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

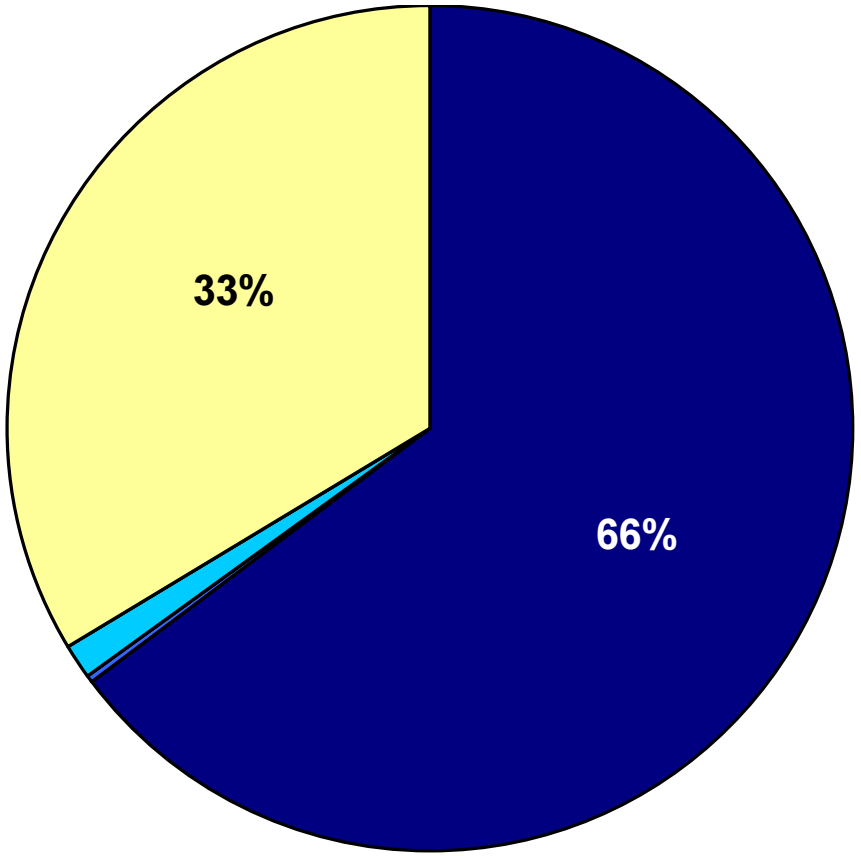
Theoretical V Actual

- 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		
	Commercial scale	Small scale	Plant biomass	Animal biomass	Waste	Small scale	Solar	Heat pumps	Total[1]
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