

# Forests and Energy

## 2010

### The Renewable Energy Strategy and beyond

Gaynor Hartnell,

Chief Executive

Renewable Energy Association

# Policy background RES and beyond

- Few words about the REA
- UK targets and the RES
- Policy overview
  - Electricity
  - Transport
  - Heat
  - Renewable gas
- Conclusions

# The REA

- Established 2001
- Over 600 corporate members
- Subsidiary company REAL – over 1000 members – consumer code and BioFertiliser Certification Scheme
- Active across range of renewable energy technologies and applications
- ....brought you the heat incentive and feed in tariffs!

# The Renewable Energy Directive

- Targets are binding, 20% by 2020 over EU27
- All forms of energy, power, heating & cooling and transport
- Each country must achieve 10% share in petrol and diesel
- Interim targets (starting 2011/12) and regular reports to the Commission (starting end 2011)
- UK must work hardest.....

EU Member State	2006 Figure	2020 Target	% To cover:
1 United Kingdom	1,5 %	15 %	13,5 %
2 Ireland	2,9 %	16 %	13,1 %
3 Denmark	17,2 %	30 %	12,8 %
4 France	10,5 %	23 %	12,5 %
5 Netherlands	2,7 %	14 %	11,3 %
6 Spain	8,7 %	20 %	11,3 %
7 Greece	7,1 %	18 %	10,9 %
<b>EU</b>	<b>9,2 %</b>	<b>20 %</b>	<b>10,8 %</b>
8 Italy	6,3 %	17 %	10,7 %
9 Latvia	31,4 %	42 %	10,6 %
10 Belgium	2,6 %	13 %	10,4 %
11 Cyprus	2,7 %	13 %	10,3 %
12 Germany	7,8 %	18 %	10,2 %
13 Luxembourg	1 %	11 %	10 %
14 Malta	0 %	10 %	10 %
15 Portugal	21,5 %	31 %	9,5 %
16 Slovenia	15,5 %	25 %	9,5 %
17 Finland	28,9 %	38 %	9,1 %
18 Austria	25,1 %	34 %	8,9 %
19 Lithuania	14,6 %	23 %	8,4 %
20 Estonia	16,6 %	25 %	8,4 %
21 Hungary	5,1 %	13 %	7,9 %
22 Sweden	41,3 %	49 %	7,7 %
23 Poland	7,5 %	15 %	7,5 %
24 Slovakia	6,8 %	14 %	7,2 %
25 Bulgaria	8,9 %	16 %	7,1 %
26 Romania	17 %	24 %	7 %
27 Czech republic	6,5 %	13 %	6,5 %



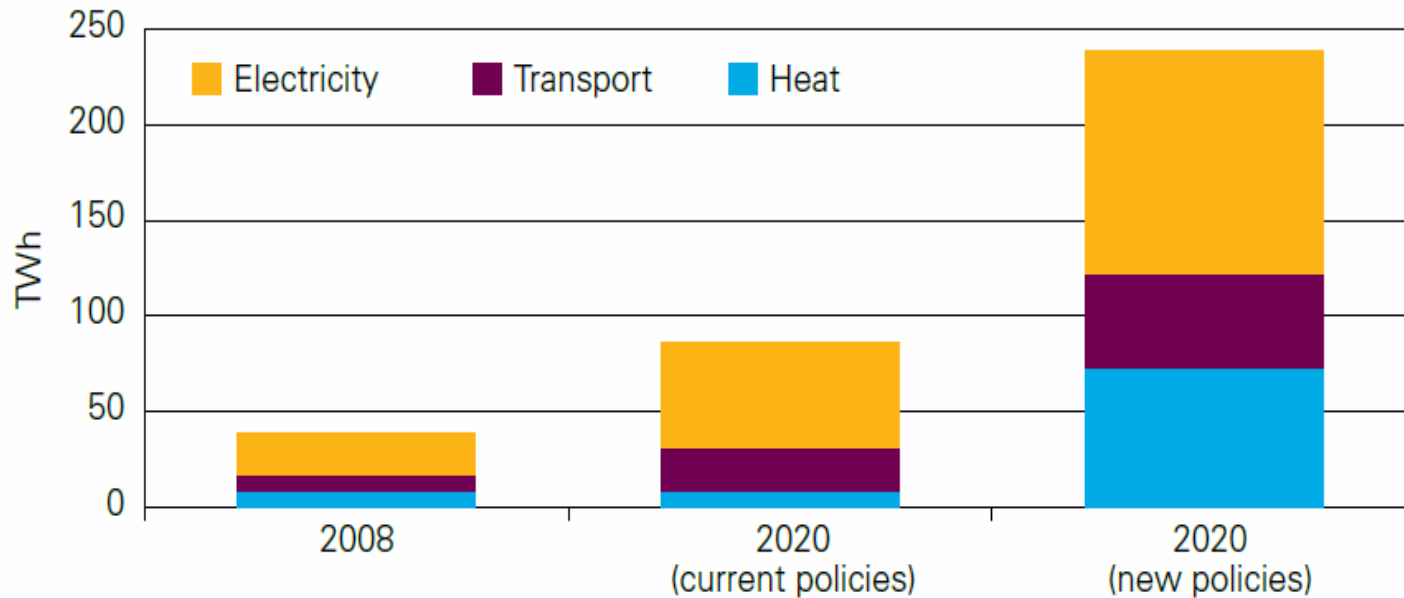
# Key dates and measures for implementing the RED

- December 2009: Member States released their “forecast documents” UK report on track for meeting target and not relying on imports
- Member States develop their National Renewable Energy Action Plans with assistance of template produced by the Commission, and submit them by end June 2010
  - Summary of national renewable energy policy
  - Targets and trajectories (national and sectoral)
  - Measures for achieving the targets
- Member States must have transposed into national legislation the RES Directive by end of 2010

# REPAP 2020

- REA is co-ordinating the UK part of a project called REPAP 2020:
- Develop a shadow national plan
- Lobby UK Government
- Critique UK plan to European Commission

# 2020 Target – 240TWh from renewables

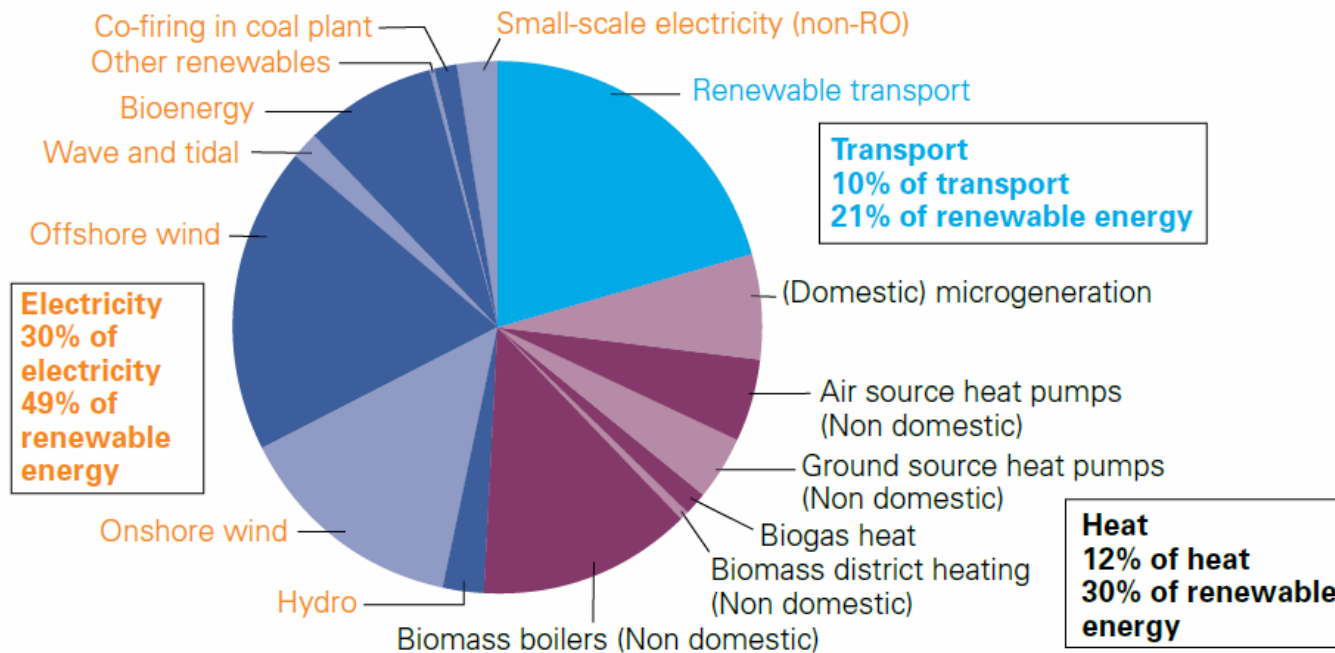


Source: Energy Trends June 2009 and DECC internal analysis

Heat – from less than 1% today, to 12%  
 Transport fuels, 1 ½ % in 2008, to 10%  
 Power 6.5% today, to 30%.

# 2020 – Technology Mix

## Illustrative mix of technologies in lead scenario, 2020 (TWh)



Source: DECC analysis based on Redpoint/Trilemma (2009), Element/Pöyry (2009) and Nera (2009) and DfT internal analysis

# The big picture overview

- Power generation – UK had policy since 1990
  - Competitive tendering
  - Obligation
  - And now feed in tariffs for small scale projects
- Transport – policy since April 2008 - RTFO
- Heat – limited support from 2006 (Low Carbon Buildings Programme) – but Renewable Heat Incentive awaited April 2011
- Green gas – latest arrival

# Electricity - Renewables Obligation

- Introduced in 2002. Tradable certificate system, suppliers show certificates or buy-out of obligation
- Initially one size fits all and “technology neutral”
  - Good for - Co-firing, Landfill gas, onshore wind
- From April 2009 became banded – 1ROC=1MWh relationship broken
  - Good for biomass and offshore wind and possibly marine
- Grandfathering hiatus
- Very complex

# Why 'Feed-in' tariffs?

- RO not easy for individuals or non-specialists
- Grants bureaucratic – and stop-start in nature
- Gives fixed return, guaranteed over the tariff lifetime. Should lead to up front capitalisation
- Government was initially reluctant, but eventually agreed:
  - Tariffs available up to 5MW
  - Start in April 2010

## FITs - key points

- PV, wind, biogas and hydro eligible, but not biomass
- Benefits to user/owner in three parts:
  - Generation tariff paid on all generation
  - 3 p/kWh paid for all electricity exported
  - Avoided cost of imports on electricity used on-site
- Tariffs index-linked

# Renewable electricity trajectory

- Largest growth potential in wind energy, on and offshore
- Wave and tidal stream, to be proven
- Biomass only dispatchable form of renewable electricity – but it can be used in other ways
- Solar phenomenal potential, but cost reductions necessary

# Renewable heat

- Most dramatic expansion needed
- Heat supply accounts for 50% of final energy demand and 47% CO<sub>2</sub> emissions
- Biomass various models...
  - Local heat-only or CHP
  - Power generation in large plant, coupled with heat pumps
  - Gasify the biomass, and pipe it into homes...
- Very novel policy mechanism proposed

# Renewable Heat Incentive

- Biomass, biofuels for domestic users, heat pumps, solar thermal, biogas, biomethane
- Covers cost difference with fossil fuel alternative on upfront and running costs,
- Rate of return of 12% (6% for solar thermal) on upfront investment
- Plus inflation adjustment and barrier costs
- Fixed tariffs for expected equipment lifetime (10-23 years)

# RTFO

- Introduced April 2008
- UK 2.7% by volume in 08-09 (current target 2.5%). = 1284 million litres, 9% of which from UK feedstocks
- Target 5% by 2013-4 (was originally higher, but reduced following Gallagher Review)
- Will have to change in order to meet higher target (10%) and requirements on sustainability and min. GHG saving in the RED (35% from day 1, 50% from 2017 and 60% for new from 2018)

# RTFO

- Total UK road fuel market is c.40mt
- Certificates per litre / per kg for gas
- Subsidy reduced. Initially 20ppl fuel duty rebate + 15ppl buyout. From April 2010, 30ppl buyout only
- Certificates trade a long way below buy-out price, as there is slight oversupply. Meeting target is easy. 94% is imported.

# Issues

- Infrastructure
- Planning
- Supply chain establishment
- Policy continuity

Thank you

[www.r-e-a.net](http://www.r-e-a.net)

ghartnell@r-e-a.net