

The UK Renewables Strategy in the Context of Climate Policy

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**EnergiNorge Vinterkonferansen 2010
Klimakrav og investeringsklima**

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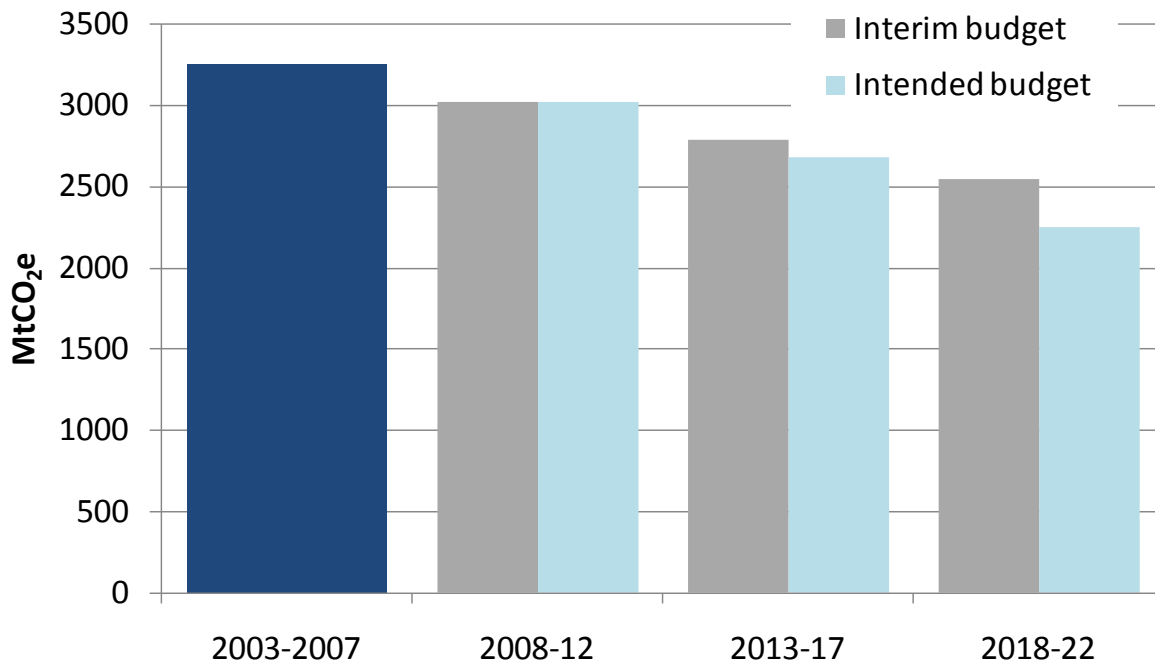
Lancaster London Hotel

Structure of presentation

- UK climate policy
- The role of the power sector
- The EU Renewable Energy Directive and the UK
- Policy mechanisms and frameworks

- Creates an independent Committee on Climate Change
- Sets an 80% legally binding reduction target for emissions in 2050
- Creates a greenhouse gas budgeting system, capping emissions over 5-year periods starting 2008
- At least three consecutive budgets in place at any time
- Initiates a programme for looking at adaptation
- Became law on 26th November 2008

The Interim budget was legislated in May 2009, the move to the Intended budget will be reviewed in 2010



Interim: 34% cut in GHGs by 2020, relative to 1990 [20% on 2007 levels]

Global deal

Intended: 42% cut in GHGs by 2020 relative to 1990 – to be reviewed following Copenhagen [29% on 2007 levels]

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Reducing power sector emissions:

Renewables (Wind, solar, tidal and marine, biomass), nuclear, CCS

Application of
power to transport
and heat

Reducing transport emissions:

- Fuel efficiency
- Electric/plug-in hybrids
- Sustainable Bio fuels

Reducing heat emissions:

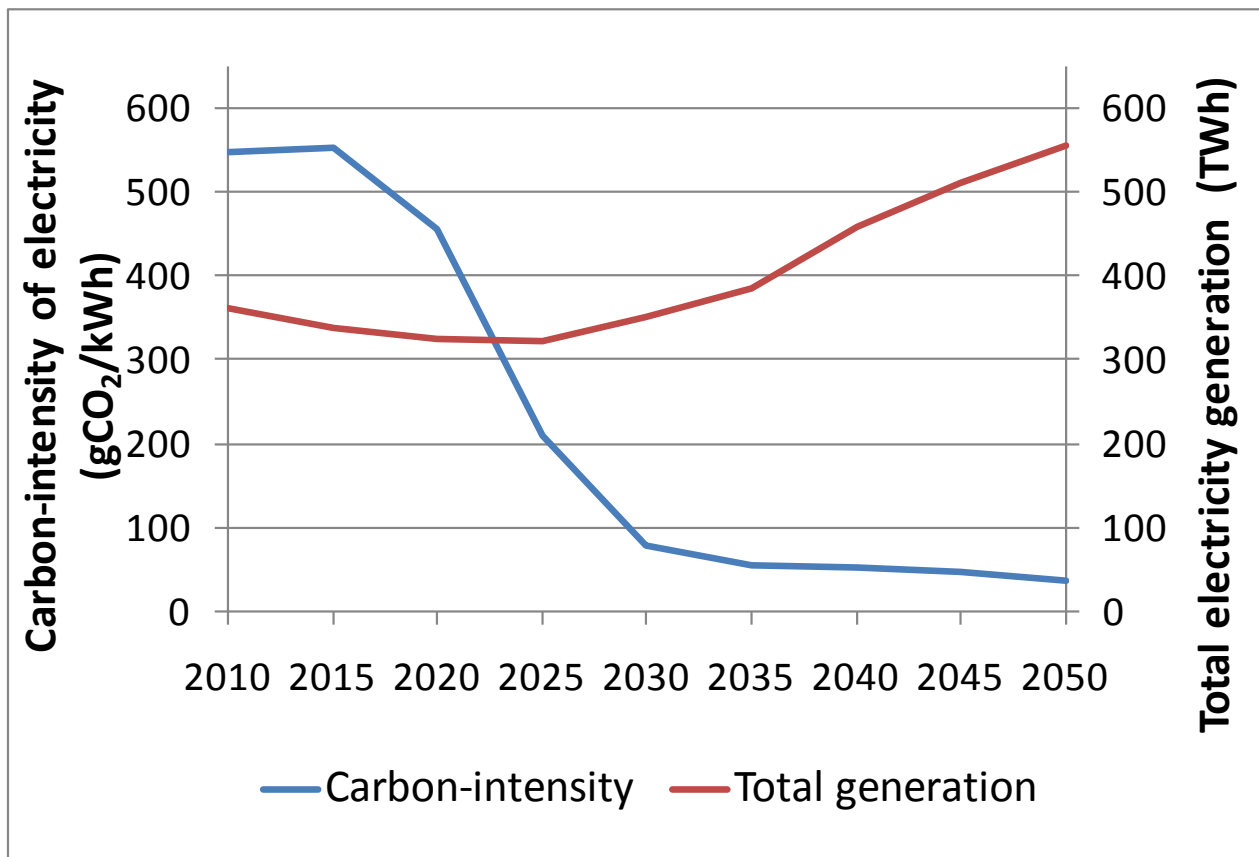
- Energy efficiency
- Behaviour change
- Electric heat (e.g. heat pumps, storage heating)
- Biomass boilers
- CCS in industry

Power is central to wider economy decarbonisation



The **electrification** of other sectors will see demand increase in 2020s and 2030s

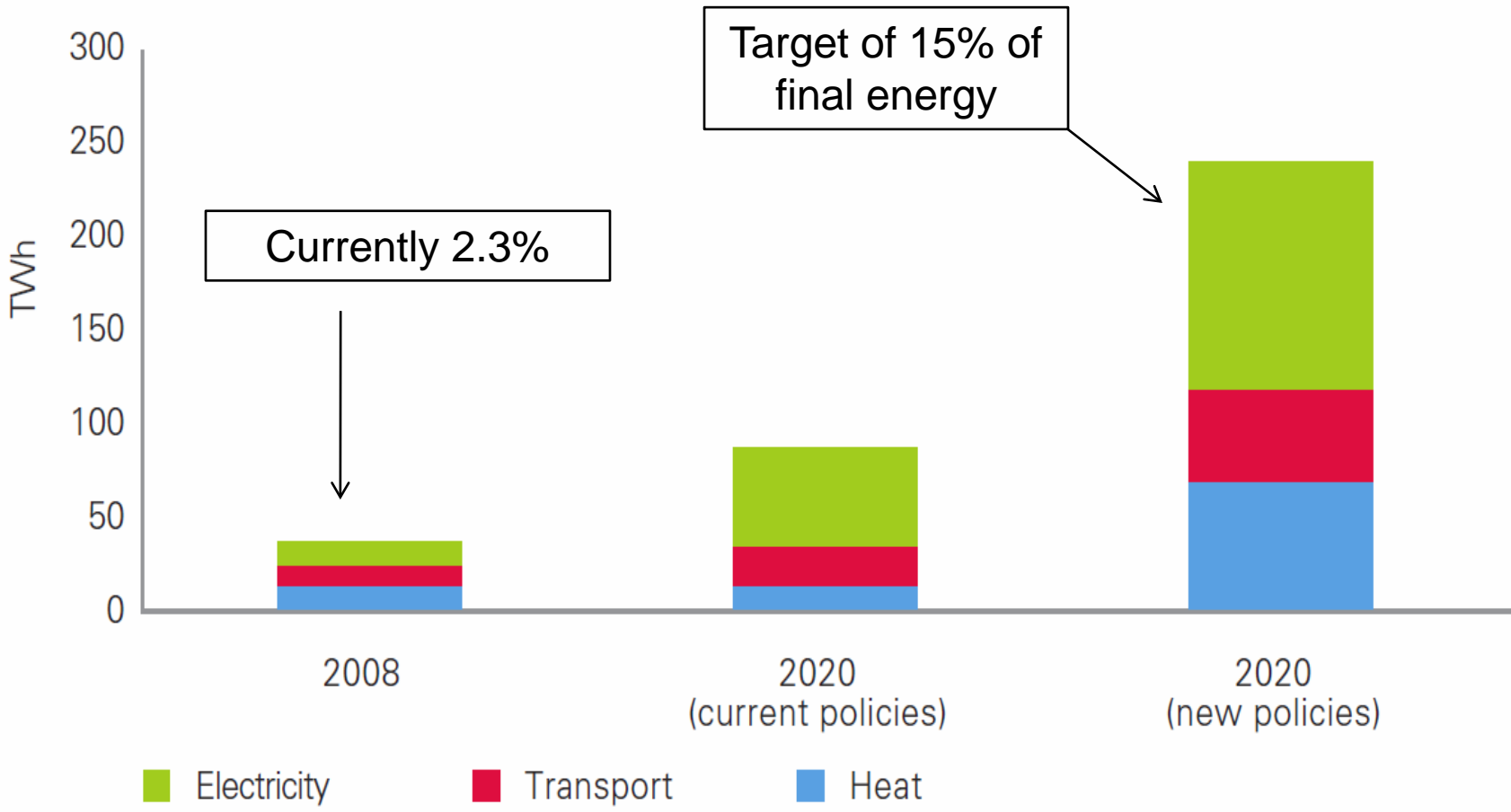
Therefore we need to **significantly** decarbonise electricity generation by 2030



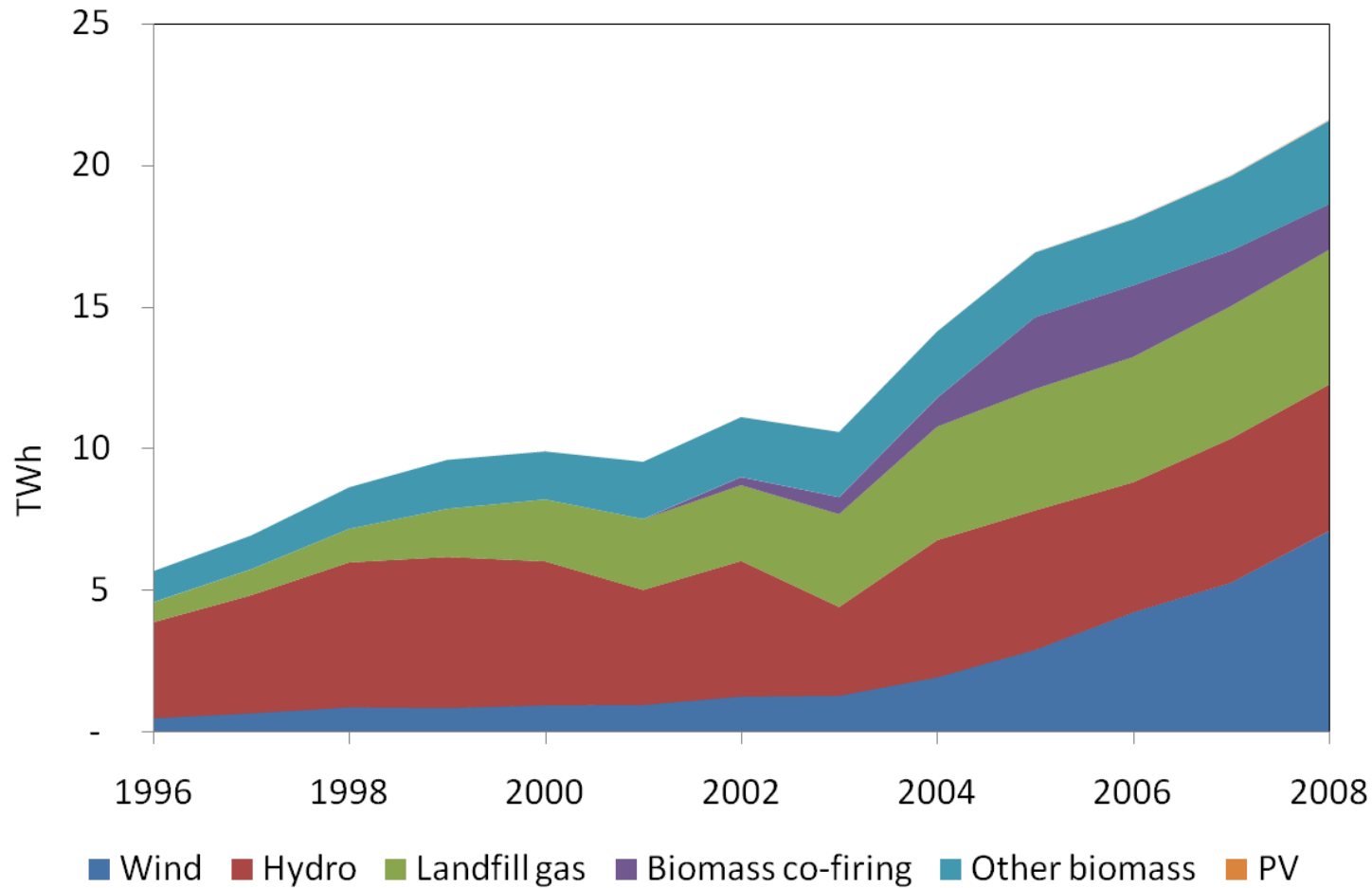
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Renewable energy – what is needed

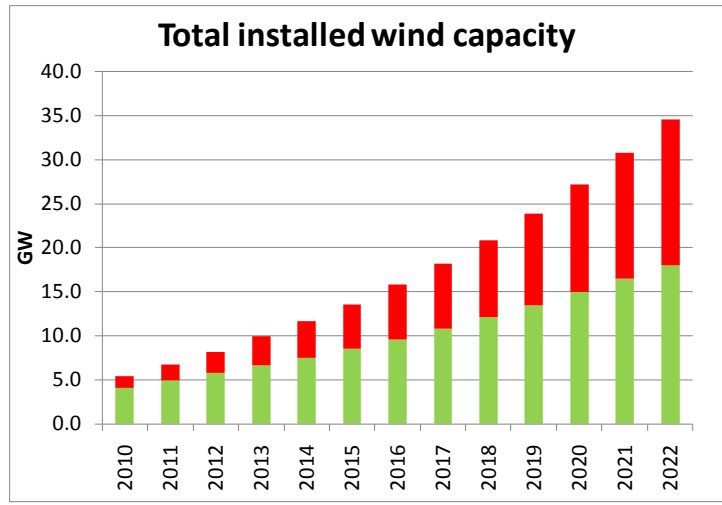
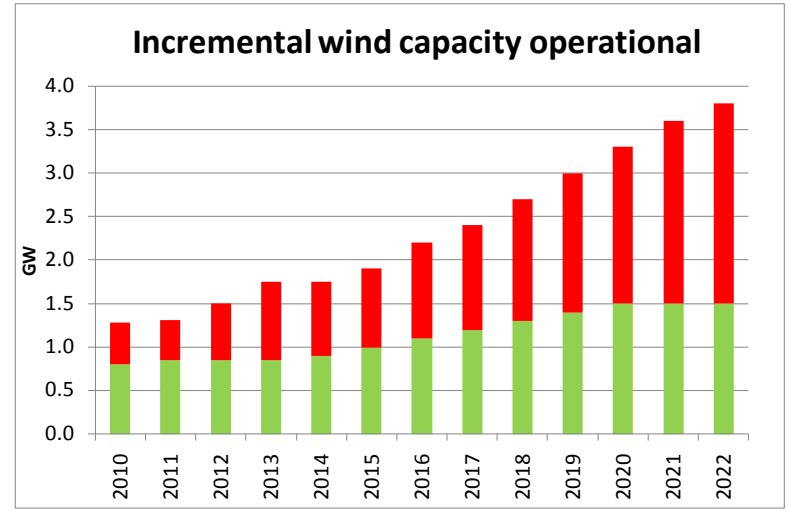
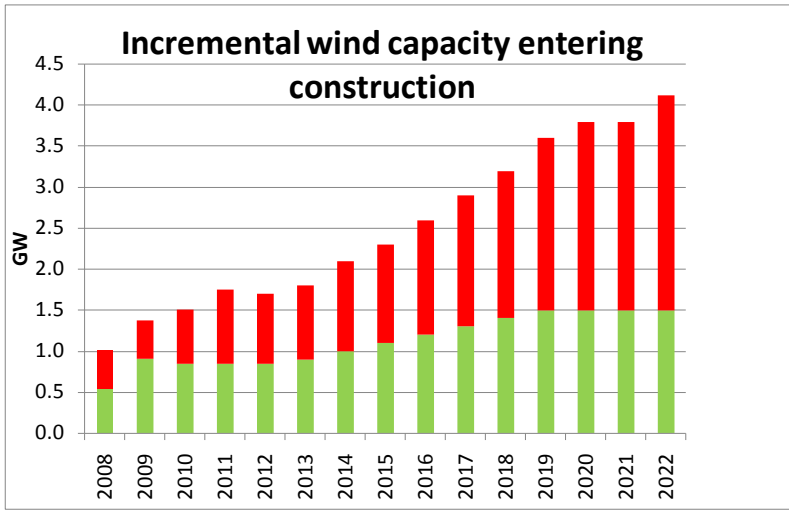


Renewable electricity uptake



Wind energy indicators - trajectory for new capacity entering construction and operation

We monitor progress of all stages of project cycle (e.g. planning, grid access, construction) in deploying up to **23 GW** of new wind by 2020 (**27 GW** in total)



■ Offshore ■ Onshore

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Delivery mechanisms:
long-term stable policy signals are key

Renewables Obligation

- The principal mechanism for large scale renewables
- Inherent market risks – not for small players

Feed in tariffs

- For generators up to 5 MW
- Differentiated by installation date and technology

Renewables obligation

- Tradable obligation imposed on *suppliers* who must source renewable electricity to obtain RO certificates (ROCs)
- Buy-out price – currently £37/MWh
- Buy-out fund re-distributed to renewable generators
- System in place till 2037, but project support limited to 20 years

RO Banding: depends on technology maturity

Landfill gas	0.25 ROC/MWh
Biomass co-firing/sewage gas	0.5 ROCs/MWh
Onshore wind; biomass CHP	1 ROCs/MWh
Dedicated biomass	1.5 ROCs/MWh
Offshore wind/wave	2 ROCs/MWh

Feed in tariffs are new...

		2010-11	2020-21	Duration
		p/kWh		years
Anaerobic digestion	≤500kW	11.5	11.5	20
Hydro	≤15kW	19.9	19.9	20
Hydro	2-5MW	4.5	4.5	20
MicroCHP	<2kW	10	10	10
PV (retrofit)	≤4kW	41.3	18.0	25
PV	>100kW-5MW	29.3	12.7	25
Wind	≤1.5kW	34.5	20.7	20
Wind	>1.5MW-5MW	4.5	4.5	20

Removing obstacles is key

Grid access

- Temporary “connect and manage” with search for “enduring” solution

Grid development

- Spatial planning the obstacle onshore
- Offshore transmission will be developed through competitive tendering by Ofgem
- 20 year, regulated revenues for new offshore transmission operators (OFTOs)

Spatial planning process

- New *Infrastructure Planning Commission* and system of *National Policy Statements*

Electricity market design: low carbon *and* reliable

- General belief that current market design will not deliver
- Need to deliver flexibility to accommodate intermittent renewables
- Three bodies undertaking reviews
 - Department of Energy and Climate Change
 - Ofgem: Project Discovery
 - Committee on Climate Change

Offshore wind: inward investment

- Mitsubishi
- Siemens
- Clipper Windpower
- General Electric

Conclusions

- UK slow starter on renewable energy
- Comprehensive policy framework in place
- Onshore/offshore wind key to 2020
- Manufacturers showing confidence in the UK market
- Recognised need to maintain policy stability/certainty
- Likely continuity of policy after election

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