

Lancashire County Council

Cabinet Committee on Climate Change and the Environment

**Tuesday, 12th July, 2011 at 2.00 pm in Brockholes Conference Centre,
Brockholes Nature Reserve, Preston, PR5 0UJ**

Supplementary Agenda

We are now able to enclose, for consideration at the next meeting of the Cabinet Committee on Climate Change and the Environment to be held on Tuesday, 12th July, 2011, the following PowerPoint presentations which have now been published.

Part 1 (Open to Press and Public)

No. Item

- | | | |
|-----------|---|----------------|
| 5. | Department for Energy & Climate Change (DECC)
reporting requirements on greenhouse gas
emissions from Local Authority own estate,
operations and preliminary findings
Presentation (Fiona Cruchley) | (Pages 1 - 8) |
| 8. | Renewable Energy Capacity study for Lancashire
(Andrew Coombe) | (Pages 9 - 26) |

Phil Halsall
Chief Executive

County Hall
Preston

Sharing Information on Greenhouse Gas emissions from Council's own estate and operations

Fiona Cruchley
Environment Directorate

DECC requirement

DECC requests that once each Local Authority has published its local GHG report by the end of July the following is provided emailed to local.carbon@decc.gsi.gov.uk

- - A website link (URL) to their GHG report, which contains totals for Scope 1, Scope 2 and Scope 3 emissions in CO₂e.
- - A contact email address so that visitors to the DECC website can easily contact LAs if they choose to enquire further about the figures.
- - A short description detailing what is within the scope of the report and any specific exclusions – so that this description can be published on the DECC website alongside the data.

Scope 1 – direct energy emissions

- Gas used in LCC premises (schools and corporate buildings)
- Heating Oil used in LCC premises (schools and corporate buildings)
- Fuel used in LCC owned vehicles

- Exclusion – fugitive emissions from air conditioning and refrigeration (due to cost of data collection)

Scope 2 – Energy Indirect Emissions

- Electricity used in street-lighting
- Electricity used in LCC premises (schools and corporate buildings)

Scope 3 – Other Indirect Emissions

Reporting on scope 3 emissions is
discretionary

- Business travel by car

Other reporting requirements

- Carbon Reduction Commitment
 - CO₂ not CO₂e
 - Does not include transport related emissions
 - CRC rules define organisational boundary that we propose to use for all greenhouse gas reporting

Lancashire County Council reporting



Organisation aligned with CRC reporting

It includes emissions from

- County council premises (eg libraries, offices, depots)
- Schools (reported separately)
- Street-lighting
- County council fleet vehicles and
- Staff business mileage

LCC data and trends

Lancashire's Renewable Energy Capacity

History

- Regional study undertaken
- Number of studies undertaken at a local level
- Some authorities no knowledge / information
- Government is pushing to increase renewable energy generation
- Availability / Cost of existing energy sources
- New area for officers as technology and demand develops

What was missing?

- Regional study identified that Lancashire had the potential to produce 25% of the amount to be generated by the North West
- Very general study
- Needed to be localised to maximise buy in / understanding

What the Lancashire work looks at

- Develops a robust & consistent evidence base at Lancashire LA level
- Looks at technical capacity for onshore renewable sources
- Grid constraints analysis
- Deployment constraints & scenario modelling including
- Qualitative analysis and planning guide

Technologies

- Wind – large & small scale
- Plant biomass: energy crops, managed woodland, waste wood, agricultural arisings
- Animal biomass – wet organic waste, poultry litter
- Waste – municipal solid waste, commercial & industrial waste, landfill & sewage gas
- Hydropower – small scale
- Microgeneration - Solar photovoltaics / Solar water heating / Air and ground source heat pumps
- CHP, district heating, tri-generation
- Waste heat

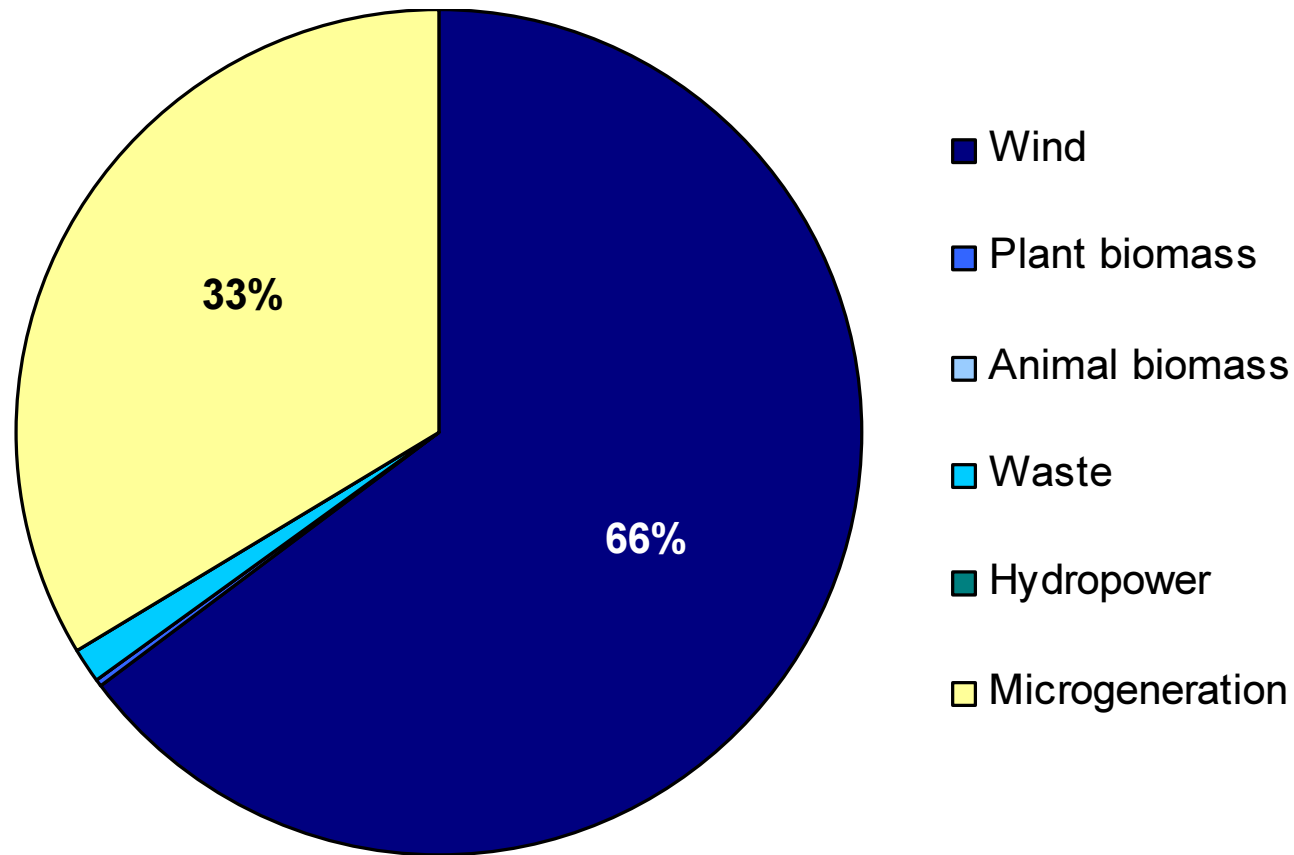
Theoretical V Actual

- Naturally Available Resource
- Technically Accessible Resource
- Physical Environment Constraints
- Planning and Regulatory Constraints
- Economically viable
- Deployment constraints

Lancashire's Potential

- 10,613 MW (10.6 GW) of ***potential technical*** renewable energy generation capacity at 2020
- 7,416 MW electricity & 3,210 MW heat
- Commercial wind 66% of overall capacity

Potential capacity by technology



What this means

- Estimate 1 MW of energy will power 1500 homes
- Scout Moor wind farm produces enough energy to meet half demand of Rochdale



Large or small



One commercial turbine
(2.5 megawatt)

=



490 small turbines
(6 kilowatt)



OR 4 hydropower plants
(200 kilowatt)



OR 4,900 domestic PV
(10 kilowatt)

Large scale wind

- Currently 93.9 MW generation
- 111.4 MW capacity in the pipeline (under construction or seeking planning permission)

Small scale Hydro

- Currently 1.2 MW production
- Locations
- Cost of implementation
- Environmental issues
- Public interest

Micro-generation

- Potential 3,486 MW
- Heat pumps – still new technology
- Main practical option is photo voltaic
- Wind potential is limited
- Technology still quite expensive
- Long pay back period

	Wind		Biomass			Hydropower	Micro-generation		Total ^[1]
	Commer cial scale	Small scale	Plant biomass	Animal biomass	Waste	Small scale	Solar	Heat pumps	
Blackburn with Darwen	592	11	2	1	12	2	58	255	933
Blackpool	1	0	1	0.1	9	0	65	286	362
Burnley	200	1	1	1	7	2	35	161	408
Chorley	755	33	3	4	9	1	47	205	1,057
Fylde	371	8	2	5	9	0	39	170	604
Hyndburn	171	0	1	1	7	1	32	149	362
Lancaster	598	36	6	11	12	4	63	275	1,004
Pendle	446	4	1	2	5	1	36	165	661
Preston	285	27	2	5	12	1	61	268	661
Ribble Valley	361	12	6	9	4	5	31	129	557
Rossendale	516	0	1	1	5	3	30	135	691
South Ribble	257	11	3	3	9	1	44	200	529
West Lancashire	1,292	44	14	2	7	1	50	220	1,630
Wyre	828	29	3	8	11	1	51	225	1,155
Lancashire total^[2]	6,674	215	46	54	117	21	642	2,844	10,613

^[1] Figures may not total due to rounding

^[2] Figures may not total due to rounding

Key factors in development

- Economic viability
- Supply chain
- Planning & political
- Technological developments
- Potential for community ownership

Other impacts

- Carbon savings
- Community involvement
- Estimated Employment potential:
 - 50% of pre operational jobs in Lancashire
 - 90% of post operational jobs in Lancashire
 - Main opportunities in micro generation
 - Around 20,000 potential FTE jobs

Reality check

- Need to remember the basics
- Not about carbon savings but fuel security
- Not going to save money in short term
- Public opinion Vs practicalities
- Offshore potential

Taking forward

- Planning guide
- Give officers skills / knowledge
- Need to educate public / developers
- Public access versions of work to be made available to all partners
- Clear information