Module 1: LDF plan making, evidence base and implementation of the Yorkshire and Humber Renewable and Low Carbon Energy Study 2011

Welcome, Aims, Objectives and Structure of the Module

Tom Bridges, Arup

Aims, objectives and learning outcomes

- Understanding what evidence is needed and its role
- Knowing where and how to develop the evidence base
- Applying the evidence to develop policies and set targets
- Benchmarking LDF policy against national performance and tests of soundness

climatechangeskills for planners

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Structure

1. Aims and structure of module
2. Plan-making, climate change and renewable energy
3. The evidence base and analytical tools
   a) Yorkshire and Humber Low Carbon and Renewable Energy Study 2011
   b) DECC Heat Mapping Tool
   c) Tea Break
   d) Role of local studies and evidence
4. Consideration of policy options, delivery plans and targets (breakout)
5. Panel discussion and questions
6. Close at 16:30, followed by launch event

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Other modules

1. LDF / plan making
2. Introduction to climate change
3. Climate change planning for renewable energy
4. Climate change planning for construction
5. Climate change planning for green infrastructure
6. Mitigation and adaptation in masterplanning
7. Mitigation and adaptation in small scale development
8. Climate change and viability
9. Historic assets and climate change
10. Regulation regimes, likely policy changes

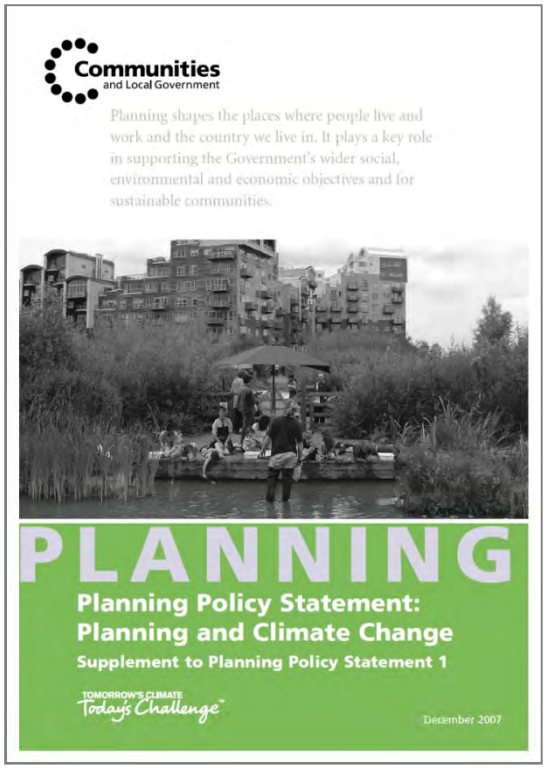
The National Policy Framework

Definitions

- Climate change
- Emissions
- Mitigation
- Adaptation
- Energy Efficiency
- Renewable and Low Carbon Energy

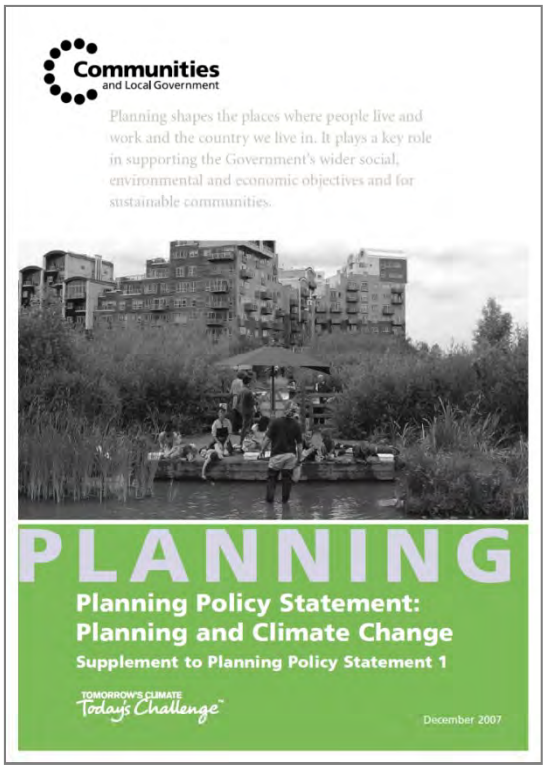
PPS1 Supplement – Planning and Climate Change – General Principles for Plan Making

- Spatial distribution and design of new development should limit CO2 emissions
- New development should be planned to exploit opportunities for decentralised, renewable or low carbon energy
- Climate change integral to all spatial planning concerns
- Mitigation and adaptation should be considered in an integrated way
- Role of SA / SEA
- Importance of robust monitoring framework



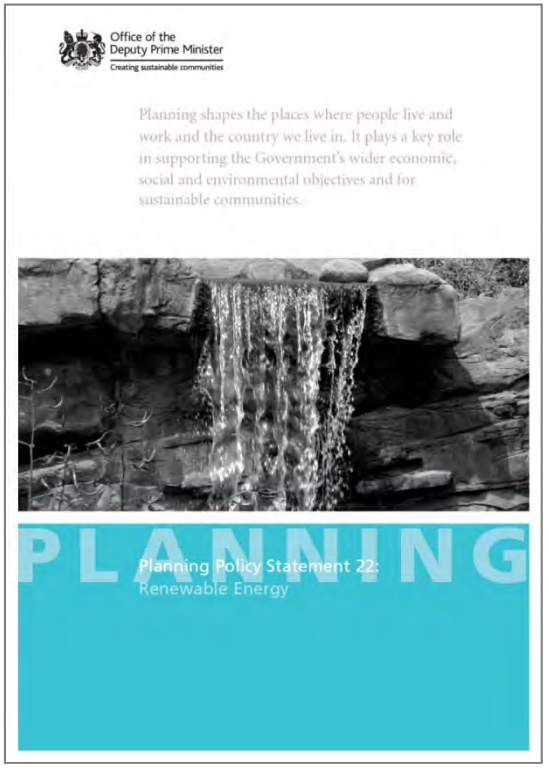
PPS1 Supplement – Planning and Climate Change – Requirements for Local Development Documents

- Policies should promote, not restrict renewable and low carbon energy
- Local policies for protecting landscape and townscape should be consistent with PPS22
- Consider identifying suitable areas for renewable and low carbon energy sources
- Don't be overly restrictive elsewhere
- Expect a proportion of energy supply for new development from decentralised and renewable or low carbon sources



PPS22 Renewable Energy – Requirements for LDDs

- Renewable energy should be accommodated where viable and the impacts can be managed satisfactorily
- Criteria based policies to identify appropriate
- Specific sites to be allocated only if developer interest
- Scope for policies on % of energy in new developments from on-site renewables - subject to viability
- Advice on locational considerations: designations
- Green Belt, landscape and townscape impacts etc
- Detailed Practice Guide



Low Carbon Future in a Changing Climate

"Understanding the potential for supply and demand opportunities for renewable and low carbon energy in a local area is an essential starting point for considering the opportunities to move to low carbon communities. It is also vital for delivering on a range of wider local priorities, such as fuel poverty, local energy security, waste management and targets for renewable capacity"

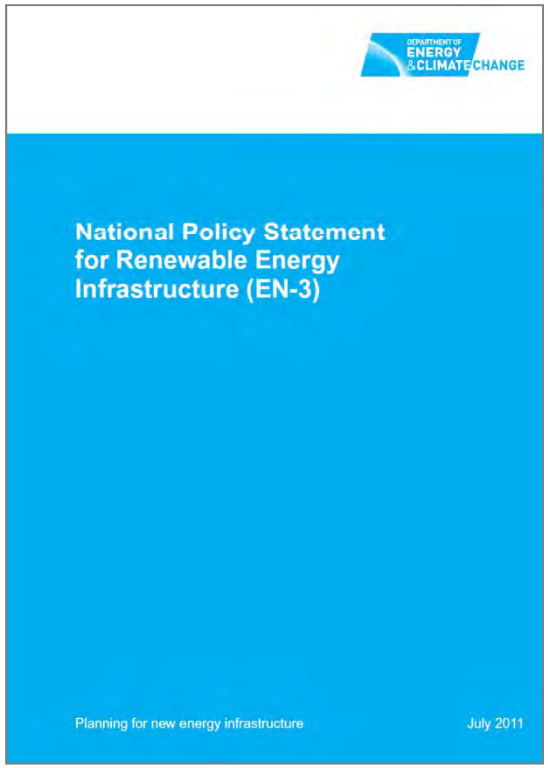
NPS EN-1 & EN-3

NPS EN-1 for Energy

- Significant need for major energy infrastructure.
- Assessments of need for major energy infrastructure.

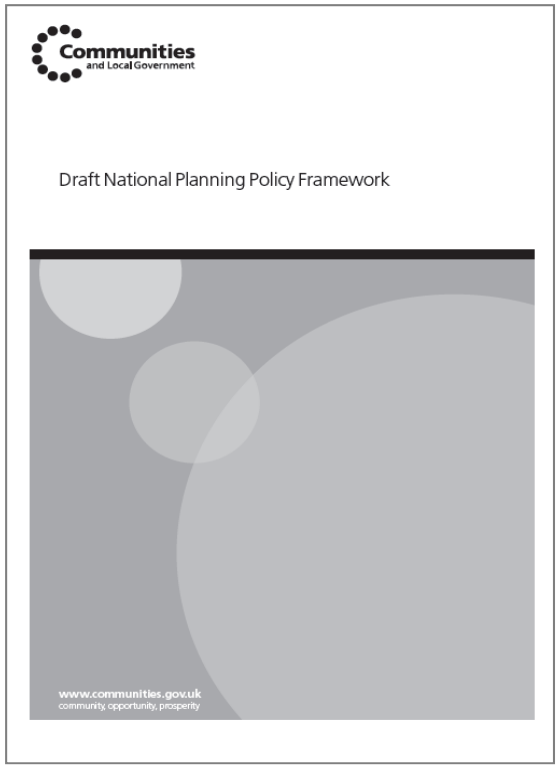
NPS EN-3 Renewable Energy

- Biomass, energy from waste, onshore and offshore wind.
- IPC / MIPU Impact Principles for each technology.



Draft National Planning Policy Framework

- Encourage, rather than restrict the use of renewable energy
- Applicants should not have to demonstrate need
- Promotes positive planning strategy, support for community initiatives and the identification of suitable areas for renewable energy
- Follow approaches in the National Planning Statements on locations



Implications of Abolition of Regional Strategies

"What about regional policies on Renewable and Low Carbon Energy?

Through their local plans, authorities should contribute to the move to a low carbon economy, cut greenhouse gas emissions, help secure more renewable and low carbon energy to meet national targets, and to adapt to the impacts arising from climate change. In doing so, planning authorities may find it useful to draw on data that was collected by the Regional Local Authority Leaders' Boards (which will be made available) and more recent work, including assessments of the potential for renewable and low carbon energy."

Letter to Chief Planning Officers: Revocation of Regional Strategies, from CLG Chief Planner, 6th July 2010

The Yorkshire and Humber Renewable and Low Carbon Energy Study 2011

How to apply it at a local level

Climate Change Skills for Planners

6th March 2012

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Overview

- The regional study
  - Key evidence base outputs
  - What it does and doesn't do
- Applying and enhancing it at local level
  - Area wide/ non-spatial resource potential
  - Spatial opportunities
    - Heat opportunity mapping
    - Wind and hydro

The regional study

Purpose of Study

1. Provide evidence base “platform” to support policy making in local authority LDFs ...
2. ...and inform wider corporate action
3. Identify cross boundary strategic opportunities
4. Identify strategic actions to facilitate delivery of opportunities

Outputs

- Assessment of indicative RE potential for each LA, and subregions (NOT targets!)
- Subregional and LA Energy Opportunities Plans – LAs to build on
- Outline of key delivery actions for each subregion

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Methodology – 3 stage process

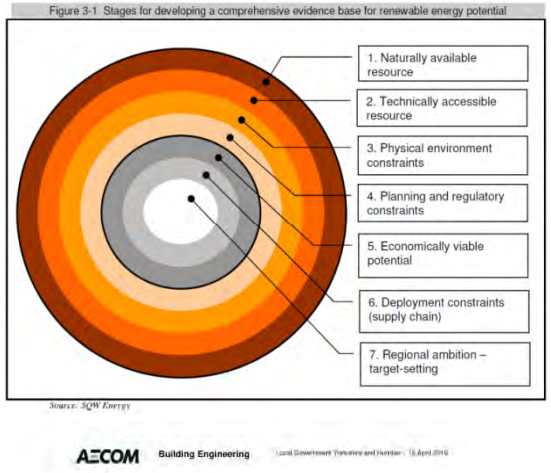
Part A – Scoping

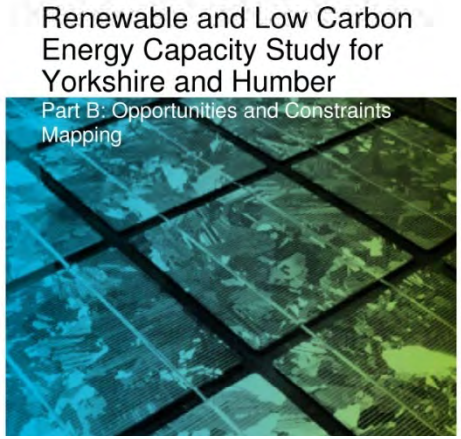
Part B – Opportunities and constraints mapping

- Use of DECC methodology
- Baseline energy use and energy demand projections
- Energy opportunities mapping
- Identify technical potential

Part C – Practically deliverable potential

- Economic viability
- Deployment constraints/ supply chains
- Testing with stakeholders
- Basis for targets





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Stakeholder engagement

- Yorkshire Forward
- CO2 Sense
- Microgeneration Partnership
- Natural England
- Environment Agency
- National Farmers Union
- David Farnsworth (Biomass consultant)
- Ferrybridge Power station, Eggborough Power station
- CE Electric (main District Network Operator for Yorkshire and Humber)
- Banks Renewables (wind energy developers)
- RWE/Npower (wind energy developers)
- Civil Aviation Authority (CAA)
- Leeds Bradford International airport, Humberside airport
- Defence Estates on behalf of Ministry of Defence

Scope of Study and Health Warnings!

- Onshore only (based on DECC method)
- Not including transport
- Considering both renewable heat and renewable electricity
- Includes microgeneration, EfW
- No new landscape sensitivity analysis – draws on previous studies
- High level strategic assessment only
  - Does not assess feasibility of individual sites
  - Assumptions should not be applied to planning applications
- Not setting targets.....

Renewable energy technologies included

Large Scale

- Large scale (onshore) wind
- District heating with (C)CHP (gas or biomass)
- Biomass (energy crops, woodland, agricultural arisings, wet biomass)
- Energy from waste (poultry, solid municipal)
- Hydro

Small scale

- Small scale wind
- Air and Ground source heat pumps
- Solar water heating
- Solar photovoltaics (PV)

Key Outputs – Area Wide Resource Potential

Doncaster	Current capacity (MW)	Current capacity (GWh)	Potential resource - heat (MW)	Potential resource - electricity (MW)	Potential resource (GWh)	Potential resource (No of existing homes equivalent energy demand)	Potential resource (Proportion of regional resource)
Commercial wind	91	239	0	298	784	0	0%
Small scale wind	0	0	0	1	2	0	7%
Hydro	0	0	0	0	1	0	0%
Solar PV	1	1	0	13	9	0	0%
Solar thermal	0	0	20	0	12	1304	6%
Air source heat pumps	0	0	11	0	17	722	4%
Ground source heat pumps	0	0	7	0	12	440	4%
Biomass energy crops	0	0	12	7	98	790	2%
Biomass woodfuel	0	1	24	0	62	1568	6%
Biomass agricultural arisings (straw)	8	56	8	4	61	519	3%
Biomass waste wood	0	0	2	1	15	123	4%
Energy from waste wet	2	10	1	1	13	95	1%
Energy from waste poultry litter	0	0	0	0	0	0	0%
Energy from waste MSW	10	67	4	2	28	234	4%
Energy from waste C&I	0	0	5	2	39	328	3%
Energy from waste landfill gas	10	51	0	0	0	0	0%
Energy from waste sewage gas	1	2	0	1	6	0	0%
Total	122	426	115	330	1,261	7,692	

Table 56 Current capacity and renewable energy resource in Doncaster. Current" refers to facilities that are operational or have planning consent

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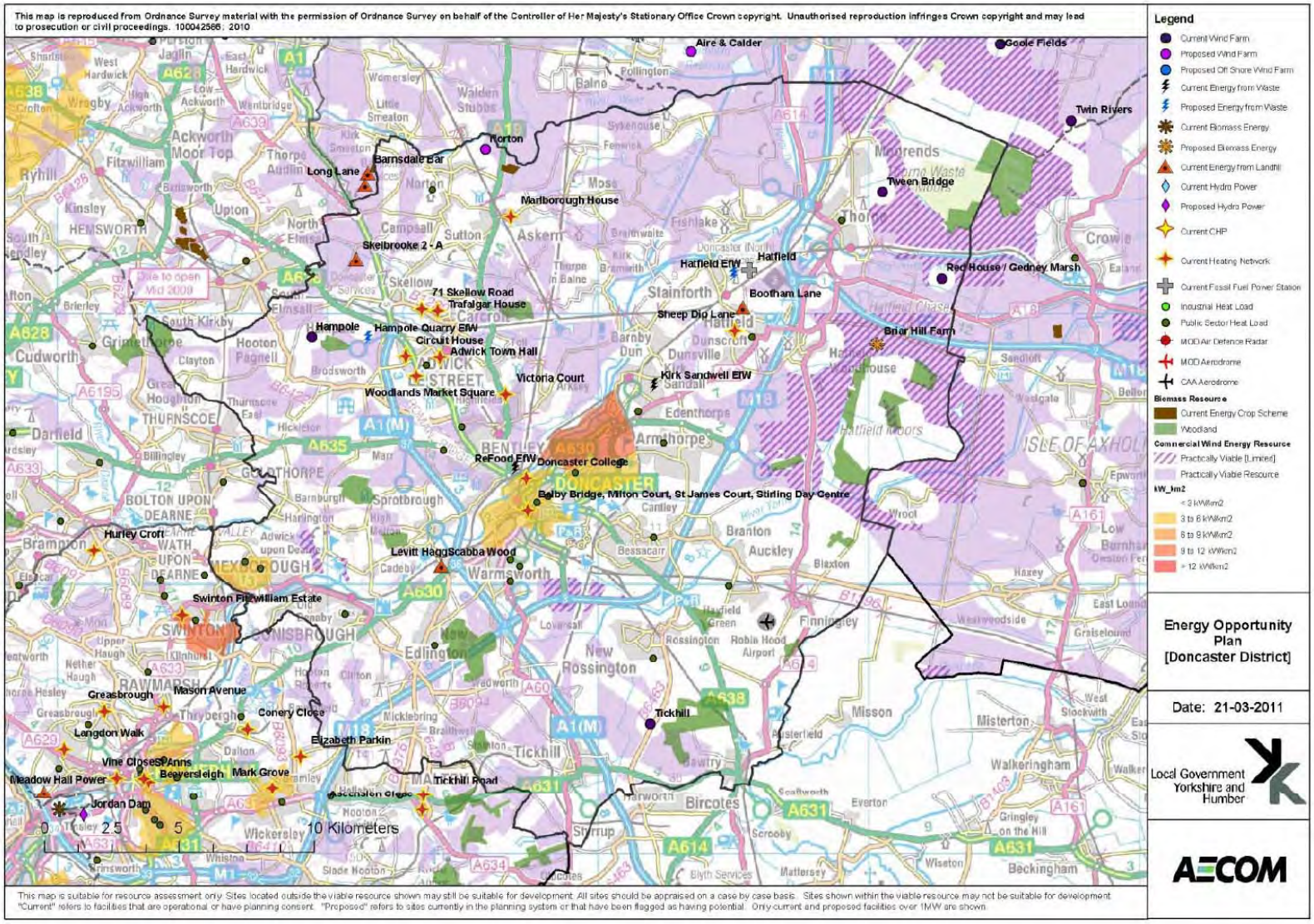
Key Outputs – Energy Opportunities Plans



Key Outputs – Energy Opportunities Plans

- LGYH hold the GIS datasets which are available on request

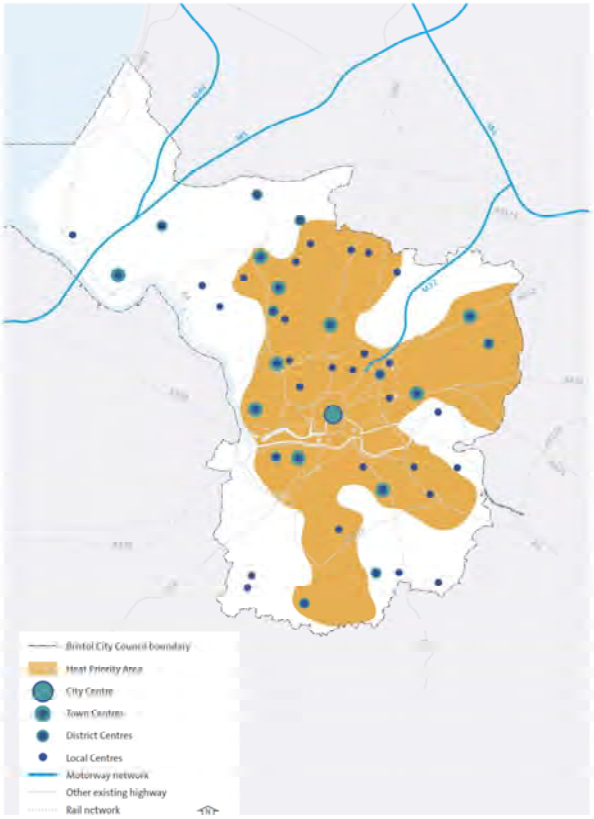
Applying and enhancing the regional study for local evidence bases

How Can LAs Use the Outputs?

Can support range of different policy options

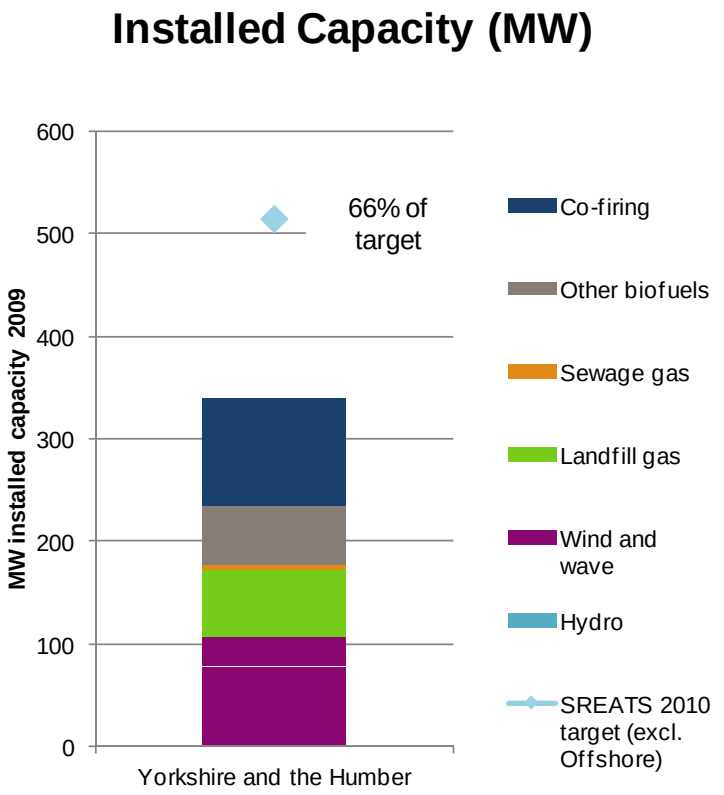
- Use as basis to develop RE targets
- Identify spatial opportunities/ constraints in GIS
    - Part of sieving of candidate sites
    - Sites or areas for RE development
    - Policies for strategic new development sites/ assessment of growth options
    - Identify strategic district heating areas?
    - Identify areas for more detailed viability assessment for strategic sites (new or existing)
    - Inform wider corporate action

Diagram 4.14.1: Heat Priority Areas



Area wide resource potential

- Update the resource potential
  - o New planning applications/ decisions
  - o Update microgen model?
  - o New microgen installations – DECC, EST. CO2Sense
  - o Any recent local resource studies
- Test with key local stakeholders
  - o Engage with waste officers
  - o Other key stakeholders - developers, NFU, etc
- Compare against future energy demand/ CO2 predictions/ for 2020 – e.g. Vantage Point



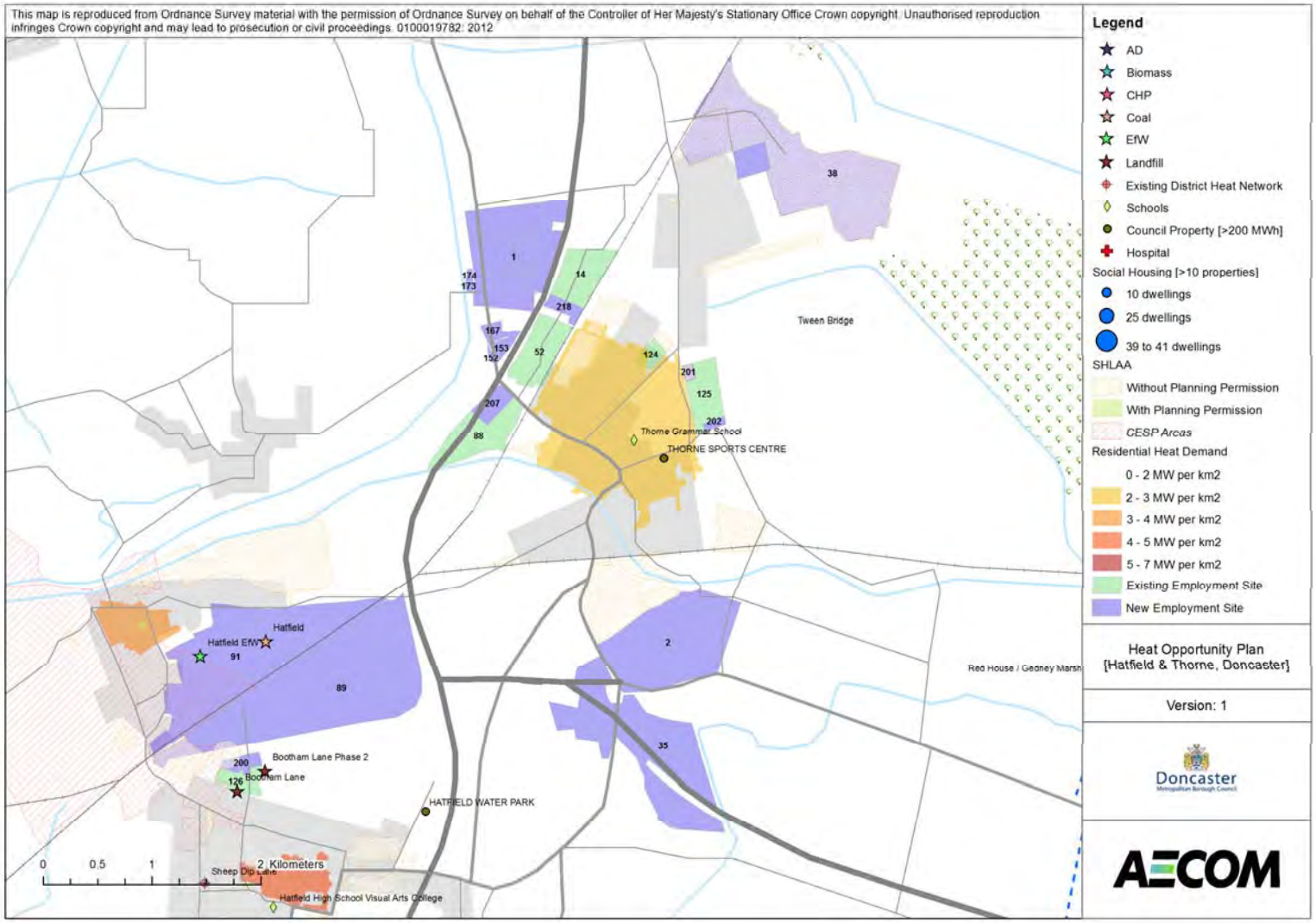
Spatial opportunities - heat

Overlay onto regional dataset

- More refined heat mapping data – using new National Heat Map
- Map candidate sites
- Map strategic new development sites
- Public sector buildings – potential anchor heat loads
- Land ownership
- Fuel poverty data/ CESP areas
- Social housing clusters
- Local knowledge of potential renewable heat customers
- Sources of waste heat/ existing

- Use to inform more detailed district heating viability studies for specific areas

Spatial opportunities - heat



Spatial opportunities – wind and hydro

Wind

- Regional study used OS strategi dataset – fairly coarse; can use address point dataset to give more accurate picture for brownfield sites
- LAs may wish to wish to add additional constraints in terms of areas of sensitivity
- May wish to commission their own capacity studies

Spatial opportunities – wind and hydro

Hydro

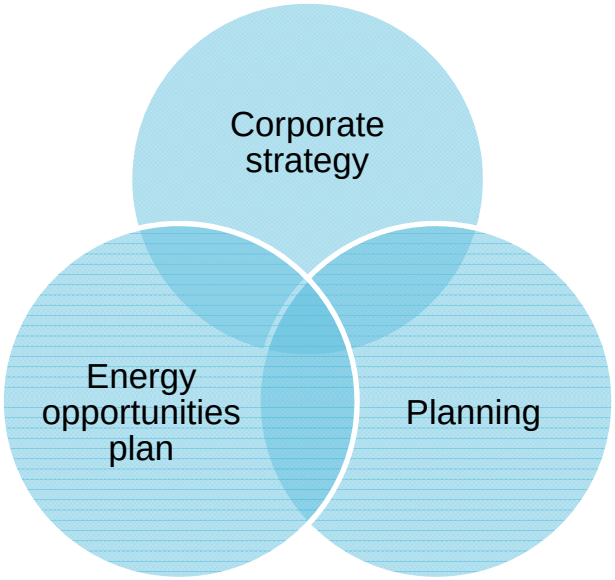
- Regional study based on EA data for low head hydro potential
- Based on existing weirs – but may warrant more local investigation of potential
- Didn't consider potential for higher head sites

Figure 24 Bonfield Ghyll hydro facility in the North York Moors National Park (Source: Case study, Mann Power Consulting Ltd)

Facilitating delivery

Wider corporate action

- Land owner
- Procurement of energy services
- Financing and delivery vehicles
- Property developer
- Transport infrastructure
- Waste management
- Leadership



Using stakeholder engagement to build delivery partnerships

Thank you!

stephen.ward@aecom.com
Tel: 0117 901 7128