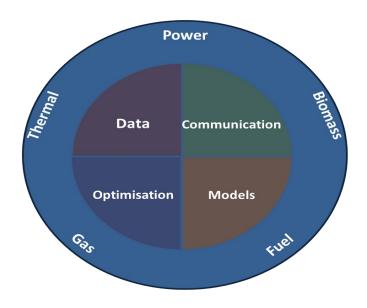
## NTNU - DTU Smart Cities Dialog





Henrik Madsen, DTU Compute

http://www.henrikmadsen.org

http://www.smart-cities-centre.org

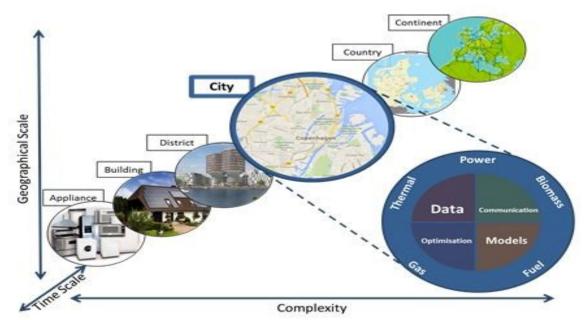


## Intelligent Integration and CITIES



Center for IT-Intelligent Energy Systems in Cities (CITIES) is establishing ITC solutions for design and operation of integrated electrical, thermal, fuel pathways in Smart Cities at all scales.

CITIES is the largest Smart Cities and ESI research project in Denmark – see http://www.smart-cities-centre.org .

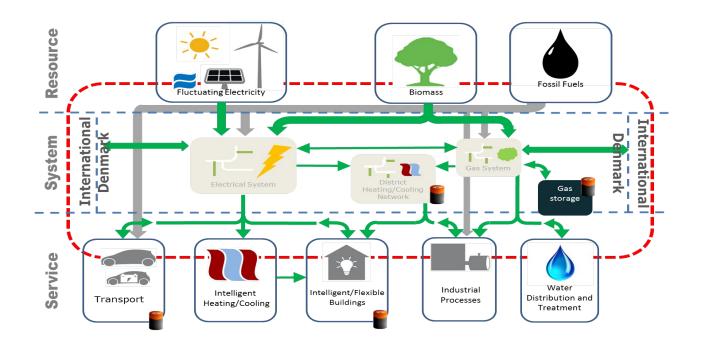




## **Mobility – Energy - Water**



Energy Systems Integration using data analytics and ICT solutions leading to models and methods for planning and operation of future integrated energy systems.



## **Use of Meter Data**



- Reliable Energy Signature.
- Energy Labelling
- Time Constants (eg for night set-back)
- Proposals for Energy Savings:
  - Replace the windows?
  - Put more insulation on the roof?
  - Is the house too untight?
  - **a**
- Optimized Control
- Integration of Solar and Wind Power using DSM





