

PV – Cornerstone of a sustainable recovery




Philip Wolfe

Renewable Energy Association

Topics

- ▲ Sustainable recovery
- ▲ Drivers and targets
- ▲ UK policy development
- ▲ 'Feed-in' tariffs





Sustainable recovery

Green New Deal

- ▲ Recession – recovery must be sustainable
- ▲ Stimulus packages – 20% should be ‘green’¹
 - > USA 12%; China 37%; Germany 13%²
 - > UK figure should be ~£10bn
- ▲ Energy efficiency & renewables a major part
 - > UK figure £0.29bn (but where?)
- ▲ Renewables in any stimulus package?

¹ *Professor Lord Stern*

² *HSBC*

Green New Energy Deal

- ▲ Decentralised Energy – bridges to tariffs
 - > Extended LCBP - £230m
 - > Bioenergy grants for biomass and AD
- ▲ Bulk energy
- ▲ Energy infrastructure, including:
 - > Smart metering, distribution networks
- ▲ Skills, research and awareness

Drivers and targets



The EU commitments for 2020

 Emissions reductions Binding

- > 20% unilateral, or
- > 30% if multilateral

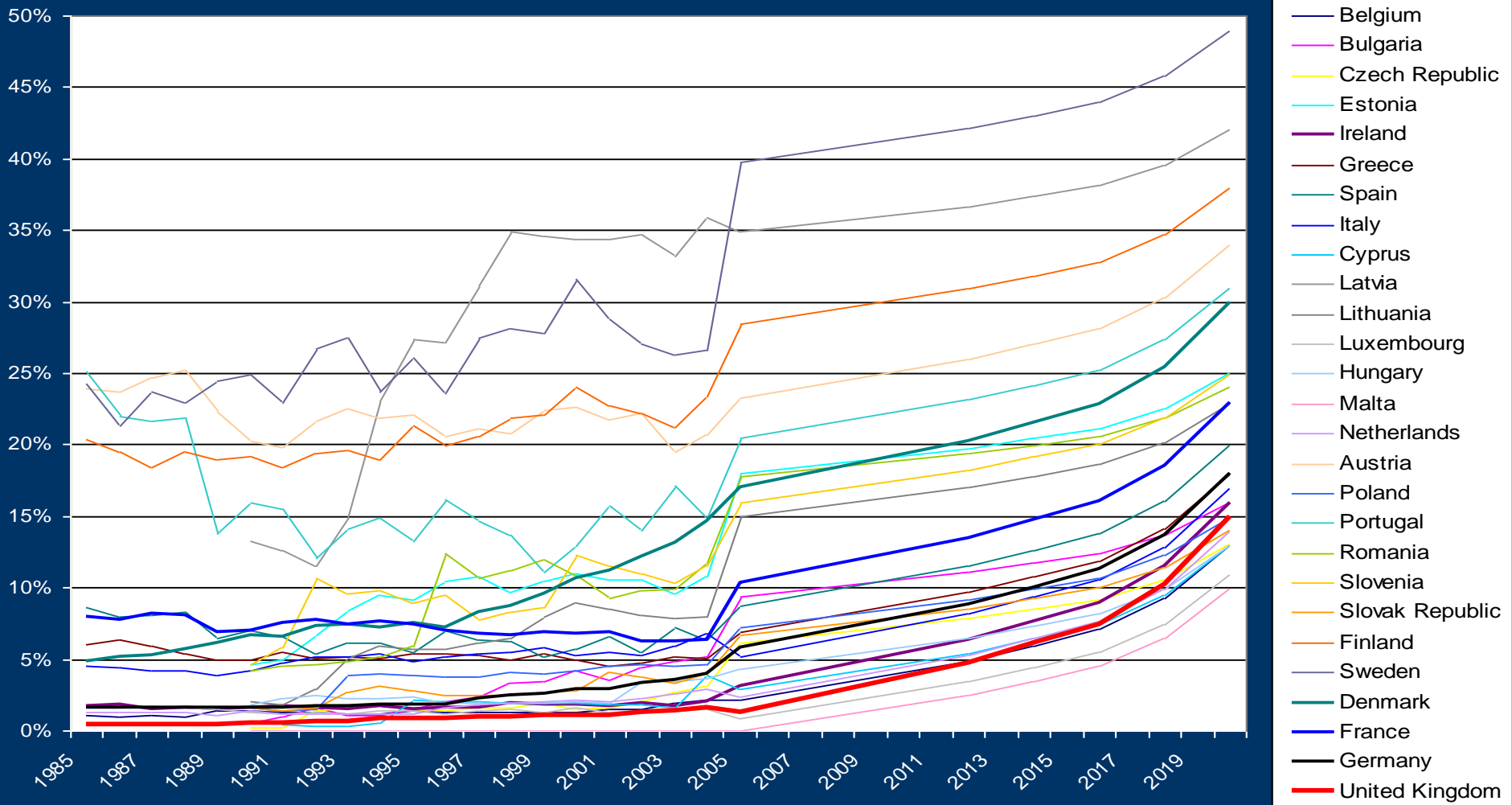
 Energy conservation Non-binding

- > 20% below current projections

 Renewables Binding

- > 20% of total energy **UK: 15%**
- > 10% of transport fuels

Eleven years to 2020



Energy White Paper 2007

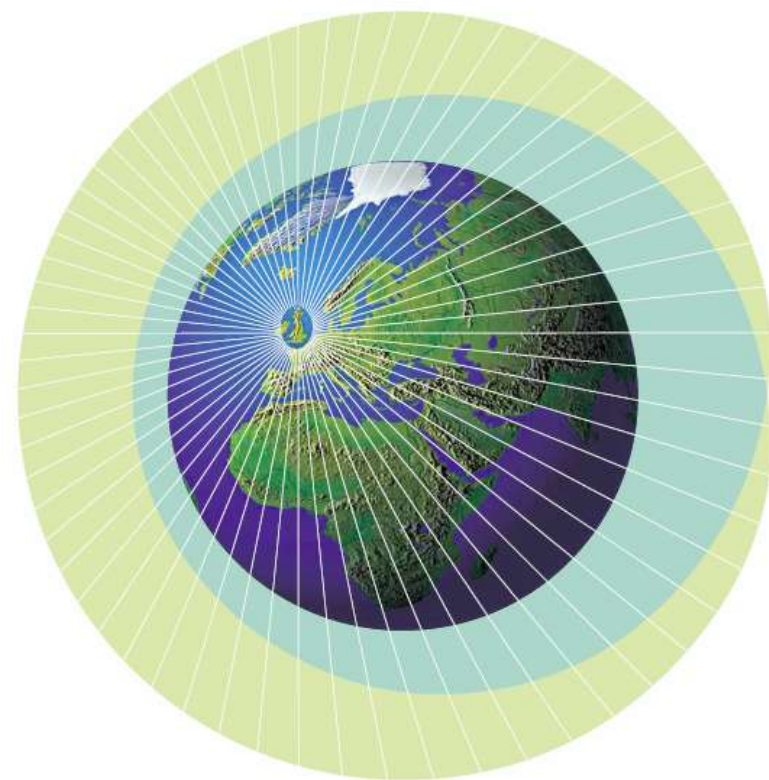
“The 20% renewables target is an ambitious goal ...

by 2020, on the basis of existing policies, renewables would contribute around 5% of the UK’s consumption

...

we will bring forward the appropriate measures, beyond those set out in this White Paper, to make our contribution to meeting these targets.”

Renewable Energy Strategy (RES) 2008



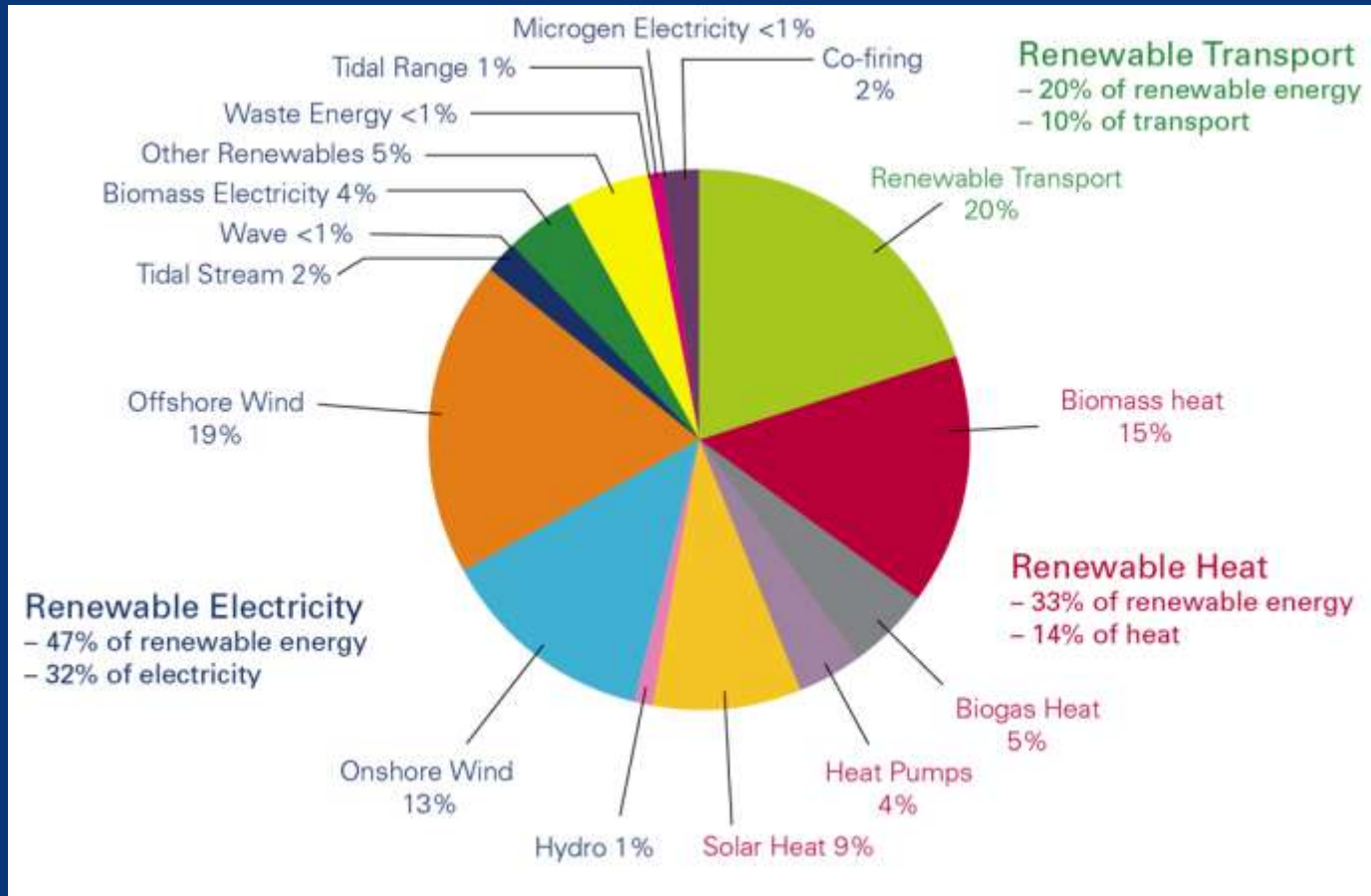
BERR | Department for Business
Enterprise & Regulatory Reform

UK RENEWABLE ENERGY STRATEGY

Consultation

JUNE 2008

DECC scenario for 2020



European PV market growth

	2006	2007	2008	2009
Belgium	2	18	48	100
Czech Republic	0	3	51	80
France	10.6	31.3	46	250
Germany	830	1,135	1,500	2,000
Italy	12.5	70.2	258	400
UK	3.2	4	6	6?

Annual installed capacities (MWp) in selected European countries (source IEA and EPIA)

An aerial photograph showing a row of modern, multi-story residential buildings with light-colored wood siding and white window frames. The roofs of these buildings are covered with a dense array of dark solar panels. In the background, there is a large, flat, green field, possibly a solar farm or agricultural land, with several high-voltage power line towers visible. The sky is clear and blue.

UK policy development

Existing policies

Renewables in buildings

- ▲ Zero carbon new homes from 2016
 - > Building regulations: CSH⁴ level 6 from 2016
- ▲ CERT⁵ extended to 'micro-renewables'
- ▲ Positive planning – 'Merton Rule'⁶
- ▲ Encourage renewables in existing houses
 - > Energy certificates in home info packs

4 *Code for Sustainable Homes – Level 6 is 'zero carbon'*

5 *Carbon Emission Reduction Target (formerly EEC)*

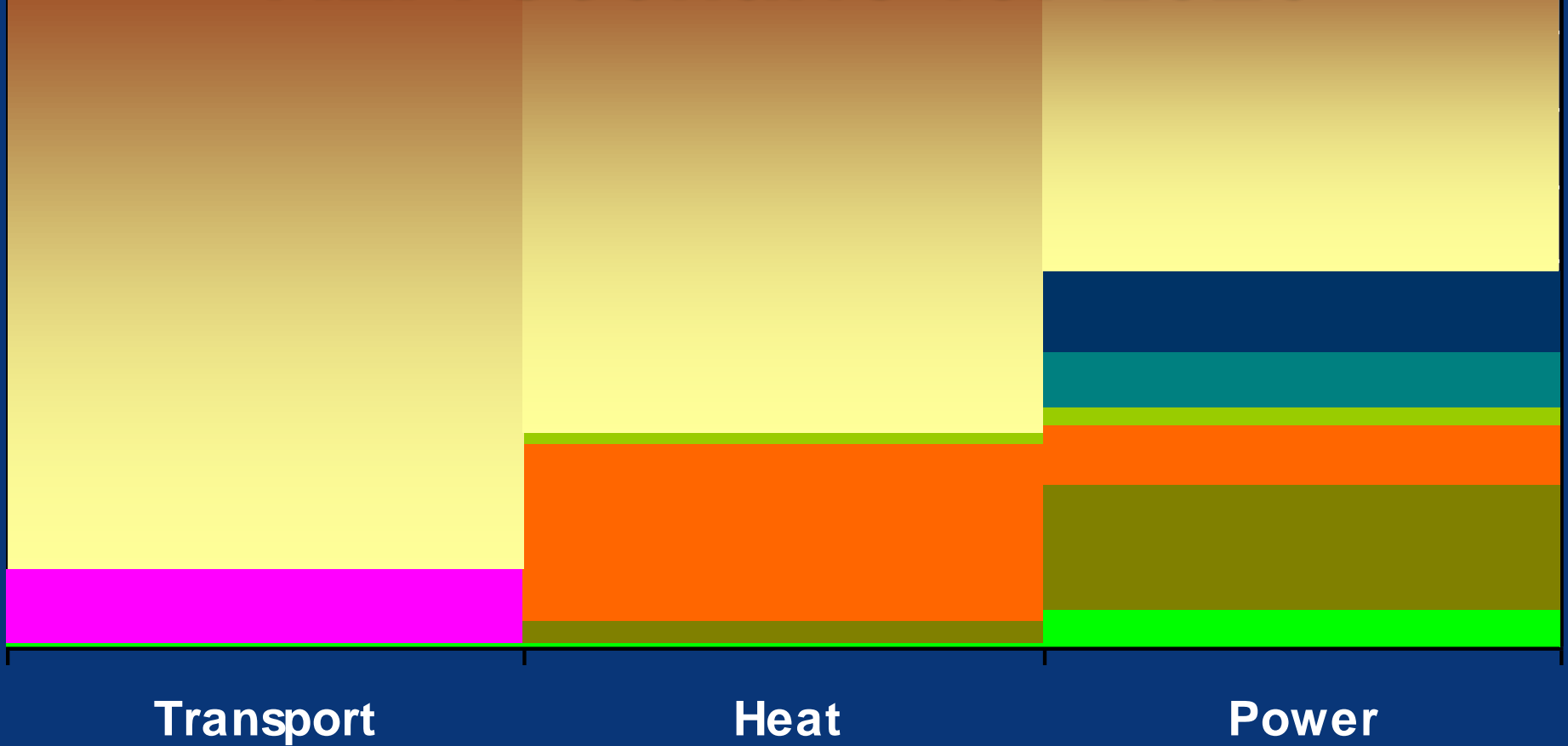
6 *Larger developments require [10%] renewable energy*

Future policies

Residential buildings

- ▲ Building regulations for new homes
 - > CSH⁴ level 3 from 2010, level 4 from 2013
- ▲ Heat & energy saving strategy
 - > Upgrade 7m homes by 2020
- ▲ Upgrading existing buildings
 - > Renewable electricity tariffs
 - > Renewable heat tariffs

REA scenario for 2020

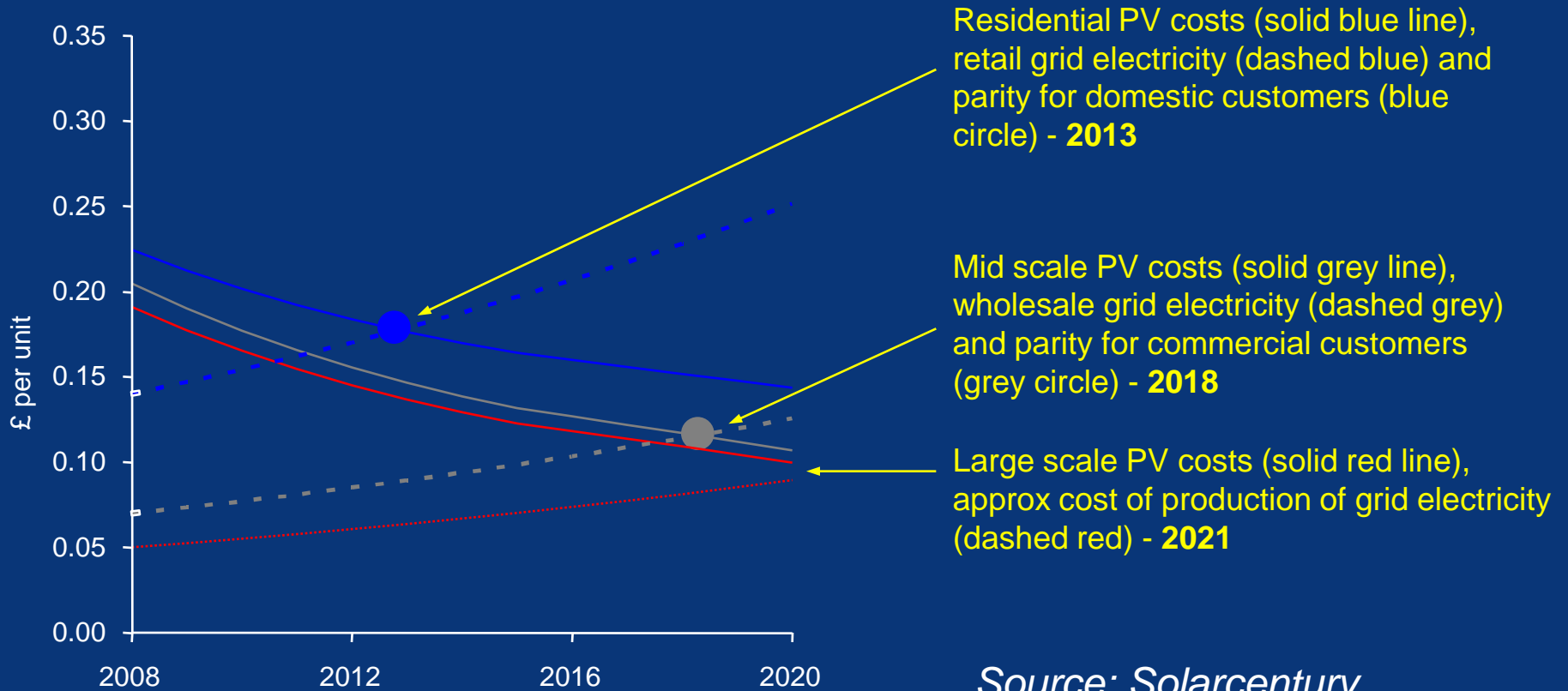


PV in on-site energy

- ▲ On-site electricity options:
 - > Micro-wind – where suitable
 - > Micro-hydro – where available
 - > Bio-energy CHP – where fuel available
 - > Photovoltaics – where the sun shines
- ▲ Comparative cost
- ▲ Building-integration

Grid parity

Parity curves – conservative cost scenario:
Residential, Commercial, **Grid scale**



Renewable electricity tariffs

A photograph of a row of modern, two-story houses with dark grey or black facades and white window frames. The houses are set on a green lawn under a clear blue sky. The central house in the foreground has a large array of solar panels installed on its dark tiled roof. To the left, another house is partially visible, also featuring solar panels. The overall scene is bright and sunny, suggesting a clear day.

Renewable energy tariffs

- ▲ Electricity (under 5MW); Heat + biogas
- ▲ Start in April 2010 and April 2011
- ▲ Production tariffs (reward total output)
- ▲ Fixed p/kWh depending on technology
- ▲ Paid through the energy companies
 - > but passed on to consumers

Preliminary

Key principles

Making it work for consumers

Energy suppliers – raising the levies

Technology classifications

> Heat, electricity, biomethane

Tariff levels

> Heat, electricity, CHP, biomethane

Annexes

> Glossary, Terraced tariffs,
Modelling, Acknowledgements etc.

Preliminary recommendations



Renewable electricity tariffs

(*'Feed-in tariffs for small scale generation of electricity'*)

Renewable heat tariffs

(*'Renewable heat incentive'*)

Preliminary recommendations on their implementation
from the renewable energy industry

Output from working groups and industry input co-ordinated by the

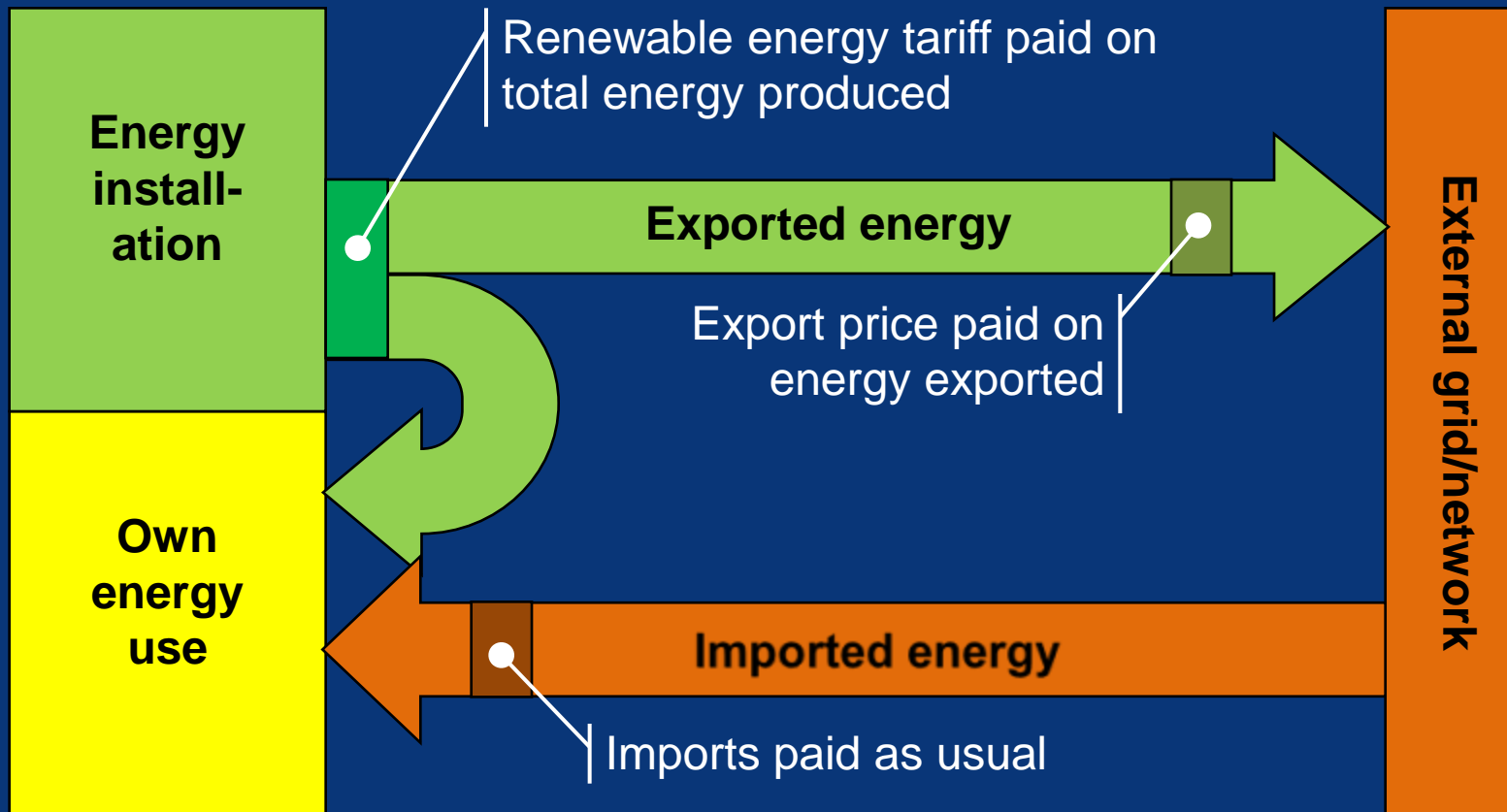


Full document on the website at <http://www.r-e-a.net/policy/REA-policy/RET/common/BluePrint>

Key principles

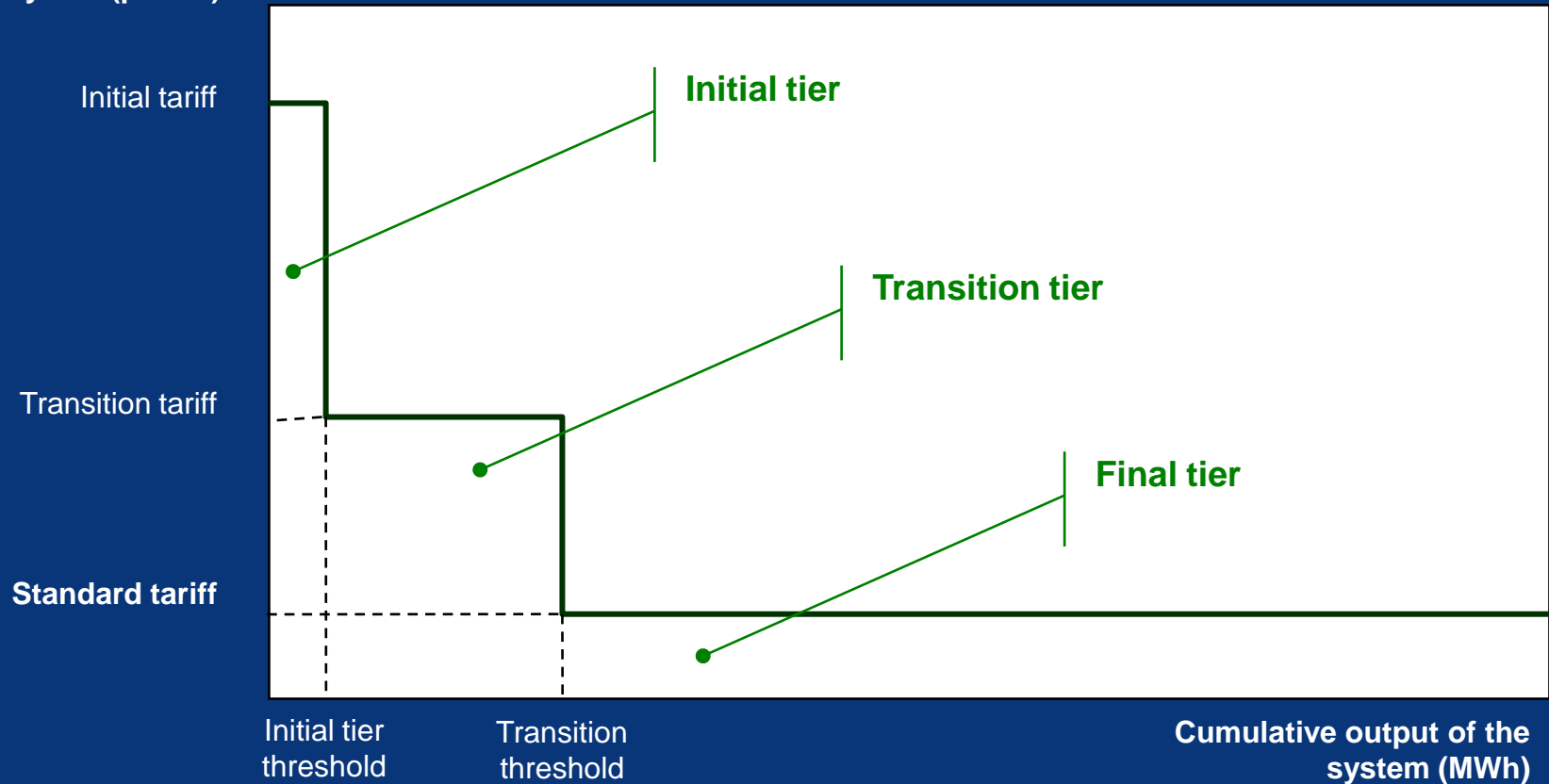
- ▲ For energy users, not professionals
- ▲ Internally and externally consistent
- ▲ Main aim to contribute to renewables targets
- ▲ At 'generous' end of the spectrum initially
- ▲ Reward only useful energy output
- ▲ Meter wherever viable; else deem
- ▲ Pre-capitalisation external not internal
- ▲ Eligible for zero carbon buildings, CRC etc.

Tariff model

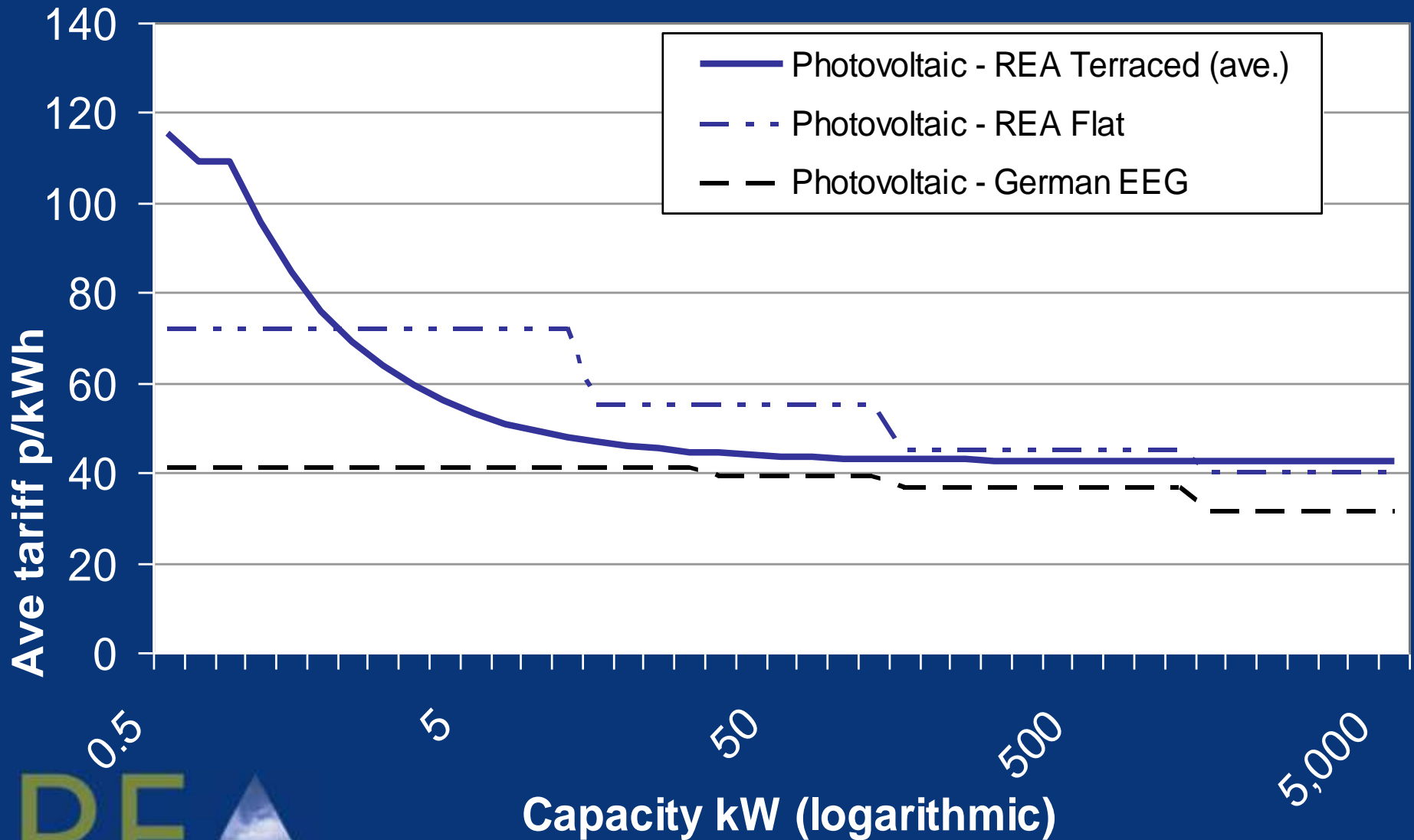


Terraced tariffs

Tariff payable (p/kWh)



Terraced tariff example



DECC Electricity tariff timetable

- ▲ Consultation summer 2009
 - > Scheme design and structure
 - > Proposed tariff levels
- ▲ Licence modification discussions / consultation
Autumn 2009
 - > Supply and distribution licences and codes
- ▲ Parliamentary process for licence modifications
late 2009 / early 2010
- ▲ Implementation April 2010

[REA] But before all that ...

Avoid hiatus

- > Fill the post-LCBP funding gap
- > Announce now which projects will be eligible

Implement as soon as possible

- > 'Roughly right rapidly' – don't aim for perfection
- > Heat and electricity tariffs together in 2010

**New
event
for
energy
users**



PVSAT, Wrexham,

The
SMARTENERGY
Show



CONFERENCE & EXHIBITION
Wembley Stadium
1 & 2 December 2009

PV – Cornerstone of a sustainable recovery



Philip Wolfe

Renewable Energy Association