



Ministerie van Economische Zaken



Ministry of Economic Affairs

Energierapport

Transitie naar duurzaam



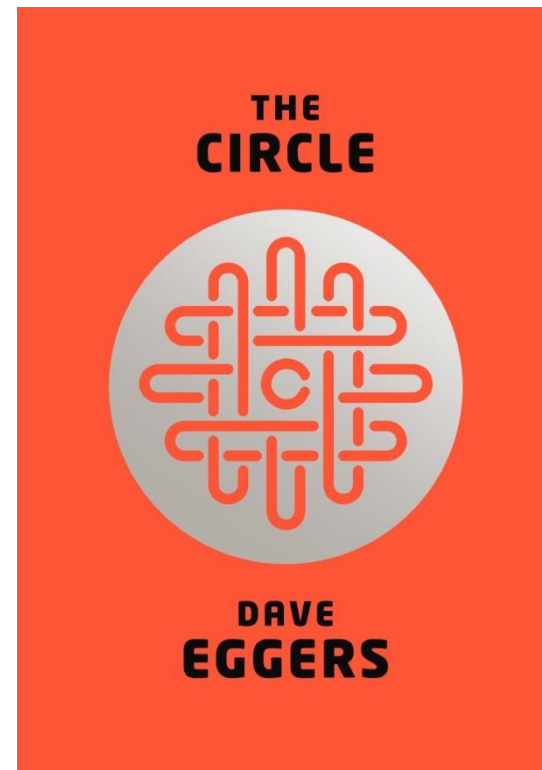
Smart grids & Smart homes

The (energy) policy context

Erik ten Elshof
Energy Markets & Innovation

KIVI symposium
17 March 2016

17 maart 2016





17 maart 2016

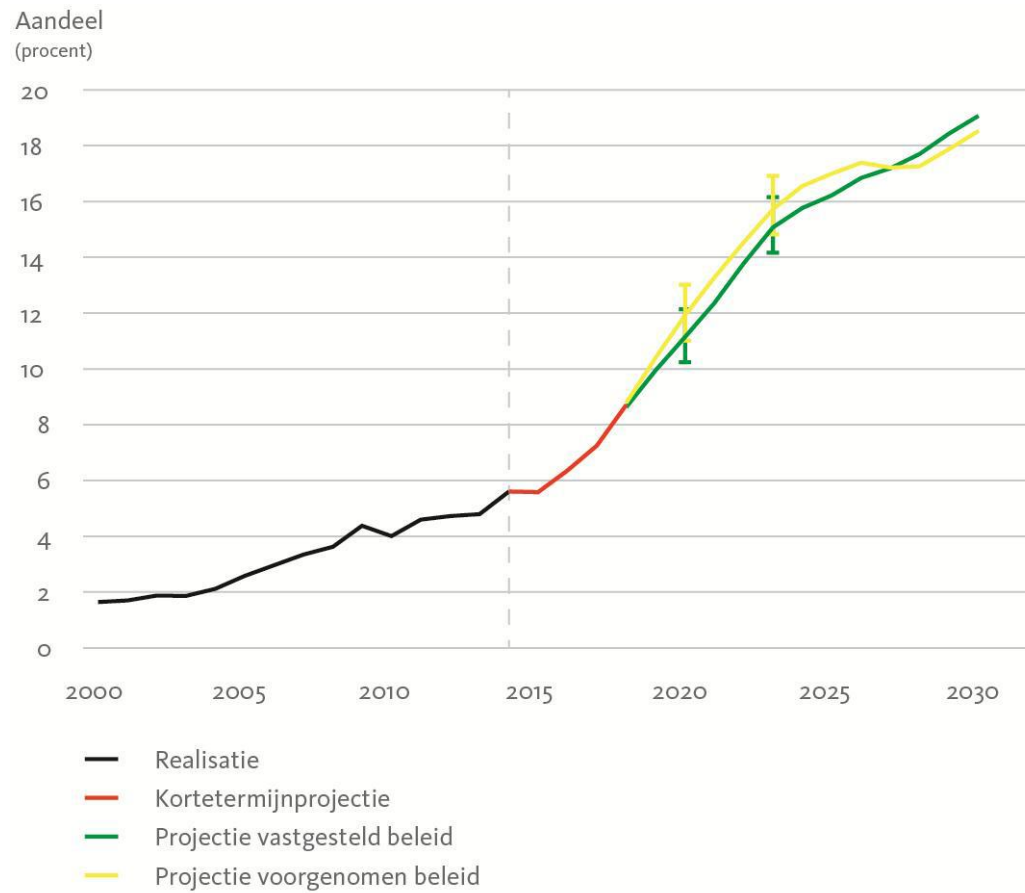


Energy Agreement 2013: setting the transition in motion





Rapid deployment of renewables up to 2023



Bron: ECN, PBL, CBS en RVO, 2015



Energy Report 2016: long term vision

Towards a low-carbon economy that is safe, reliable and affordable



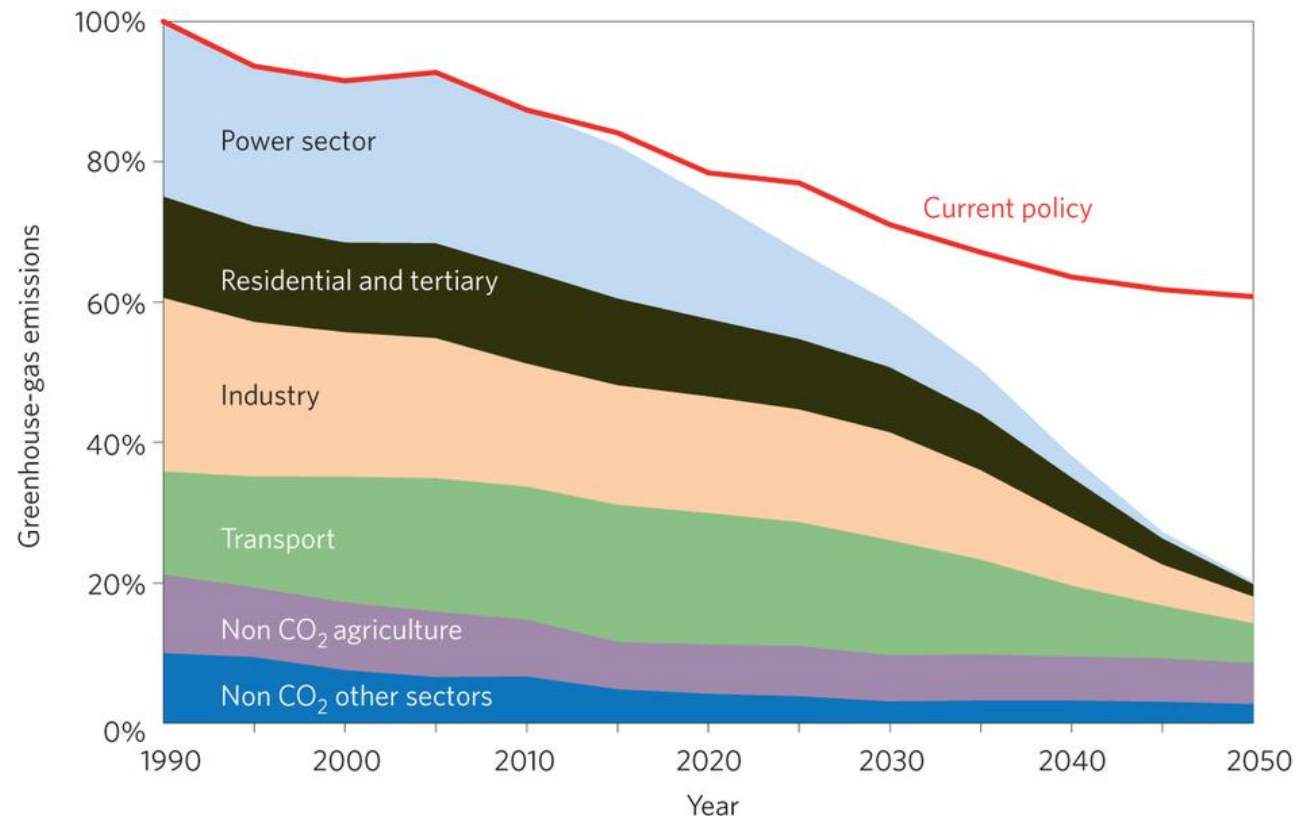


1. Focus on reducing CO₂

- “ European and international policy
- “ Firm target but adaptable policies
- “ Keeping all abatement options on the table

EC Roadmap for moving to a low carbon economy in 2050

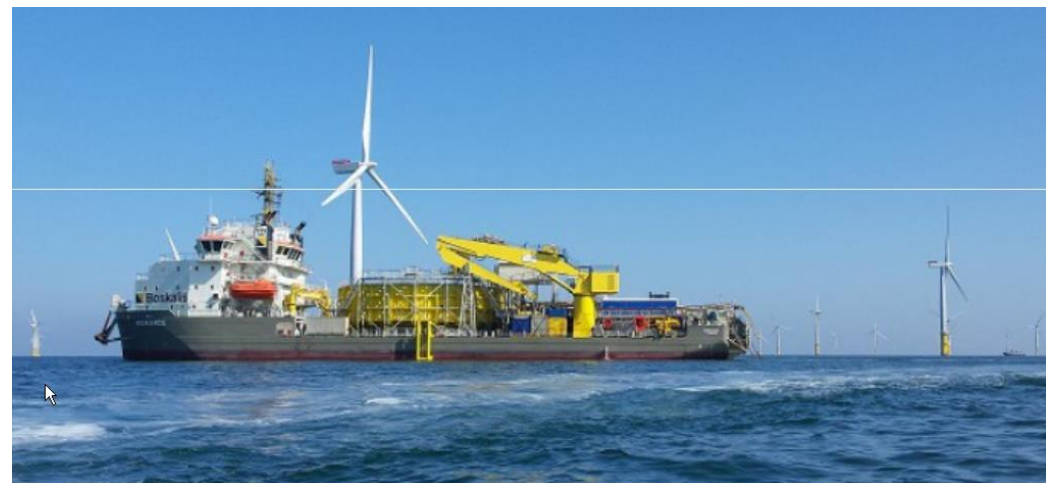
EU GHG emissions towards an 80% domestic reduction compared to 1990





2. Innovation and economic opportunities

- “ New markets for businesses
- “ Strengthening structure of Dutch economy
- “ Healthy climate for entrepreneurship and innovation
- “ International cooperation





3. Energy as part of public space

- “ Transition affects landscape and spatial planning
- “ Early involvement of all stakeholders
- “ Clear roles on all levels





The choices we make

- É Single target of CO₂ reduction; adaptable policy alternatives and giving direction to private investment
- É No new coal power plants
- É Use gas only where alternatives are scarce; reduce use of gas in low temperature heating
- É In the end no room for companies that are not willing to contribute to the needed change
- É Local decision making on solutions for heating

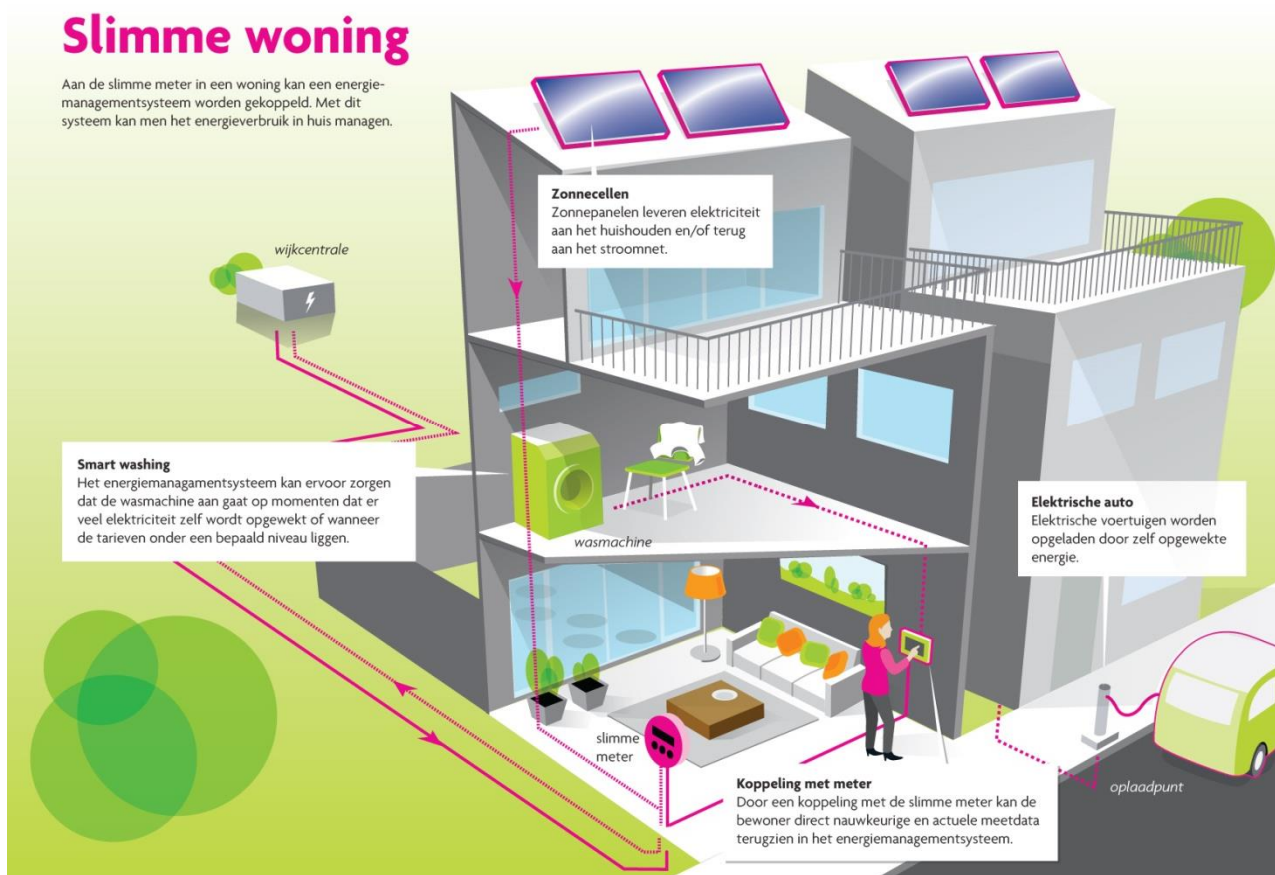


Spatial heating: transition is already happening!



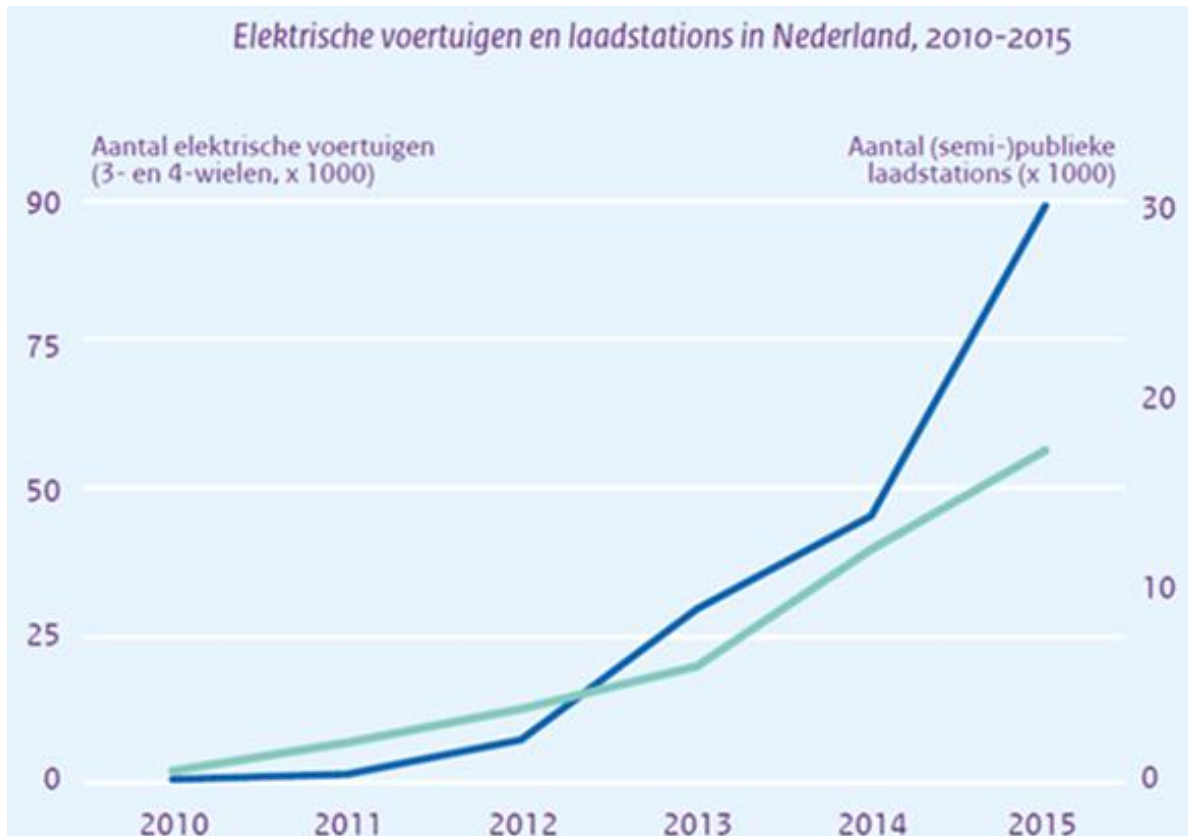


Electricity system: transition is already happening!





Transportation: transition is already happening!



— Voertuigen
— Laadstations





Industrial heating: transition is already happening!



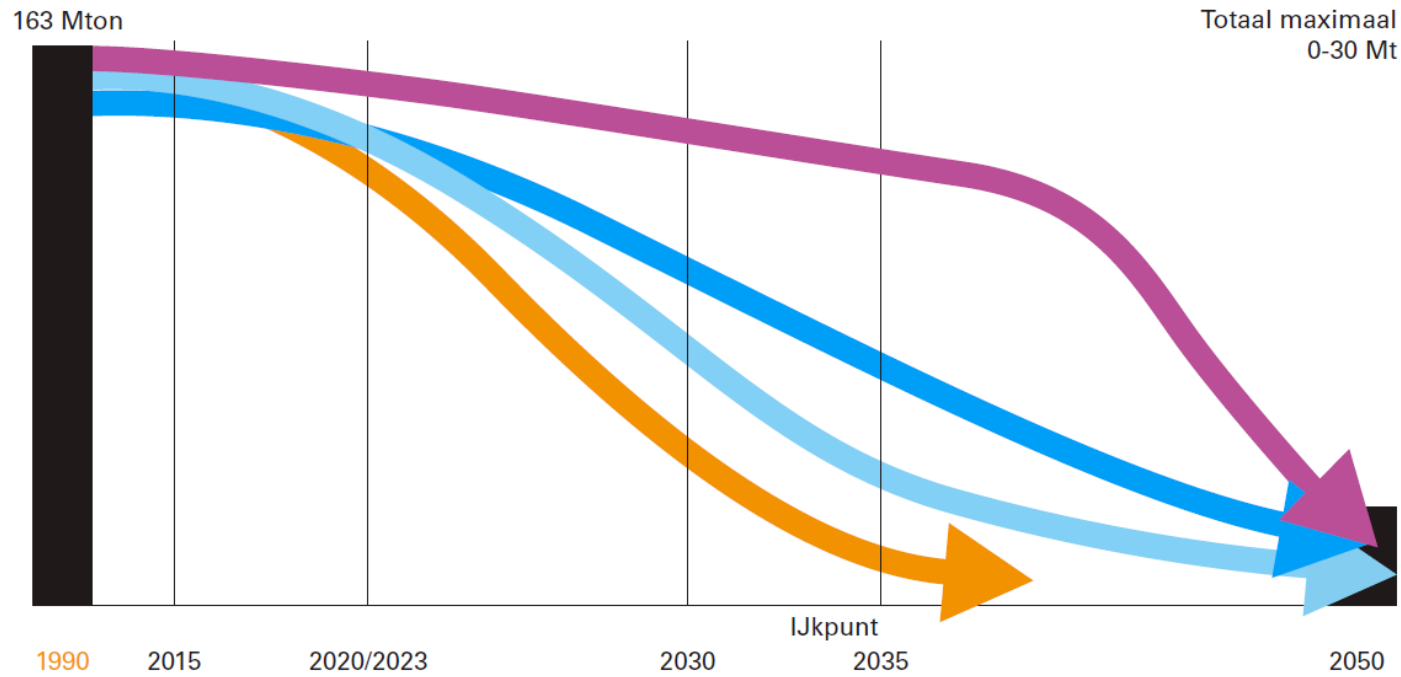
Tata Steel

Empyro





Different transition speed for each function



- Energie voor hoge temperatuurwarmte
- Energie voor het voorzien in transport en mobiliteit
- Energie voor verlichting, apparaten
- Energie voor lage temperatuurwarmte

Bron: RLI, 2015



**THINK
GLOBAL,
ACT LOCAL.
AND ACT
GLOBAL
TOO.**



The trek to the cities





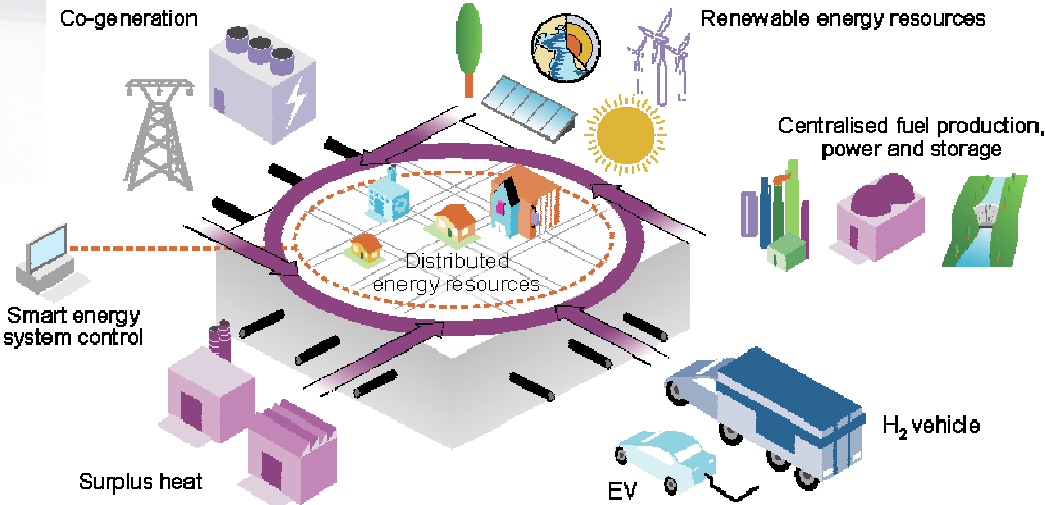
Accelerating Technology Development



17 maart 2016



Connectivity and Networking



Scaling up smart grids



2016



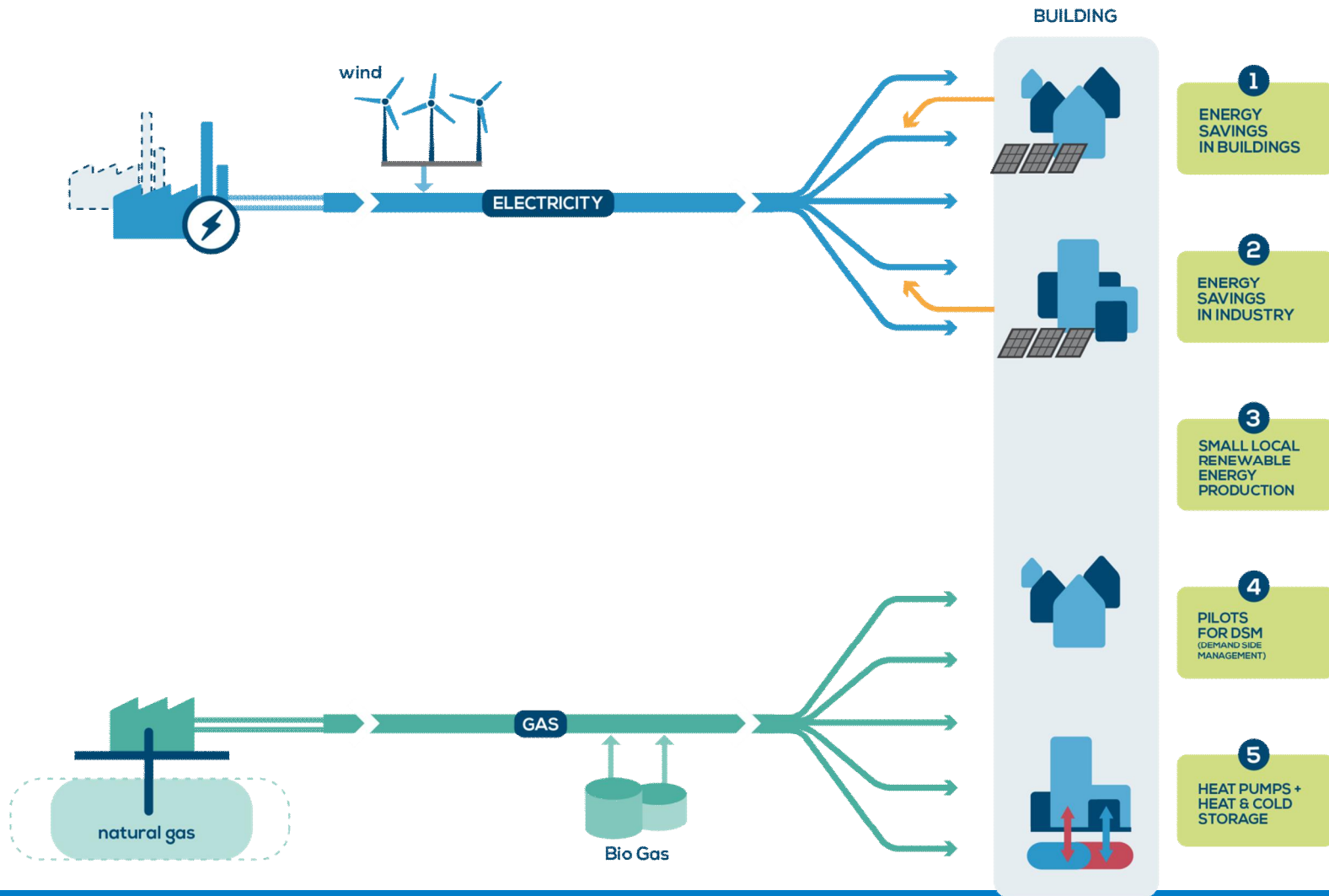
TOPSECTOR ENERGIE
Empowering the new economy



The way our energy supply is organised ÷



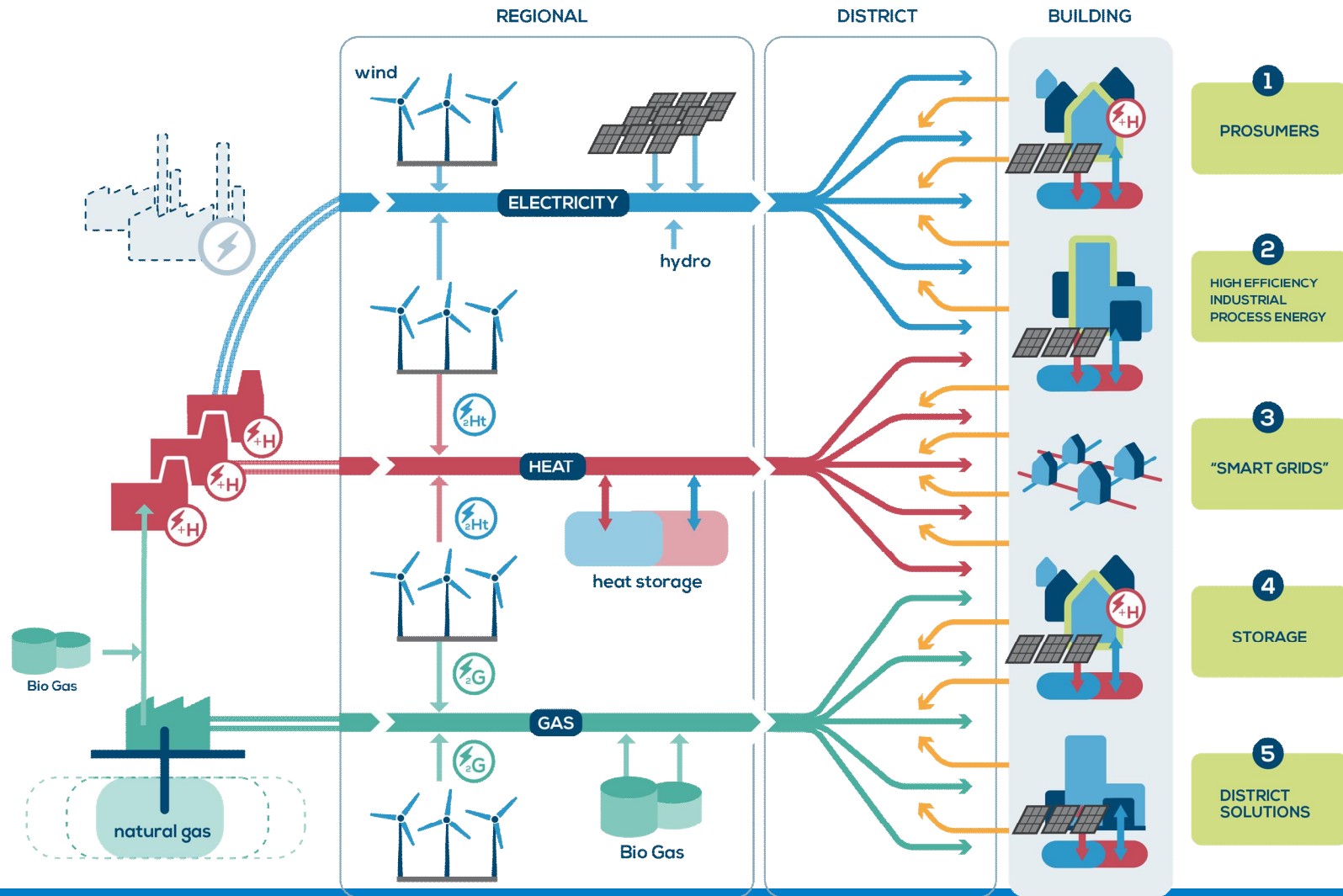
Centralisation today



The way our energy system is organised ò



Glocalisation in future





Follow up: the Energy Dialogue

- É From vision to actions: April – June 2016 dialogue with society
- É Focus on 2023-2030-2050
- É Deliverable end 2016: Energy Policy Agenda including societal actors
- É Attention for: safety, affordability, reliability, security and economic opportunity





Meedenken en meedoen

É Nu:

www.rijksoverheid.nl/doe-mee/lopende-projecten/energie-duurzaam-2050

Vanaf **7 april** (start dialoog):

www.mijnenergie2050.nl

Bijdragen aan **innovaties** smart grids:

Stichting TKI Urban Energy

Arthur van Schendelstraat 550

3511 MH Utrecht

Telefoonnummer: 030-747 00 27

Email: info@tki-urbanenergy.nl





Back-up slides

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Questions to address in the Energy Dialogue

Space heating (built environment)

- É How to accelerate energy renovations of current building stock?
- É How to ensure that local decisions add up to national and European targets?

Process heating (industry)

- É How to decarbonize industry exposed to international competition?
- É What should the agenda for innovation entail? How to bring this forward?



Questions to address in the Energy Dialogue

Energy for transport & mobility

- É How to decarbonize the international transportation system?
- É What is needed to decarbonize personal mobility?
- É What role can battery packs play in the electricity system?

Electricity for power, lightning and ICT

- É How to improve the flexibility of the electricity system such that it can accommodate high shares of intermittent energy sources?
- É How to improve integration of functions with electricity?
- É What market models are suitable for this transition?