected to regulation, with profit being its indispensable component
- **Comparable benchmarking of DH companies’** activities in order to empower transparency
- **Attractive prices**

# Long-term sustainable DH: technical aspects

- **Highly diversified energy sources** (little fossil fuel used; wide use of biomass and domestic waste potential; waste energy etc., maybe one day waste incineration like it is done in Sweden);
- **Interconnection** of stand-alone systems into a larger system in order to be able to use base load capacities
- **IHS units to drive demand-based DH** (individual substations, implying that each house has a possibility to regulate its heat consumption as per a) real demand and b) own idea on how to reduce heating bills)
- **4-pipes into 2-pipes DH systems** – consequence from IHS installation. This is also required in order to operate DH all year around
- Pipes are laid using **preheat method**
- **Minimal number of pipe valves, no heat chambers**
- water **temperature** in radiators **is lower** (Transfer to low temperature schedules of heat supply from boiler houses with regulation based on quantity and quality)
- **Multy-level use of potential of products of incineration of fuel and heat transfer agent** (installation of condensation heat exchange units, economisers etc.)



## More on IHS installation and operation in Sweden

- quality water-treatment
  - separate circuits (1- hot water; 2 – other water)
  - possibility of adjustment
  - little maintenance needed (quality of project is ensured at assembly stage, quality equipment is procured)
  - monitoring (temperature detectors)
  - IHS is owned by the residents, while meter is DH Company's property
  - no interference with properly operating IHS
- ❖ In such conditions, heat exchanger may work 40+ years without any adjustments.
  - ❖ Precondition: thermal modernization of buildings, reduced heat losses and consumption

WE NEED TO DECIDE  
IN WHICH WAY  
THE UKRAINE DH  
CAN DEVELOP

# State policy required in order to empower the change we are ready for

- On national level, pursue a strategic course to preservation and facilitation of DH system development
- Draft and approve DH Strategy
- Assess the necessity of state regulation (Perhaps less of regulation? Simplify regulation? Task is to simplify tariff and investment regulation procedures significantly!)
- Remove gas subsidies? CO<sub>2</sub> tax on fossil fuels?
- Policy-making instead of control