# Powering Together

#CEconf17

COMMUNITY ENERGY FORTNIGHT

Powering Together

#CEF17

24th June – 9th July 2017

#CEF17

# Dr Nina Skorupska CBE FEI

## Chief Executive,
## Renewable Energy Association

### Growing the Renewable Energy & Clean Technology Economy

@NinaSkorupska @REAssociation

# Who we are

## Sector groups

Our various sector groups enable us to focus on sector-specific issues.  Members can join our various groups concentrating on individual renewable technologies, energy market sectors, or cross-cutting issue forums.

## Subsidiaries

WHA is the UK trade association for the modern biomass heating industry

Renewable Energy Assurance Ltd carries out a range of certification and consumer protection activities all of which promote sustainable energy.

# UK Renewable Energy Targets

**There are a number of legally binding targets driving forward decarbonisation**

**Renewable Energy Directive – EU (Subject to Brexit Negotiation)**

- 15% of all energy to come from renewables by 2020
- Will require 30% power, 12% heat and 10% Transport demand to come from renewables

**Climate Change Act (2008) - UK**

- 80% reduction in carbon emissions from 1990 levels by 2050
- 5th Carbon budget will require 57% reduction by 2032, abatement of 1725 $MtCO_2e$ . Passed through parliament in July 2015

**Cop 21 Paris 2015 & COP 22 Marrakesh – UNFCCC**

Agreed to aim for no more than 1.5°C warming

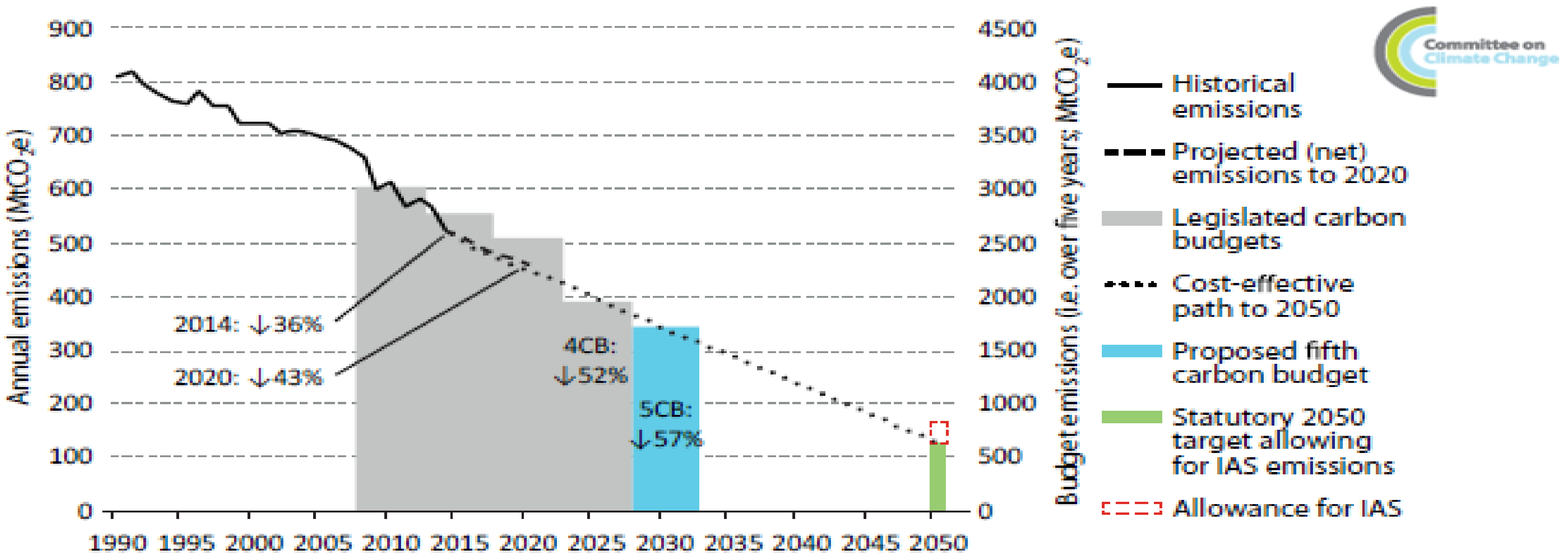
# Carbon Budgets: 2050 Target guides

## Currently legislated UK carbon budgets

| Carbon budget (years) | Emissions limit ($MtCO_2e$) | Equivalent reduction vs. 1990 |
|---|---|---|
| 1 (2008-12) | 3,018 | 26% |
| 2 (2013-17) | 2,782 | 32% |
| 3 (2018-22) | 2,544 | 38% |
| 4 (2023-27) | 1,950 | 52% |
| 5 (2028-32) | 1,725 | 57% |

Source: Committee on Climate Change Oct.2016 UK Climate action following the Paris Agreement
https://www.theccc.org.uk/wp-content/uploads/2016/10/UK-climate-action-following-the-Paris-Agreement-Committee-on-Climate-Change-October-2016.pdf

# The UK should to progress at a steady pace towards the 2050 target.

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# Emissions in 2050

- **The 2050 target is currently around 126 $MtCO_2$**, excluding an allowance for international aviation and shipping.
- **Decarbonisation of the power sector** is key to reaching this target**.**
- **Some sectors are very challenging** to decarbonise:
  - *Industry*: Even with some CCS, we anticipate residual emissions around 65 $MtCO_2$.
  - *Agriculture*: Options are limited and residual emissions could be around 30 $MtCO_2$.
- **CCS is very important**:
  - CCS with bioenergy could provide negative emissions of around 20 $MtCO_2$/yr.
  - Without CCS, meeting the 2050 target would be very challenging.
- It is therefore sensible to plan now to keep open the possibility of near-full decarbonisation of both **BUILDINGS** and **SURFACE TRANSPORT** by 2050.

Source: Committee on Climate Change Oct.2016 UK Climate action following the Paris Agreement
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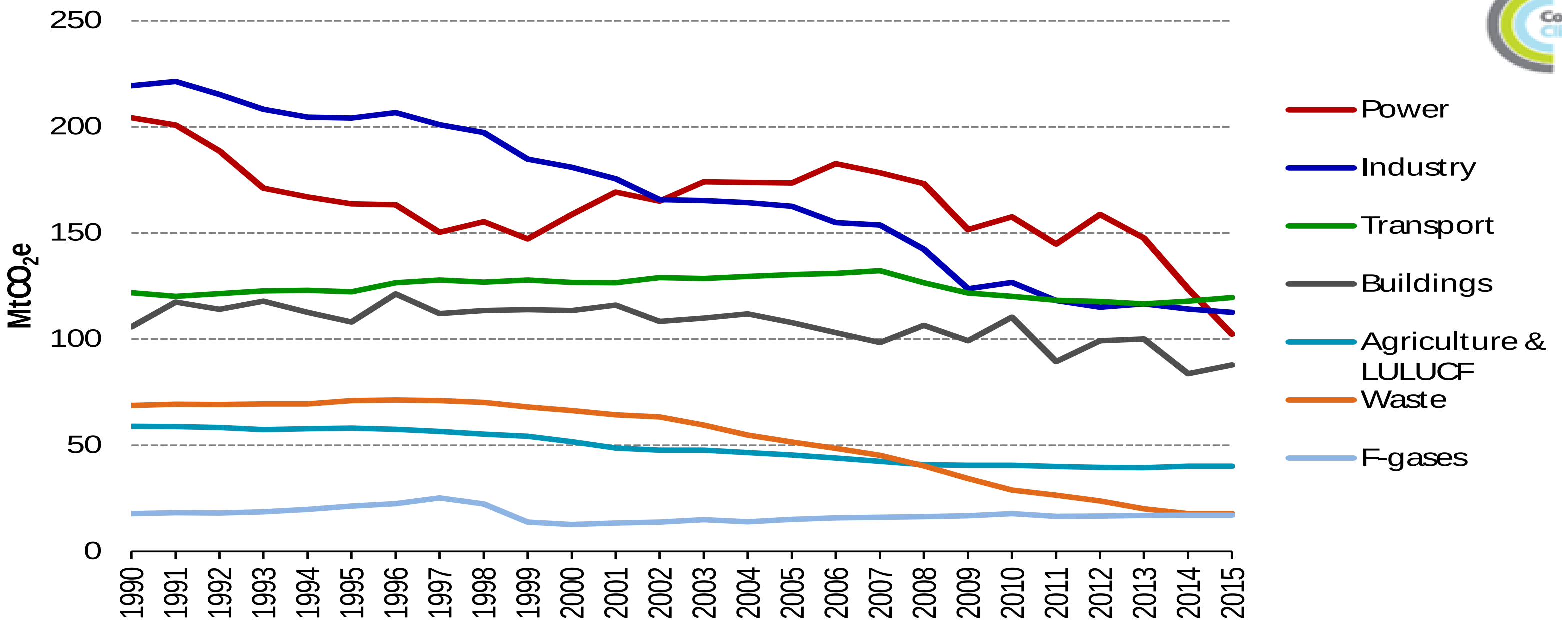
# Transport is now the biggest emitting sector

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coop energy
Part of The Midcounties Co-operative

Community Energy England

# REview 2017

The Industry's authoritative report covering renewable energy deployment (electricity, heat and transport) investment & jobs, working with KPMG and Innovas

UK achieved:

24.4% renewable electricity in 2016

5.6% renewable heat in 2015

2.9% renewable transport in 2015

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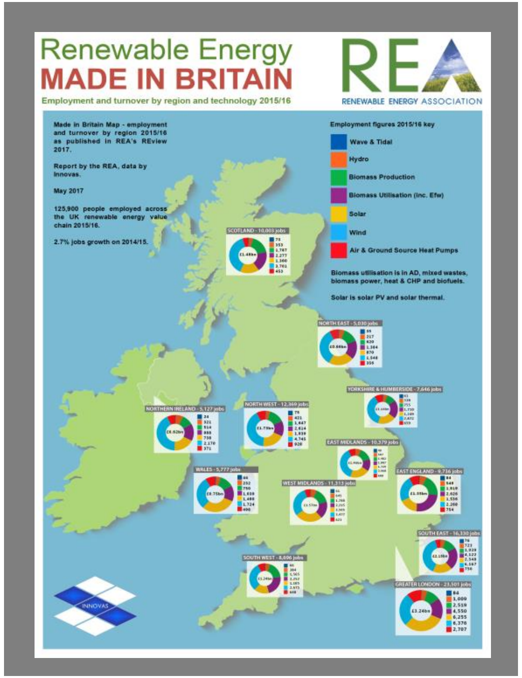
# EMPLOYMENT: Jobs increased to over 125,000 end 2016

**Analysis by *Innovas* reveals that:**

- Growth in jobs across the UK renewable energy value chain from 103,000 people in 2012/13 to 125,000 at the end of 2016
  Grown *3 times* faster than national average employment growth in the last year: Office for National Statistics reported average growth of 1.2% during the same period.
  *Off shore wind sector employs greatest number of people with over 40,000.*

- ***New sectors such as energy storage and electric vehicles now employ an additional 16,000 and is believed to grow to be a Sector that will grow rapidly.***



# Last 18 months: Energy Policy ‘Reset’

Renewables market characterised by uncertainty following the FIRST election in May 2015

- Subsidies reassessed following ‘overspending’ of the Levy Control Framework and the increasing cost to the consumer.
- Underlying context of ‘anti-subsidy’ and back bench undertones of ‘anti-renewables’
- Phase out coal (2025) and a new ‘dash for (SHALE) gas’
- Support is still in place but budgets capped and expected deployment has been reduced.
- Industry growth slowed, especially solar, however sectors are adjusting to ‘low/post-subsidy’ environment.

Remember them?

| | Resetting of "Green" Policies | Applies From | Applies to |
|---|---|---|---|
| 1 | Removal of Levy Exemption Certificates | 1st August 2015 | All Power |
| 2 | Watered down low carbon car incentives | 1st April 2017 | Transport |
| 3 | No new onshore Wind Subsidy | Varied | OS wind |
| 4 | Zero Carbon Homes Delayed | 1st July 2015 | Energy Efficiency |
| 5 | Sub 5 MW Solar Subsidies withdrawn from the RO | 1st April 2015 | Solar |
| 6 | Ending RO Grandfathering for biomass conversion | 12th Dec 2014 | Biomass |
| 7 | Contracts for Difference delayed | 1st October 2015 | Large Power |
| 8 | Green Deal Energy Efficiency scheme Scrapped | Immediate | Energy Efficiency |
| 9 | Green Tax Targets scrapped | Immediate | All |
| 10 | Cuts to Feed in-Tariff support | 8th February 2016 | Small Power |
| 11 | Changes to tax incentives for energy schemes (EIS) | 6th April 2016 | All |
| 12 | Proposed increase in VAT for solar, wind, Hydro | 1st August 2016 | Energy Efficiency |
| 13 | Minimum Import Pricing reform delay | Immediate | Solar |
| 14 | Reform of the Renewable Heat Incentive | Expected 2017 | Heat |
| 15 | Review of embedded benefits | Expected 2017 | Large Power |
| 16 | Cuts to Renewable Heat Incentive Tariff For Biomass Combined Heat & Power | 1st August 2016 | Biomass CHP |

# Impact of Referendum:
# "New" New Government – Key Positions

**Prime Minister**

Theresa May MP

- Very few public statements on Renewables/ Climate Change

**Chancellor of the Exchequer**

Phillip Hammond MP

- Strong on Paris COP
- Redefined Conservative Argument on Climate

**Secretary of State for Exiting the European Union**

David Davis MP

- Seen as a climate sceptic
- Voting history of voting against or missing key votes

# *New* Government Department – Business, Energy & Industrial Strategy (BEIS, "*Bays*")


**Greg Clark MP**

**BEIS Secretary of State**

- Historic support
- Former DECC Shadow Secretary
- Authored reports on Climate Change, Sustainability and Environment
- Recent history in CLG of concern

**Nick Hurd MP**

**Minister of State for Climate Change and Industry**

Conservative Environmental Group

- PMB on Sustainable Communities
- Key in DfID on Solar in Africa projects as Development Minister
- Former Chair of the APPG on Environment

**Baroness Neville-Rolfe**

**Minister of State for Energy and Intellectual Property**

- Former MAFF Civil Servant
- Director of Tesco
- IP Junior Minister

**Jesse Norman MP**

**Minister for Industry and Energy**

- Deputy to Baroness Neville-Rolfe
- Former Director of Barclays
- Also former Senior Fellow of Policy Exchange where he wrote on green cities

## The Department for the Environment and Rural Affairs - DEFRA

### Andrea Leadsom MP

**Secretary of State for Defra**

- Previously MoS for Energy at DECC
- Banking and finance background
- Advocate to leave EU
- Supported GIB establishment

### Dr Thérèse Coffey  MP

**Parliamentary Under Secretary of State for the Environment and Rural Life Opportunities**

- Previously Parliamentary Secretary and Deputy Leader of the HoC
- Portfolio includes Waste Management
- 2014 appointed Assistant Government Whip

## The Department for Transport - DfT

### Chris Grayling MP

**Secretary of State for DfT**

- Former SOS Justice
- Seen to the right of the party
- Anti-wind

### John Hayes MP

**Minister of State**

- Previous Energy Minister
- Anti-wind/Reluctant on renewables
- Independent minister
- Responsible for environment and technology

# Brexit - Article 50


Two-year timetable since the article is triggered:

***"The Treaties shall cease to apply to the State in question from the date of entry into force of the withdrawal agreement or, failing that, two years after the notification"***

Decides the terms of separation

- Ends the obligations and responsibilities of being an EU member
- Not a trade deal
- Needs approval from at least 20 member states with 65% of the population

# Brexit – Renewables Regulation/EU law

***The ECA gives precedence to the Treaty for the European Union.***

***Article 192 –*** energy efficiency of buildings and products, market competition measures, and other environmental legislation.

***Article 194 -*** covers the majority of energy related legislation, including renewables.

EU Secondary legislation (eg directives, decisions) – are implemented in UK law via Primary or Secondary regulations, usually via the ECA Section 2(2) SI

- Renewable Energy Directive
- Energy Efficiency Directive
- EU ETS
- EU 2030 Climate and Energy Framework
- Circular Economy Package

# Yet….. Significant Opportunities Are Still Available

New Commercial Rooftop Solar models

2025
Coal “closure” Pledge

Energy Storage

Renewed focus on renewable heat and transport

5th Carbon Budget & UK Emissions reduction plan

New Decentralised Energy models

Rise of Electric Vehicles

INDUSTRIAL STRATEGY

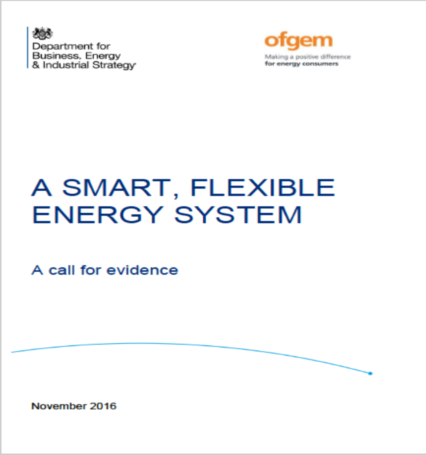
Cop 21 Paris Agreement

And much more…….

# UK Government decisions impacting a Decentralised Energy *future* & Energy Storage: 1st step

## BEIS/Ofgem Call for Evidence for Smart Flexible Energy

- Definition for energy storage established
- Half hourly metering, domestic bills confirmation
- Smart meter target met
- Size of renewables budget beyond 2020/21
- New-build (“Zero-carbon” homes) policy
- Implementation of CMA Market Review Findings
- ‘Next stage’ Contract for Difference (CfD) policy (?)
- Regulator ‘Non-Traditional Business Models’ work programme – lighter touch regulation
- Grid connection/system use charges reformed
- Wider Market education
- Industry standards & guidelines


Department for Business, Energy & Industrial Strategy

ofgem
Making a positive difference for energy consumers

A SMART, FLEXIBLE ENERGY SYSTEM

A call for evidence

November 2016

**Closed 12th January 2017**
**Clear aim for REA is to work with BEIS/OFGEM to develop a ROADMAP to remove all the barriers**

# Industrial Strategy

Important to Showcase ALL ELEMENTS as value propositions in the Government's "Industrial Strategy"

**Ambition to "Move towards a low-carbon energy system",**

- especially support laid out for energy storage and electric vehicles

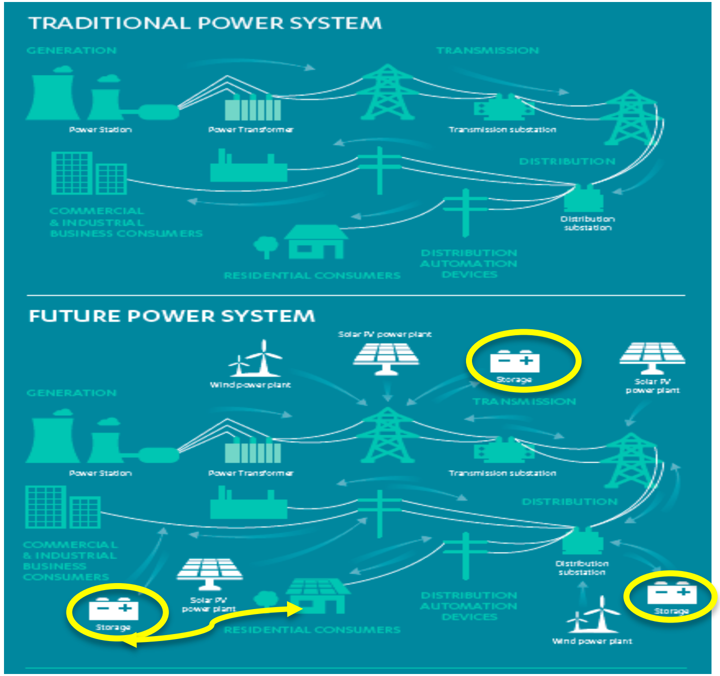
**Encouraging businesses to decarbonise their own electricity, heat and transport**

- especially having a more co-ordinated cross government effort to reduce barriers

**Closed 17th April 2017, REA submitted a response and invited Ministers and REA members to roundtable to shape the prospects for the Industry**

**In parallel to work with National Grid, OFGEM and other key stakeholders to truly understand the future capabilities and develop improved insights**

# Changing Energy Landscape



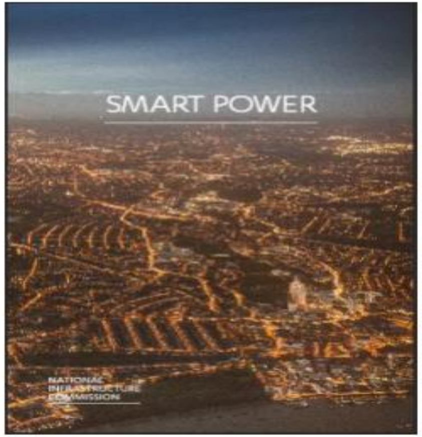
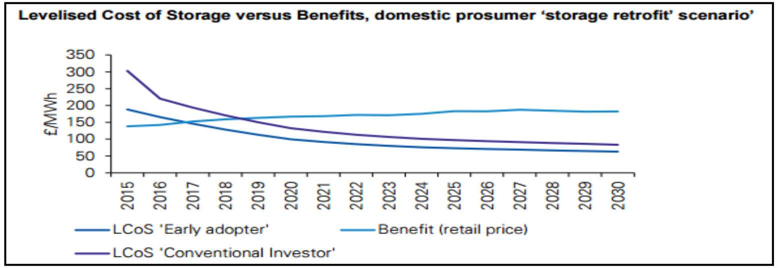
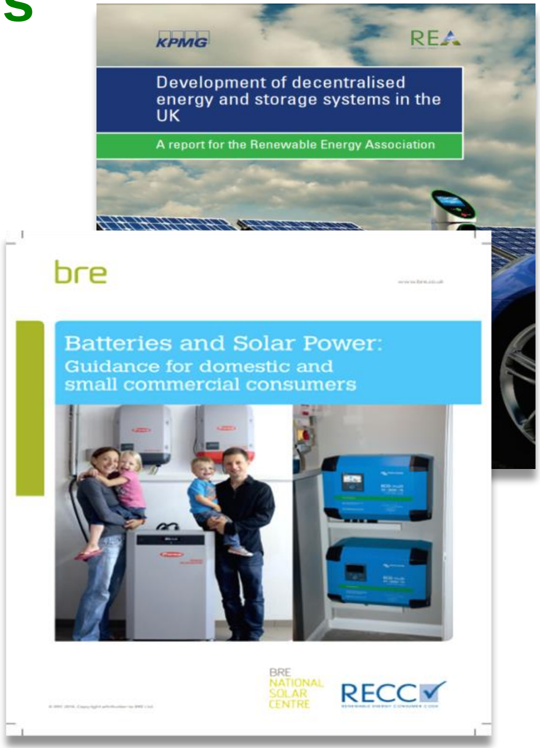




Figure courtesy of National Infrastructure Commission (NIC): SMART POWER report, February 2016
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/505218/IC_Energy_Report_web.pdf

# Future low carbon electricity market models
## - centralised or decentralised?

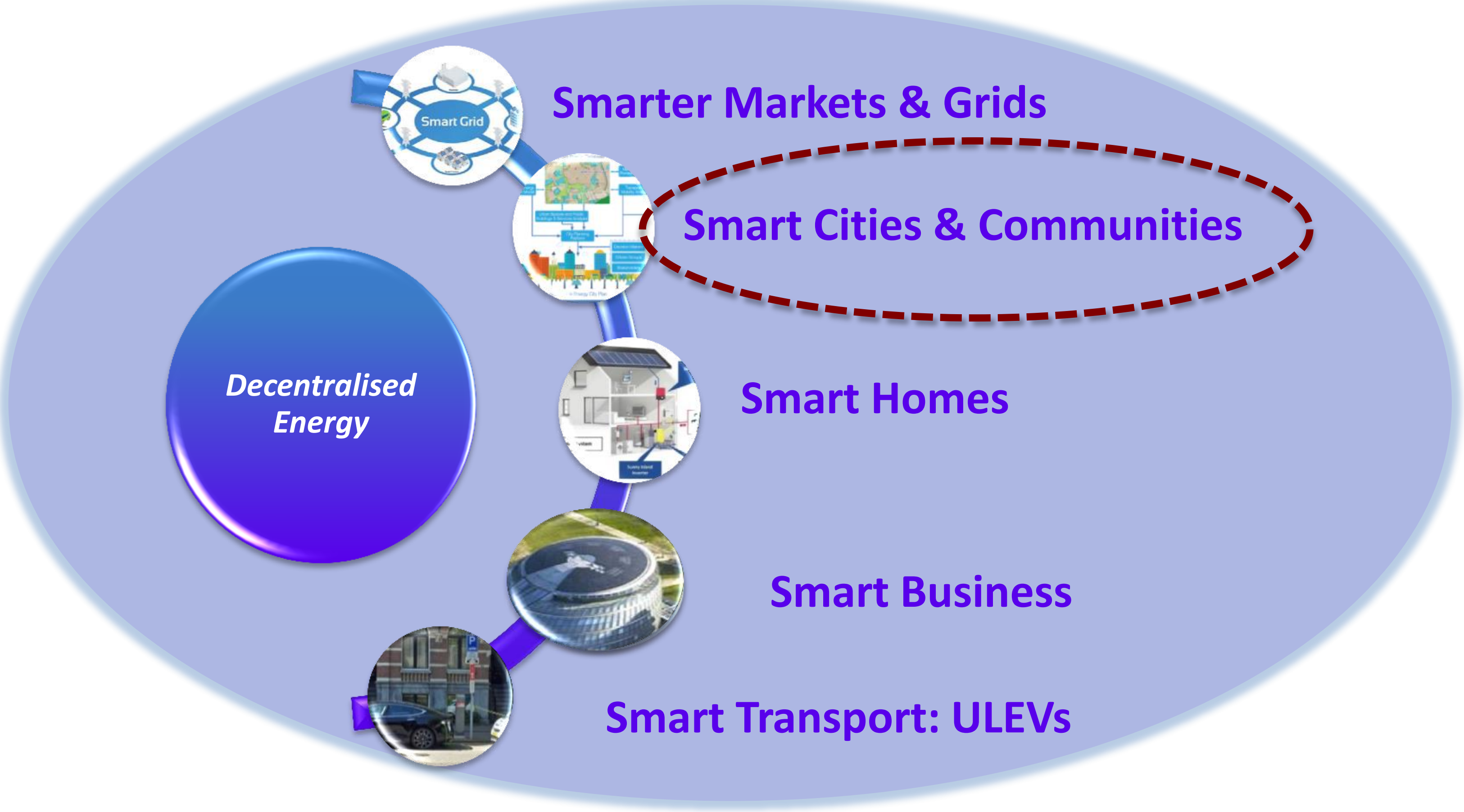
- "Competition" between low carbon generation forms to "complement" the variability of solar and wind and deliver secure energy systems
- Will it be gas generation, biomass power or something else or a combination of all?
- Costs of solar and on-shore wind decreased significantly… as has ***energy storage systems***
- or a




REA/KPMG report Jan 2016
http://www.r-e-a.net/news/rea-kpmg-report-shows-battery-storage-already-attractive-for-households-and-businesses
BRE/RECC report 2016
*www.bre.co.uk/filelibrary/nsc/.../88031-BRE_Solar-Consumer-Guide-A4-12pp.pdf*

# Changing Landscape: *Acceleration of decentralised energy*



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