



# Gas advocacy in times of transition

## - gas in transition: trouble or trophy

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Amsterdam, May 2017

Founding partners



university of  
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# The European energy transition

## Ambitious goals

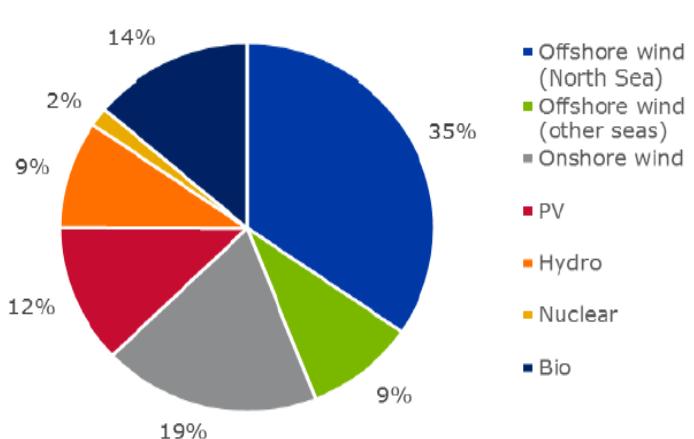
- EU ambition: 80-95% CO<sub>2</sub> reduction in 2050 compared with 1990 levels
- Large volumes of RES needed:
  - 2000 GW of sun PV required to cover 50% of the electricity demand (TU Delft)
  - 600 GW offshore & onshore wind power required to cover 50% of the electricity demand (EWEA)
- Cooperation Member States is essential to reach the European energy goals
- Member states should agree upon targets/goals



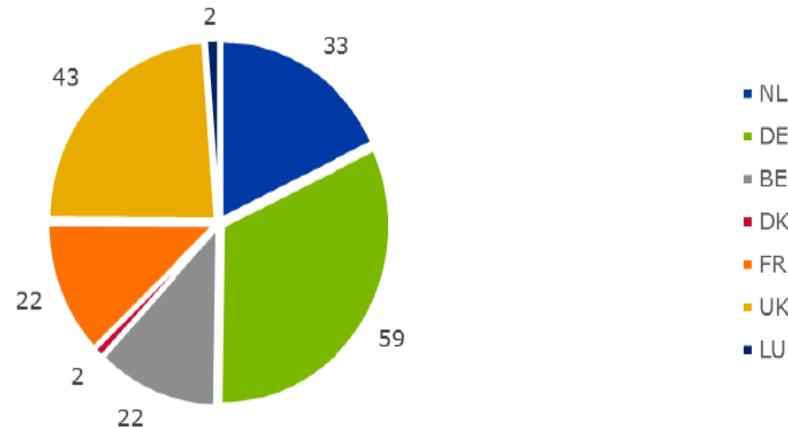
## How much? Ecofys study

- Paris Agreement: Total Energy demand reduction 50% (compared to 2010)
- 45 % covered by electricity (21 % in 2010)
  - i.e. 55% bio energy (industry/heavy transport), and H2.
- Each country responsible for own supply: all types of renewables
  - Thus also onshore wind growth from 86 GW in 2016 to 165 GW in 2045
- To be installed offshore in 2045 on North Sea: **180 GW**
  - 50 GW in other seas (Baltic, Irish, Atlantic)

**2045: 6800 PJ Electricity production**



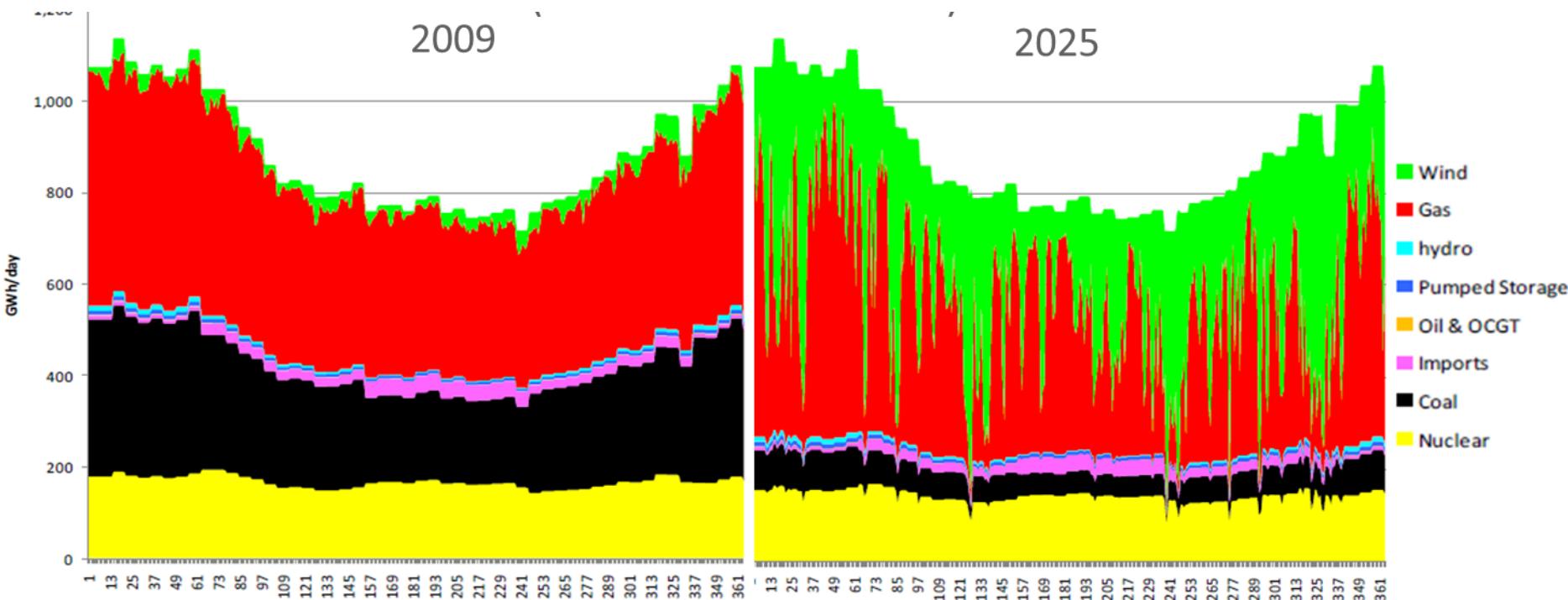
**2045: 180 GW Wind Offshore in the North Sea**





# The consequences

Power production in the United Kingdom  
(real figures and simulations)

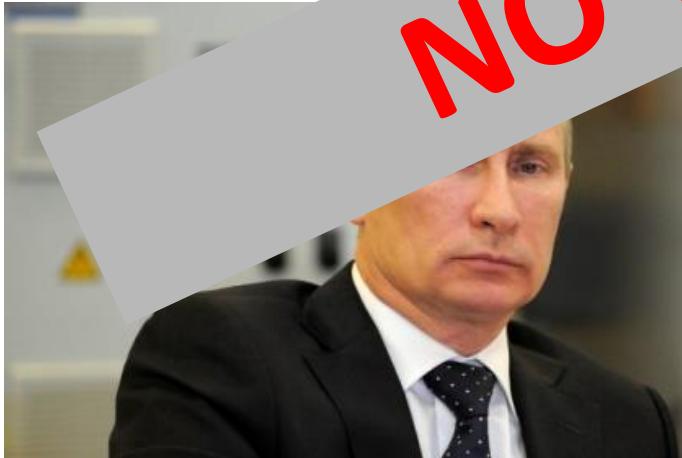


Source: H.V. Rogers, *The Impact of Import Dependence and Wind Generation on UK Gas Demand and Security of Supply to 2025*, The Oxford Institute For Energy Studies, August 2011



# Gas is under pressure

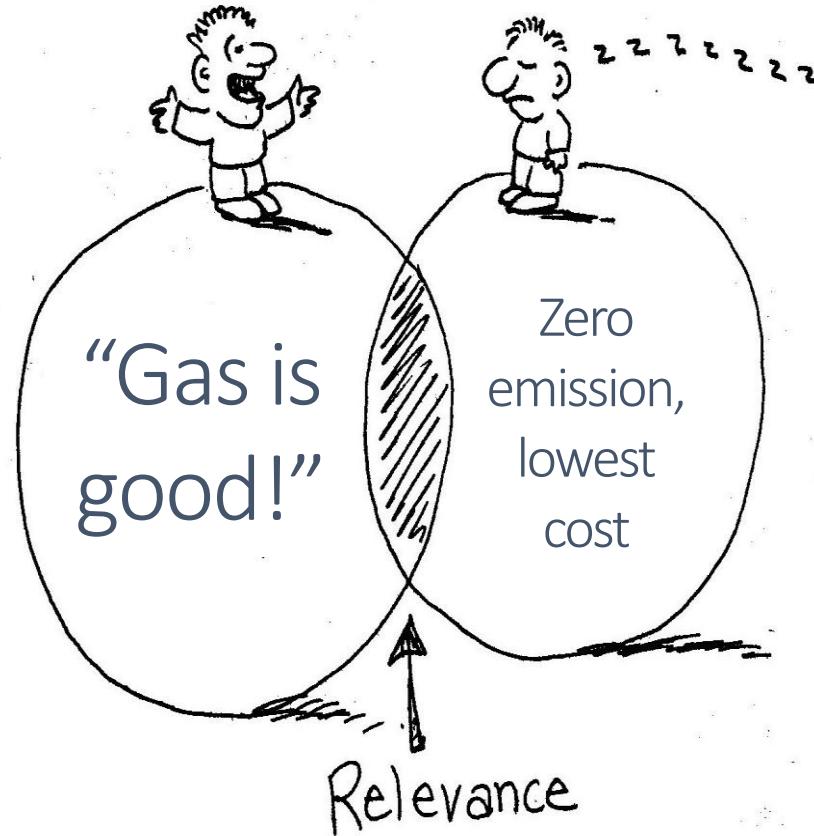
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# Urgent need to reinvent relevance of gas

*Gas industry*



*Society,  
policy makers*

The societal and political core objective is to tackle climate change...

...But what does this imply, and how to assess the new role?



## Story so far..

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- Renewables have no long-term business case without gas flexible back-up from gas
- Gas-to-power is most flexible and cleanest back-up
- Gas is easy and cheap to transport and store
- Gas is the transition fuel par excellance

Question: is story strong enough?

Criticism: if you say gas, you mean primarily natural gas.



## Perhaps a better story..

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- Most experts, incl. EC and IEA, expect the current share of electrons to meet final demand (some 20%) to increase to about 50% at most after the energy transition.
- Policy focus so far strong bias towards greening electrons, primarily via subsidies (EU ETS fails so far)
- Key challenge is to green the molecules, e.g. in chemical and mobility sectors.
- This requires conversion of renewable power into green molecules: power-to-gas. Key energy carrier: green hydrogen and related products.
- Story: one needs the conversion, transport and storage knowledge and experience of the gas industry to achieve this, and likely natural gas to get there.



## Questions

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- Why in policy so little attention for greening the molecules?
- Why no generic debate on the future role of electrons versus molecules?
- Why so little public and private support for power-to-gas pilots and demos?
- Why so little attention/incentives for developing green hydrogen/syngas markets as the gas markets of the future?
- Thank you for your attention
- Email: [jepma@energydelta.nl](mailto:jepma@energydelta.nl)