

Skills for Low Carbon – *behavioural and technological change !*





The Current Picture

UK to produce 15% of all energy from sources such as wind power and biomass by 2020 is set to be missed by a "wide margin"

By 2020, CO2 emissions are predicted to be 19% below 1990 levels - UK fails to meet the minimum cut of 29%

"The world warmed by 0.7°C last century. A global average increase of 4°C masked higher regional increases, including more than 15°C warmer temperatures in parts of the Arctic, and up to 10°C higher in western and southern Africa. It's quite extreme. I don't think it's hit home to people"

Dr Debbie Hemming - Met Office, author of report - *Global temperatures to rise 4°C by 2060*, 28 Sept 2009.



Approaches to tackling climate change

- **Reduction strategy** (energy efficiency, capture & conservation measures)

Transportation (hybrid / electric vehicles, bio-fuels...)

Energy Efficiency Devices (sensors/monitors /batteries ...)

Nanotechnologies and bioengineering systems and structures

- **Switching strategy** (alternatives to fossil based fuels)

Renewables (wind, solar, wave, tidal, biomass, geothermal...)

Nuclear (commissioning and decommissioning...)

Algae (as a fuel source and CO2 capture technique)

- **Offsetting strategy** (eco-monetary offsetting)

Eco-towns and projects, trading emissions

Environmental economics



Low Carbon – *the Challenges*

- **Creating greater awareness:**
 - business & industry (showing the opportunity and the benefit)
 - educational (demonstrating providers' central role)
 - community (not about egg-heads or tree huggers – it's an agenda for everyone!)
- **Developing the skills to create the low carbon economy**
 - CPD for teachers, tutors, trainers and lecturers
 - Curriculum redesign and alignment
 - Regional specialism focus and investment
- **Showing the opportunities...**
 - Conversion technologies and poly-generation systems
 - Emission reduction technologies (e.g. catalyst-coated ceramic substrate)
 - Carbon Capture and Storage





Low Carbon – *the Opportunities*

- **More jobs**

- PM announcement “...400,000 new environmental sector jobs over the next eight years - with a total of 1.3 million people employed in these sectors by 2017.”

- **More training**

- to support new job requirements (upskilling, reskilling, and new skills development)

- **More investments**

- Relatively Greenfield market space and endless possibilities

- **More innovations**

- Creation of new markets, new products and processes

- **More chances to save the planet...!**

- Great vehicle for driving the STEM agenda...



Building a low carbon capability - *Drivers*

Vision * Investment * Policy & Planning *

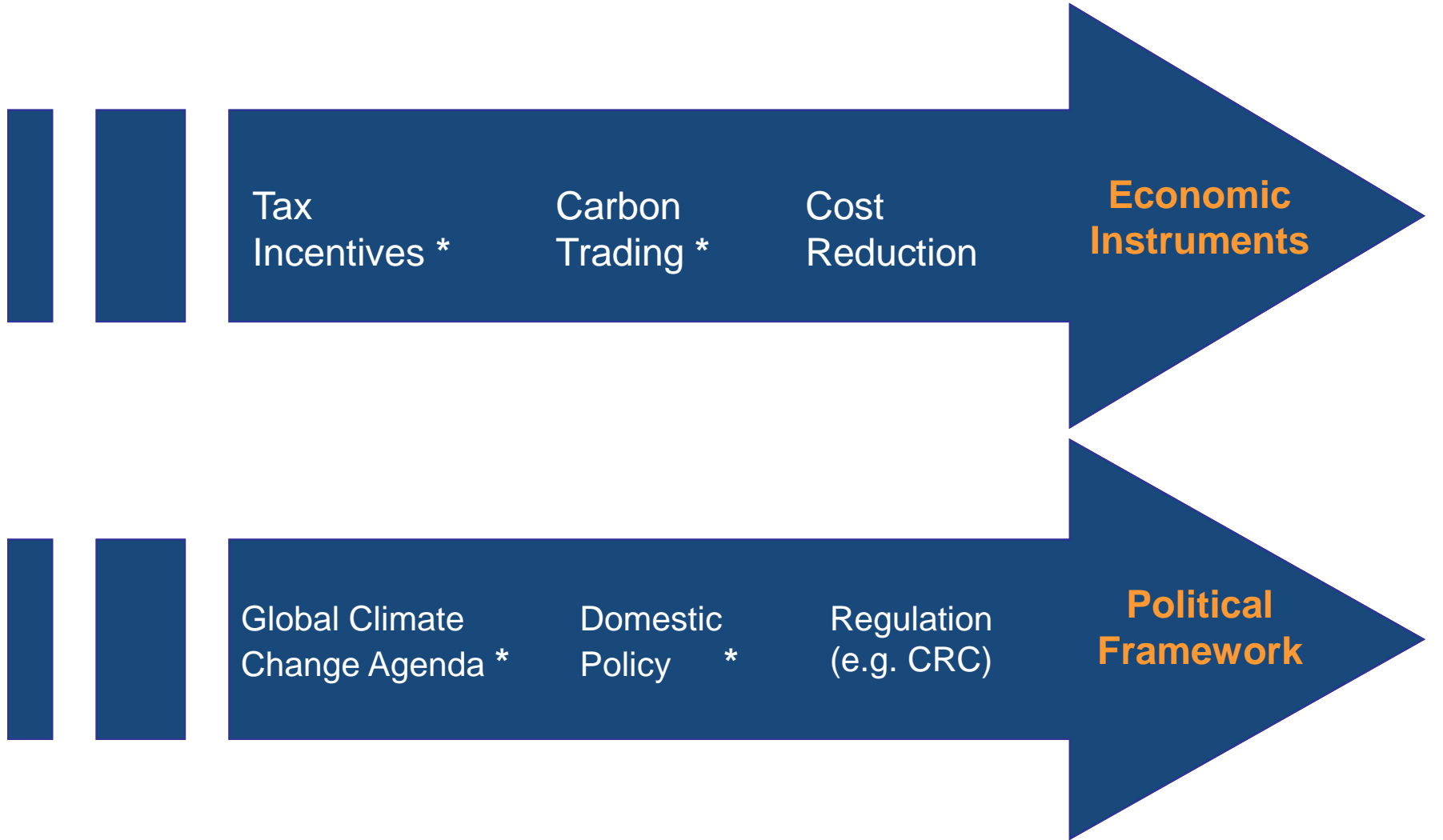
**Active
Leadership**

New Technologies * New Processes

Innovation



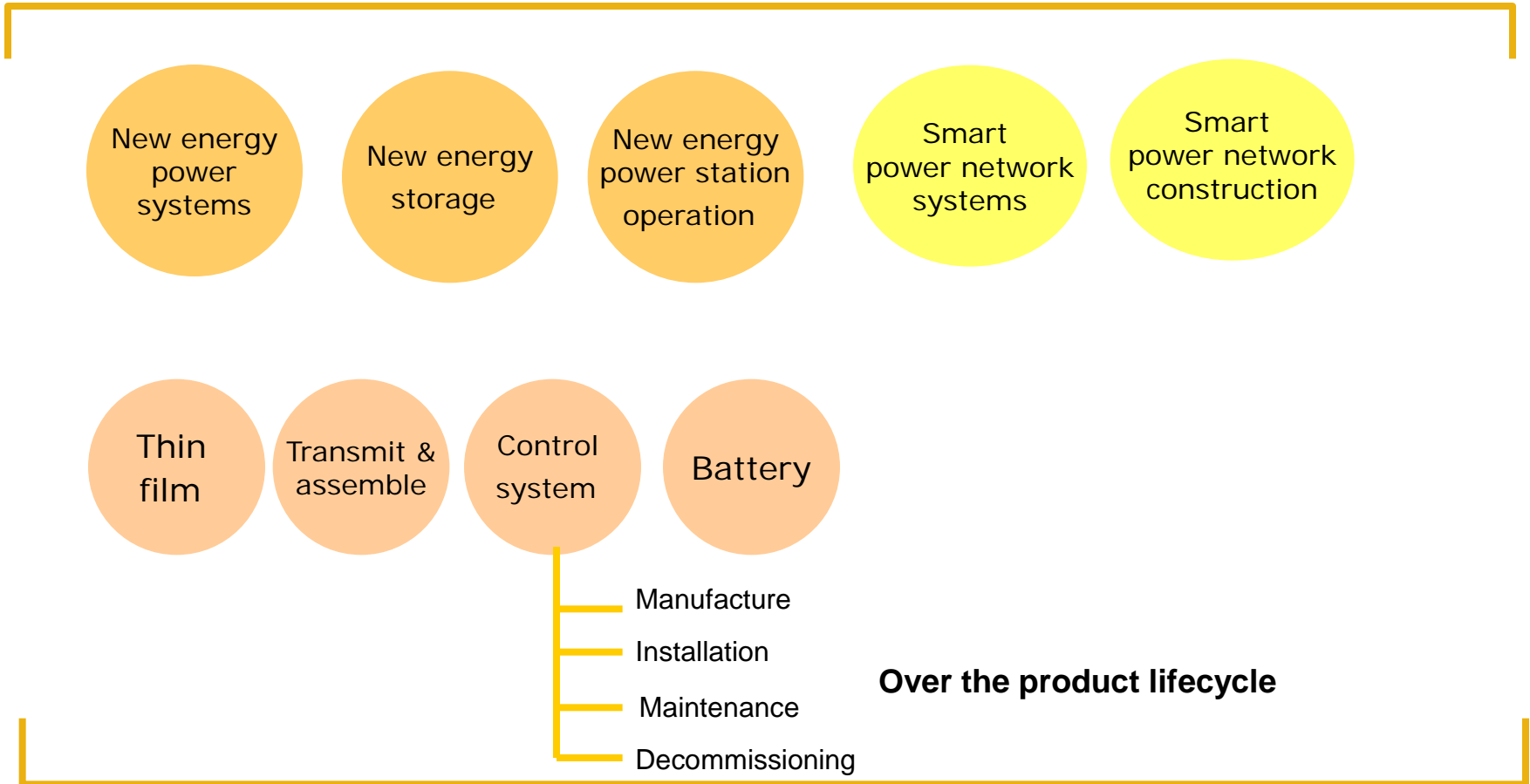
Building a low carbon capability - *Influencers*





Are we **really** ready???

This is only one area – Energy Power Systems...!





Are we really ready?

An example of Photo Voltaic



Questions: How many colleges are offering technical education & training in PV? And in smart materials? And in Tidal Systems? ...
Are the qualifications really aligned to business needs?



Symbiotic relationship

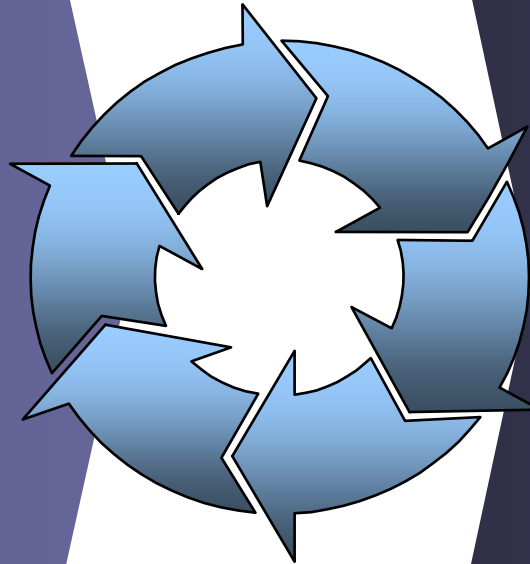
sensitising the need

Market Development

Market testing & exploitation
of
low carbon technologies

Supply chain development

Business/sector support



Workforce Development

Here and Now, and, the Pipeline

Generic, specialist &
embedded skills development &
qualifications

Labour market intelligence

Education and training

Curriculum development support



What we are doing ?

- **Research and Policy**
 - The English FE System**
 - Planning Funding and Horizon Scanning in FE**
 - Emerging Technologies**
- **Industrial Fellowship Scheme (Deadline 2nd Nov)**
- **I2E Innovate 2 Educate**
- **Masterclass Programme - CPD**
- **KTT Champions (Deadline 26th Oct)**
- **Events : Briefings, Knowledge Days**

*"If I have seen further, it is by standing on the shoulders of
Giants"...*

Sir Isaac Newton

Thank You

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