

Supermarkets and new models for smart, integrated energy systems – summary of discussion

- **Legacy district heating systems must evolve** to meet environmental, public health and climate challenges. This includes a change in fuels (most plants are coal-fired) as well as in system design.
- The **demand-side is an untapped resource** that can provide services to the heating and electricity sectors. For example, supermarket chillers can provide waste heat to district heating networks and flexibility to the power system by shifting consumption patterns in their cooling cycle.
- Transforming district heating systems will require progress in several areas, including:
 - **Changes to the utility business model**, from heat supplier to energy service provider
 - **Regulatory advancements**, such as: enabling cost recovery for provision of energy services, designing tariffs to better reflect the value of flexibility, and lifting barriers to provision of heat by third parties
 - **Holistic approach to system modernization** that includes investment in building renovation, network upgrades and supply.

Challenges and opportunities

Challenges

- Lack of meters at customer (or even building) level
- Incumbent utilities and national regulators are slow and reluctant to change
- High cost of addressing buildings, networks and supply
- Lack of perspective to properly incorporate buildings

Opportunities

- European regulations are driving improvement
- Article 7 of the Energy Efficiency Directive provides a potential path to national regulatory reform allowing utilities to recover cost of EE in regulated rates
- Innovation on local level can lead the way by testing solutions. Requires support of local authority, utility and national regulator. European funds can help.