



Smart Energy Collective – Op weg naar fase 2

Frits Verheij, KEMA

KIVI Symposium Slimme Netten, 15 november 2011



Transmission System Operators

Distribution System Operators

Energy Suppliers

Service & Technology Providers

Property Developer

Financial Companies

Telecom Providers

Automotive Industry

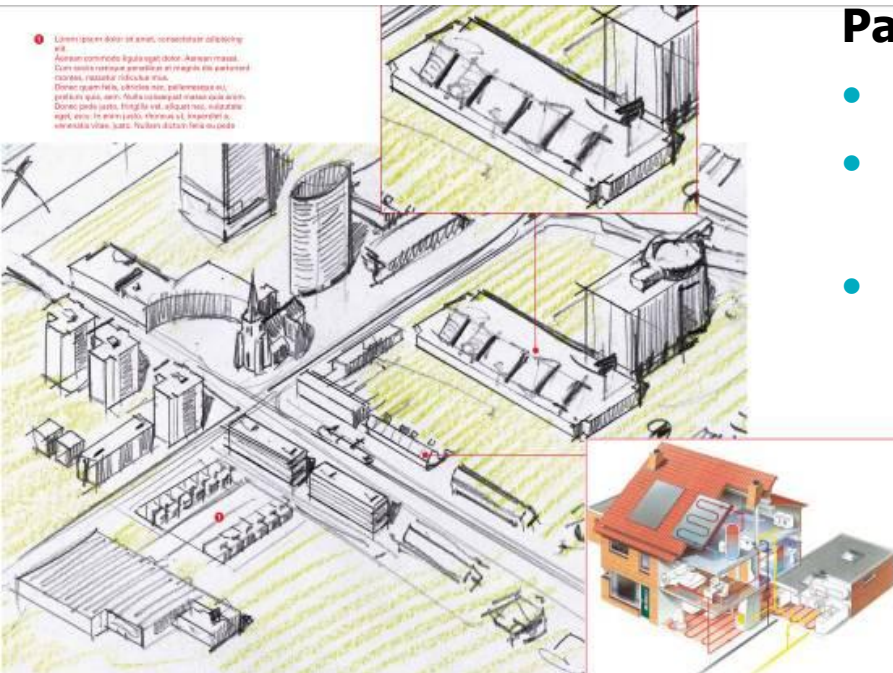
Facilitator



Characteristics of SEC



- Develop, design and built 5 pilot projects with a few thousand energy consumers at various locations in the Netherlands
- Apply different combinations of scalable and interoperable smart grid technologies, products and services
- Demonstrate and test these for a period of at least 2 years in a real-life and representative area
- Present results to the public, policy makers and others interested in smart grid



Partners of Smart Energy Collective will

- Jointly work on an open innovation platform
- Have different viewpoints on the 'new order' but have a common target
- Develop a common market for smart energy services with sufficient volume to make this an attractive business for all partners

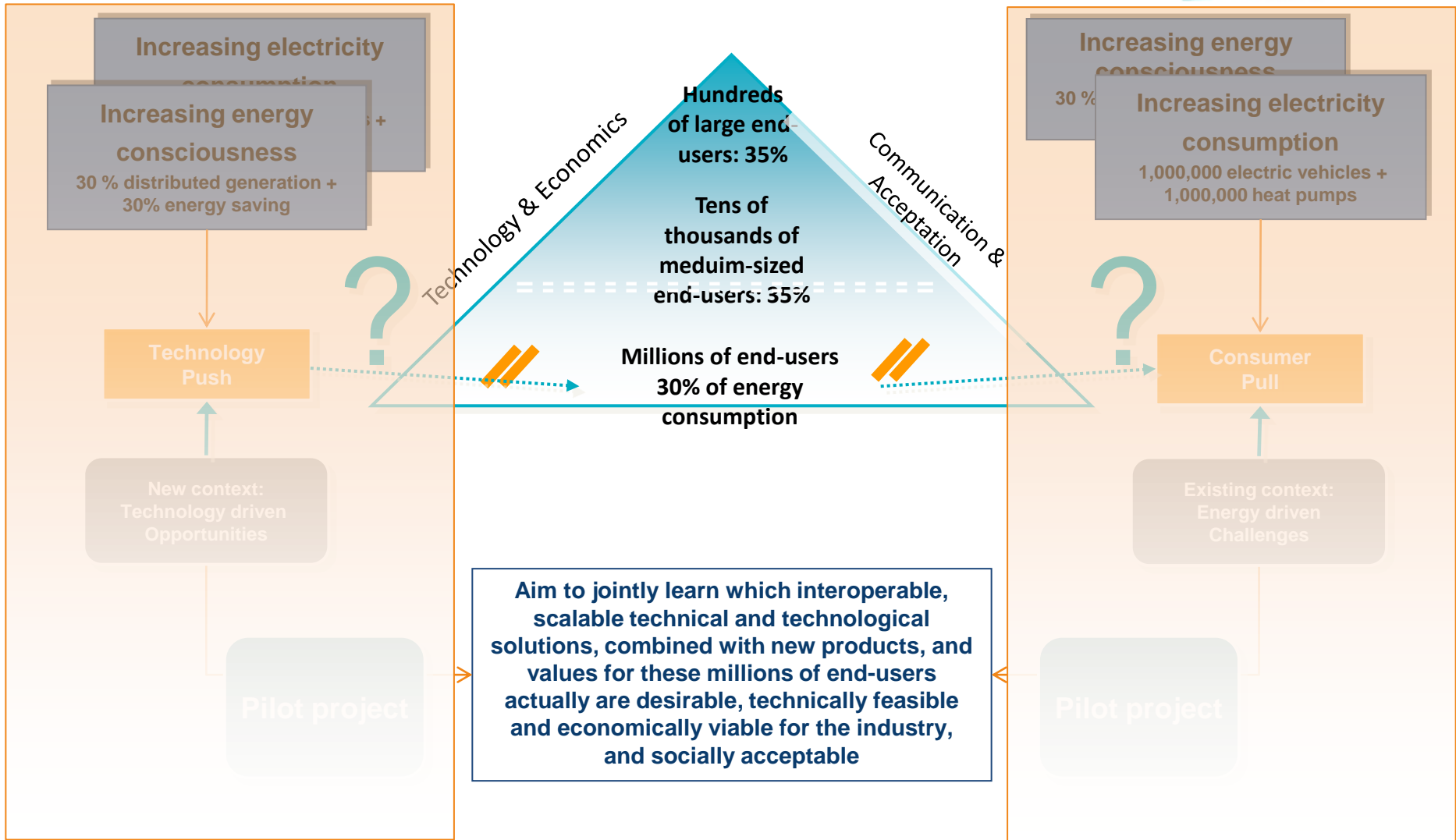
Added value to partners and other stakeholders



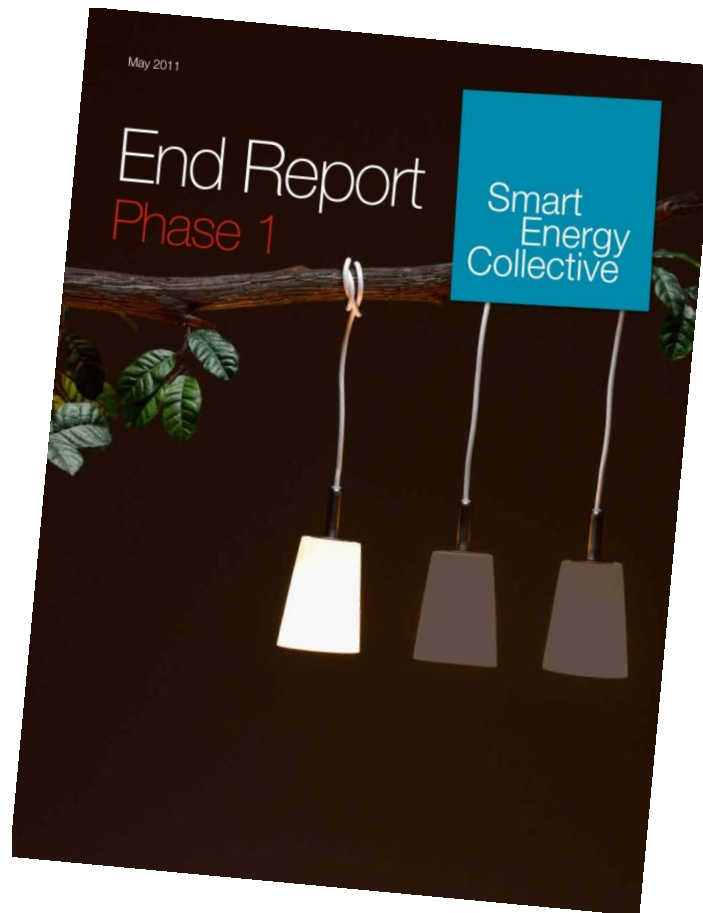
- Learning by doing, i.e. pilots practically show viable combination of products and services
 - Offer value to energy consumers or to other SEC partners
 - Are technically and economically feasible
 - Are accepted by the public and the politicians
- Apart from the successes one could also learn from failures
- Results will be shared
 - Between the members of Smart Energy Collective
 - With energy consumers in the pilots
 - With governments to provide insight in required regulatory adjustments
 - With others interested
- Partners will contribute to energy transition, and will add value to their own (sustainable) business



Two routes towards one goal

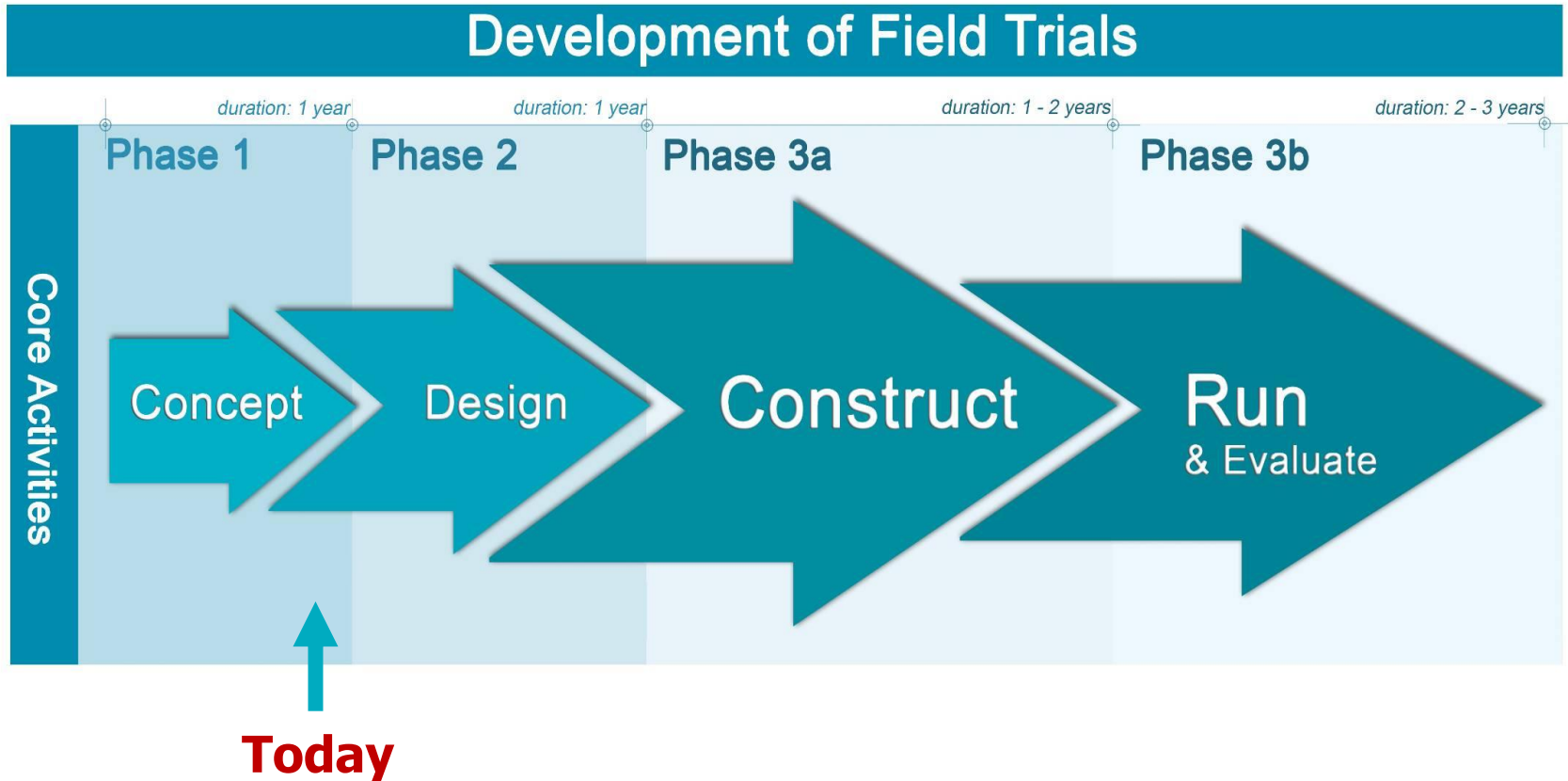


Fase 1 is afgerond ...



... voorbereiding fase 2 vrijwel gereed

Development in three phases

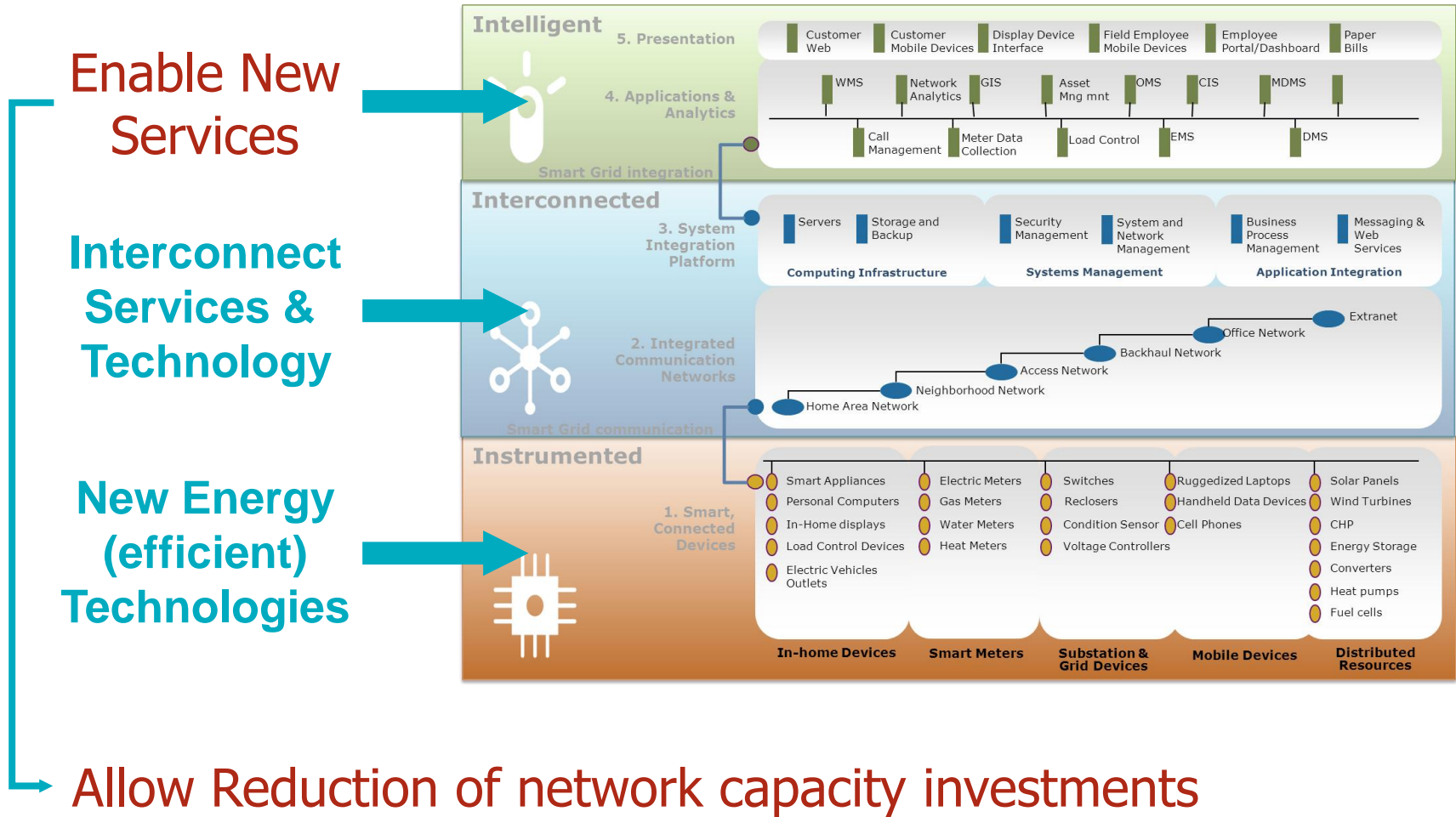


7 Essential Services

enable almost infinite new market propositions



Business Value Creation



5 Coherent Field Trials



- Full Scale Demonstration with thousands of end-users
- Gain insight into Smart Energy Solutions for various types of energy consumers
- Develop components, systems and standards and implement them
- Single Market Integrates Field Trials



Industry *Small & Medium Sized Enterprises* Schiphol, the Grounds

Industrial Areas becoming Eco-systems

Local Power Generation, Jointly Owned and Operated
Demand Response in Industrial Processes
Capacity Management
Local Energy Trading

Offices

*Various Buildings or Various
Companies*

ABB & Siemens

**Offices will Aggregate Energy
Management Services**

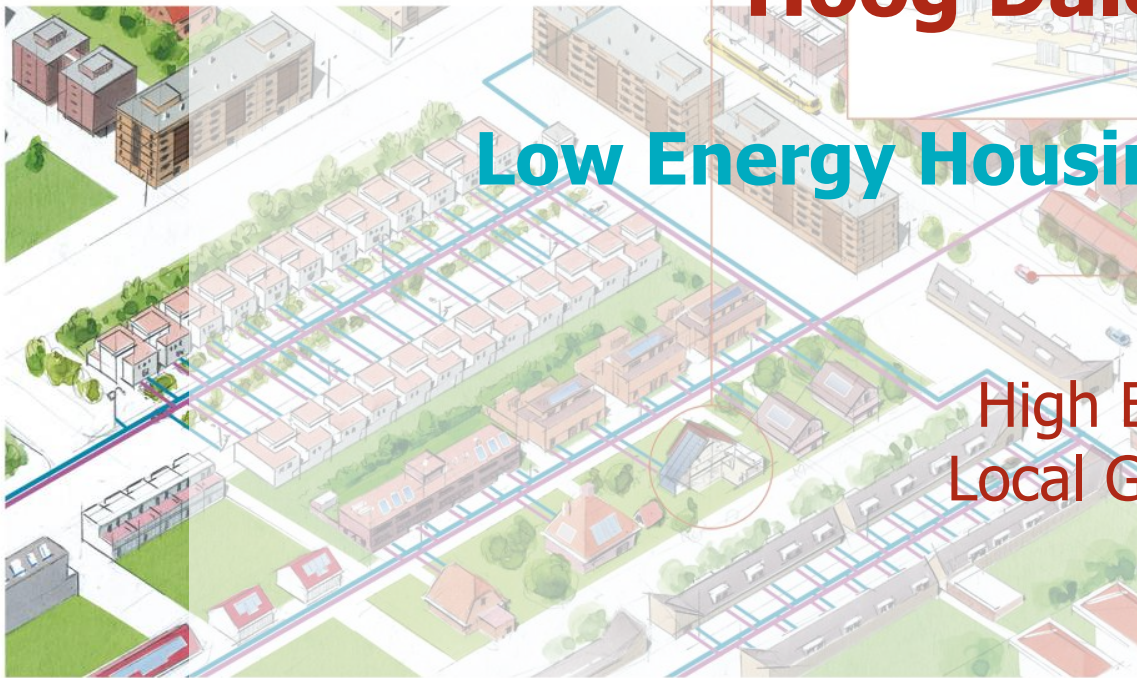
Search for Flexibility in Load
Smart Charging of Electric Vehicles
Demand Response Office Appliances
Demand Response Heat Pump Systems

- Legenda
- Elektra
 - Gas
 - Data
 - Blegas
 - Warmte

All Electric District *New Residential Area* Hoog Dalem, Gorinchem

Low Energy Housing, Single Energy Carrier

High Electricity Consumption
Local Generation of Electricity
Electric Transportation
Demand Response
Energy Storage



- Legenda
- Elektra
 - Gas
 - Data
 - Biogas
 - Warmte



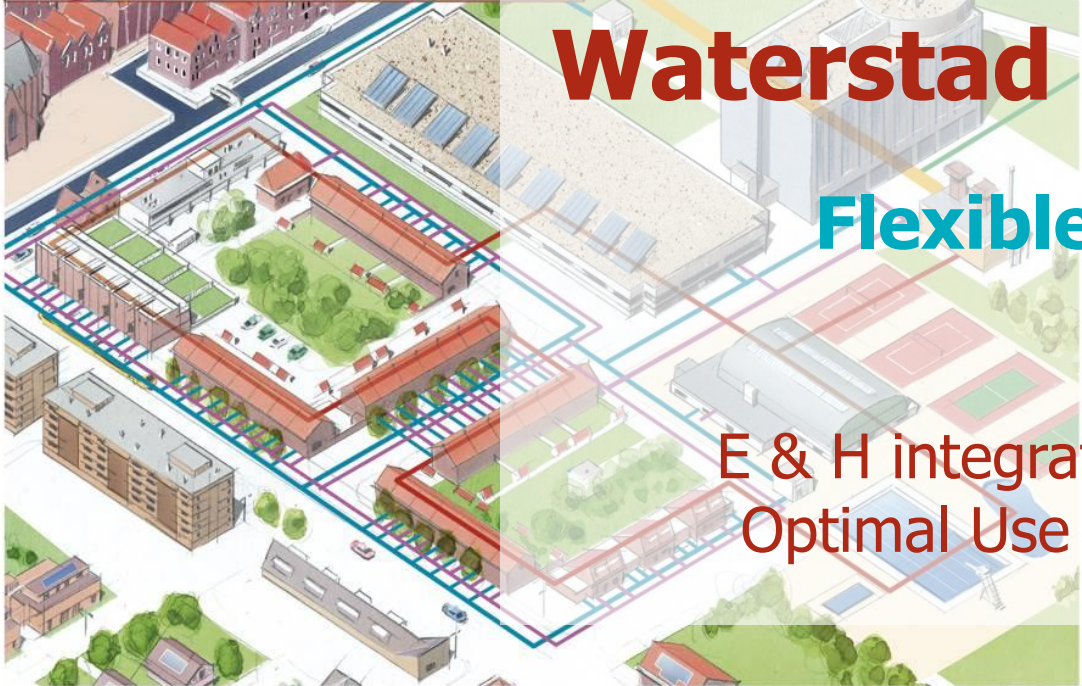
Gas and Electricity District

Existing Housing Stock

Stad van de Zon, Heerhugowaard

Competition & Collaboration between G & E

Peak Load Reduction
Optimization of Gas & Electricity
(Heating, Generation, Transport)
Control Local (micro)CHP Generation
Energy Management Services



District Heating Area

Combine E & H

Infrastructures

Waterstad Goese Schans

Flexible Use of Local Heat

Comfort based Services

E & H integrated Energy Management

Optimal Use of Available Heat & Cold

Smart Heat Storage



Thank you

Frits Verheij, KEMA

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