

6 The Energy Opportunities Plan

6.1 The Energy Opportunities Plan

Planning Policy Statement Planning and Climate Change states: *“There will be situations where it could be appropriate for planning authorities to anticipate levels of building sustainability in advance of those set out nationally. When proposing any local requirements for sustainable buildings planning authorities must be able to demonstrate clearly the local circumstances that warrant and allow this. These could include, for example, where there are clear opportunities for significant use of decentralised and renewable or low carbon energy”*

The draft PPS on Planning for a Low Carbon Future in a Changing Climate places further emphasis on the mapping of opportunities for decentralised energy, as well as the role of local authorities. Proposed Policy LCF 1: ‘Evidence base for plan-making’ states: *“Local planning authorities should assess their area for opportunities for decentralised energy. The assessment should focus on opportunities at a scale which could supply more than an individual building and include up-to-date mapping of heat demand and possible sources of supply. Local planning authorities should in particular look for opportunities to secure:*

- i. decentralised energy to meet the needs of new development;*
- ii. greater integration of waste management with the provision of decentralised energy;*
- iii. co-location of potential heat suppliers and users; and,*
- iv. district heating networks based on renewable energy from waste, surplus heat and biomass, or which could be economically converted to such sources in the future.”*

This chapter presents the mapping work carried out as part of this study in order to support the development of RLC policies, in line with the above statements.

Using information supplied by the project group and our own research we have used GIS to map out the opportunities for generating energy from RLC sources on a County-wide basis, as well as scaled down to a local authority level (these maps have been supplied separately to each participating LA). We refer to this map as an ‘Energy Opportunities Plan’. The Plan has been prepared to demonstrate the local potential in terms of the resource availability and energy demand. The Plan identifies the opportunities that are currently available and those that will be available in the near future, i.e. potential for district heating networks.

Figure 6.2 and Figures 6.3 and 6.4 [which break the County map into two regional sections for further clarity] on the following pages, show the spatial distribution of the following opportunities:

- Existing and planned energy from waste plants (Landfill)
- Existing and planned wind turbines

- Rejected wind turbines
- Areas for potential large wind turbine locations (unconstrained)
- Location of planned biomass scheme
- Areas of parks and gardens, and areas of woodland
- Areas where energy crops could be grown as biomass for energy generation (Grade 3 and 4 agricultural land)
- Location of Rye House Power Station
- Areas of Potential District Heating

6.1.1 Opportunities for renewable energy

According to the Energy Opportunities Plan, Grade 3 and Grade 4 land areas are suitable for energy crops (although we are not assuming that all Grade 3 land be planted). The map shows an opportunity for biomass fuel production throughout Hertfordshire. In addition, presence of woodlands and parks provide an additional resource for biomass fuel from woody residue, i.e. cuttings and trimmings. This would mean that a constant and sufficient resource is available within the County, without the need for considerable transportation, if biomass plants were to be installed.

Wind energy as a resource shows a reasonable level of opportunity for large scale wind in the northern and eastern part of the County considering Hertfordshire’s performance against other counties in the East of England region. However land availability after engineering and physical constraints have been considered may limit resource potential to small wind farms or one-off turbines.

Although not mapped, smaller scale wind development, such as community scale, offers a good opportunity for reducing CO₂ emissions from small sites and from buildings since these sites tend to be less constrained than those suitable for large scale wind.

6.1.2 Opportunities for district heating

The Plan presents clearly the opportunities for exploiting district heating potential at locations showing existing high heat demand, i.e. from existing buildings. It therefore encourages the linking of new development with existing development, shared energy centres and making use of anchor loads to maximise opportunities for DH as new development comes forward. The proximity to neighbouring LAs is important in that it provides opportunities for cooperative working, but it should also be noted that this can present risks. However it would certainly be appropriate to use the Energy Opportunities Plan to identify where these opportunities may lie (particularly where a planned new development in one district is in close proximity to an existing building, such as a large hospital, in a neighbouring district which could provide a potential anchor load) and work with neighbouring LAs, developers and other stakeholders on cross-County strategies for district heating.

By identifying now the investment opportunities for DH infrastructure that would be utilised by development coming forward in the future, the Plan can go some

way to supporting the ramp-up to zero carbon homes in 2016 and the drive towards decentralised energy.

6.1.3 Opportunities for policy-making and joint strategies

The Plan provides an invaluable tool when developing planning policies, targets and delivery mechanisms within the LDF process, and can bring added benefit and support to the Core Strategy and other Development Plan Documents. The Energy Opportunities Plan should be used to support and add weight to policies that stipulate requirements for decentralised energy; whether these are through the setting of targets that exceed Building Regulations, the requirement for Code for Sustainable Homes, or a requirement for connecting to, or investing in, infrastructure to facilitate district heating.

It should be noted that although the Energy Opportunities Plan provides an overview of potential, applicable RLC technologies and systems within an area, it doesn’t replace the need for a site specific RLC feasibility study for proposed development sites, and this should be requested by the LPA. However the Plan can be used alongside RLC policies to identify those RLC technologies that are potentially viable and warrant detailed investigation through a feasibility study.

The Plan should also be regarded as a corporate as well as planning resource and used to support other council and LSP strategies, as well as cross-district or cross-County strategies for maximising the potential for decentralised energy. Indeed, the draft PPS urges joint local authority strategies: *“In preparing the evidence base for plan-making consideration should be given to joint working across local planning authority boundaries to develop assessments for sub-regions, including city-regions.”*

6.2 Character Areas

As demonstrated by the Energy Opportunities Plan, developments in some parts of the County will have access to options for RLC energy supply which are not afforded to developments elsewhere in the County. To reflect this County variation when testing the policy options, three character areas have been defined (refer to Figure 6.1) with the following assumptions:

- **Energy Constrained:** This assumes that no community or large scale renewable or low carbon energy resources are available in the vicinity of the development site. Options for complying with the policy options are limited to what can be achieved in individual buildings, namely microgeneration technologies such as solar thermal and solar PV, or gas CHP systems providing individual buildings, or payment to a Carbon Buyout or Allowable Solutions Fund (if implemented by Hertfordshire LPAs). This option assumes that biomass is not feasible due to delivery and/or air quality constraints.
- **District Heating:** This assumes that the site is in an area where district heating beyond the site boundary may be a viable option. This could be because there is sufficient local heat demand from existing buildings to justify establishing a district heating network, or there is a local source of available heat, such as the proposed power station such as biomass proposal in Potter’s Crouch in St Albans or energy from waste site in Westmill.

- **Wind:** This assumes that the site is in a location where wind speeds and constraints mapping indicates that on or near-site wind turbines could be an option.

6.3 Key Considerations Emerging from this Section

The key issues and considerations identified by the EOP in this Section have been summarised below:

- The potential for biomass production from energy crops and existing woodland residue is significant in Hertfordshire
- Community-scale wind offers opportunities across the County for reducing CO₂ emissions; however local buy-in would be required and could potentially provide a barrier to wind development.
- There is also an opportunity for dual RLC energy generation by siting community-scale wind turbines on agricultural land growing energy crops.
- Each district/borough provides some potential for district heating from existing buildings, and this potential could be optimised and expanded as new development comes forward.
- Cross-district strategies for district heating offers further CO₂ savings and should be explored where possible; however with regard to the potential risks of management.
- Access to RLC options will vary from site to site, with some sites experiencing particular constraints. This has been considered when testing policy options as part of Section 9 through the use of 'character areas'.

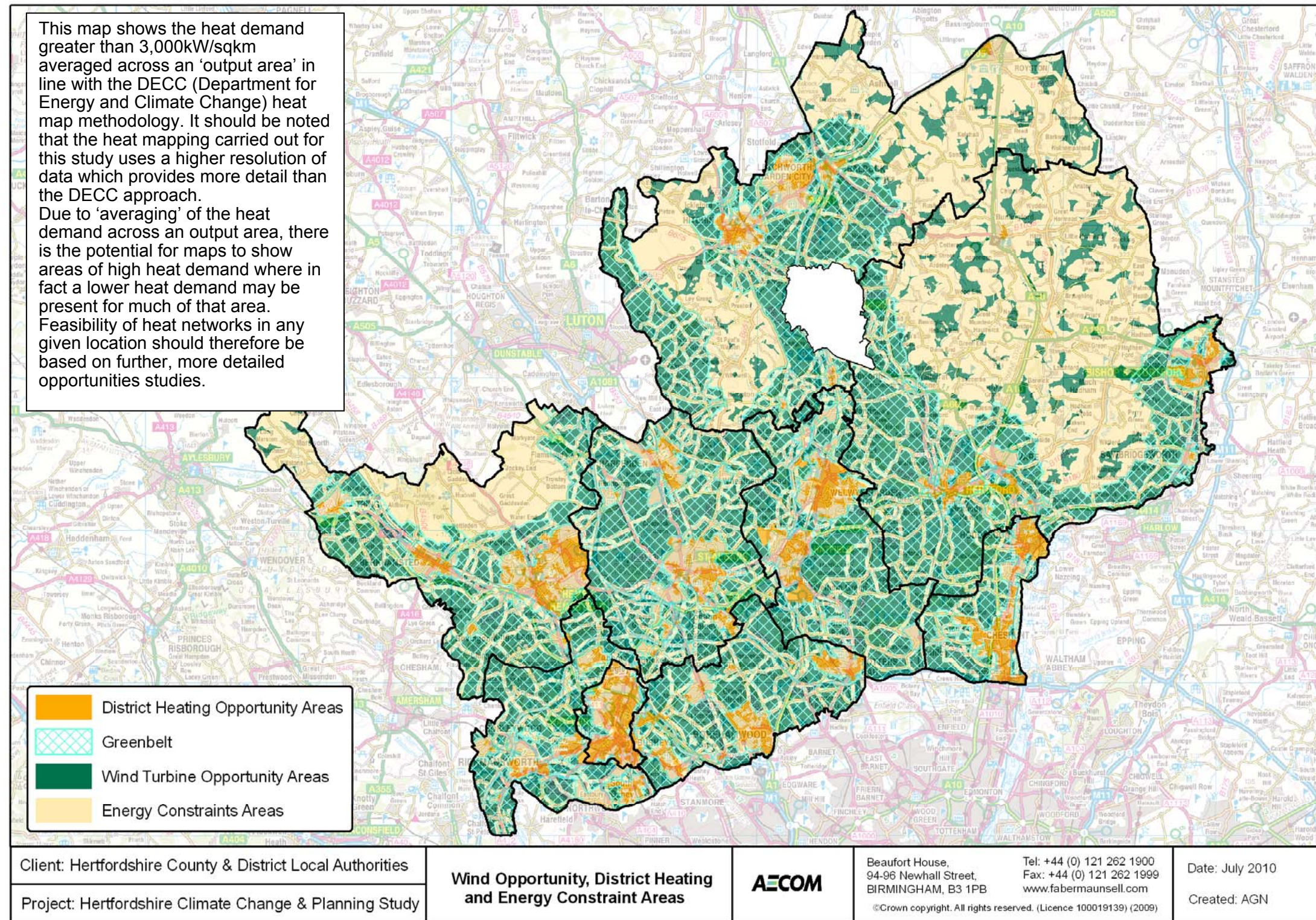


Figure 6.1 – Map showing large scale wind opportunity, district heating opportunity and “energy constrained” areas

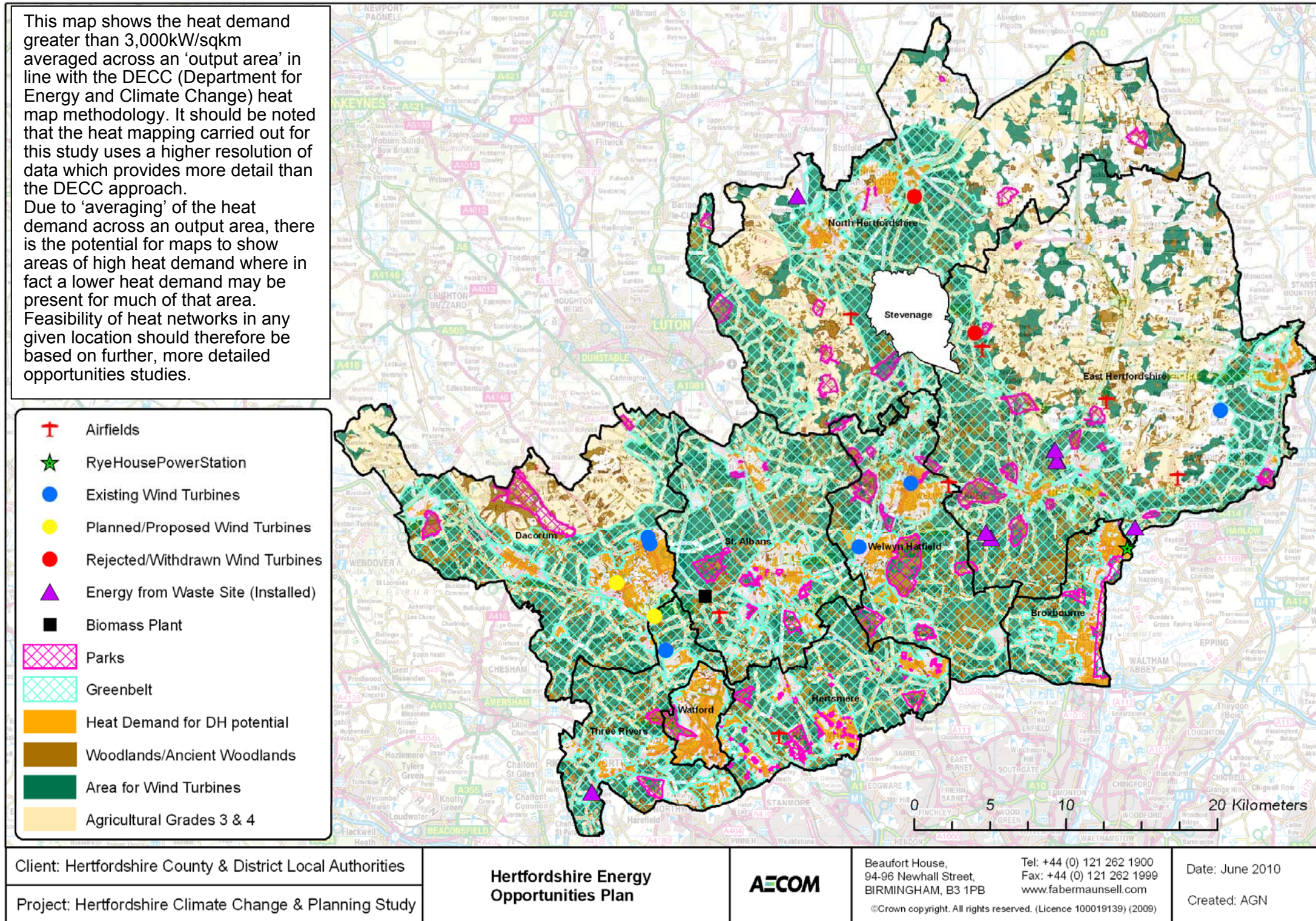


Figure 6.2: Hertfordshire Energy Opportunities Plan (Plans have also been produced at a local authority level to enable more clarity of the opportunities identified. These have been supplied to each of the project group partners separately to this report).

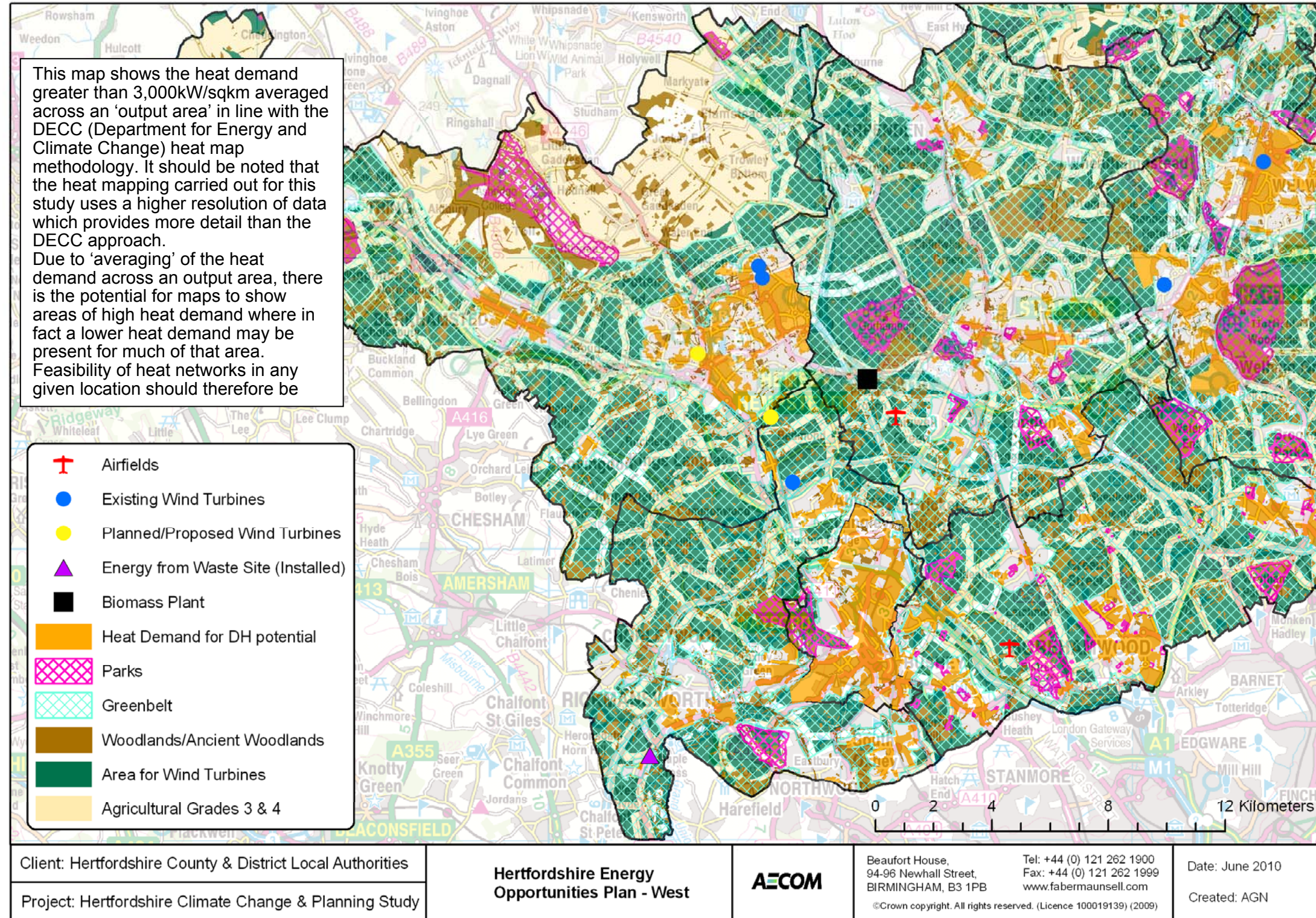


Figure 6.3: Hertfordshire Energy Opportunities Plan: West section

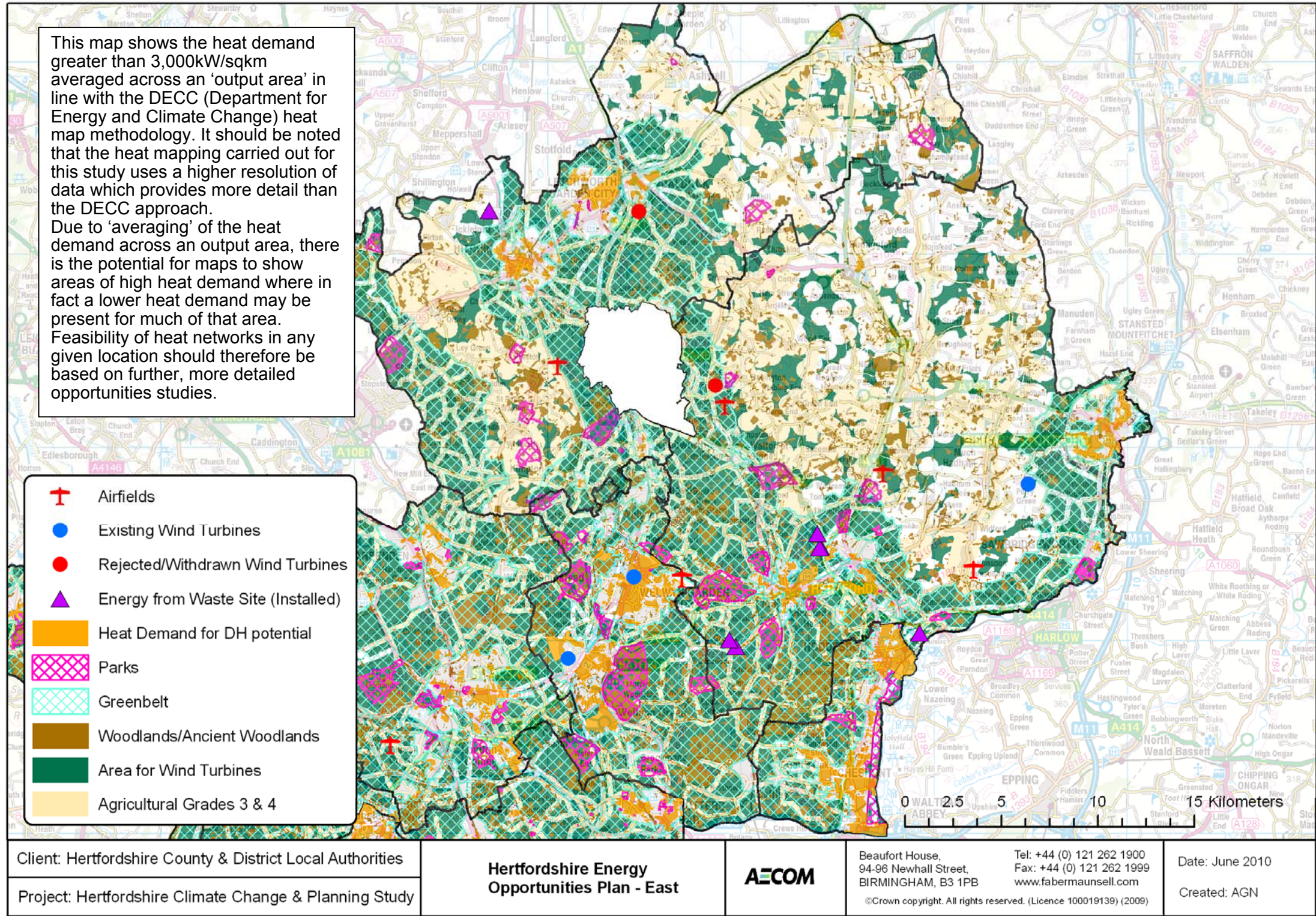


Figure 6.4 Hertfordshire Energy Opportunities Plan: Eastern section