Best Practice Approaches to Planning for Sustainability

APSE Scotland Renewables and Energy Efficiency Advisory Group

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ONE CLIMATE.
OUR FUTURE.
GetUp


HEAT OUR HOMES,
NOT THE PLANET
Friends of the Earth

Updates after time of writing…

Fourth National Planning Framework: position statement

A Plan for Net-Zero Emissions

- We will prioritise the types and locations of development that will help meet our emission reduction targets.
- We will build on the Climate Change Plan and take forward advice provided by the UK Climate Change Committee. The recommendations of the Just Transition Commission will also inform our actions.
- Our future places will be planned in a way that reduces the need to travel and builds in natural solutions.
- Our buildings will be more energy efficient and will be designed to be sustainable.
- We will actively facilitate decarbonised heating and electricity generation and distribution.

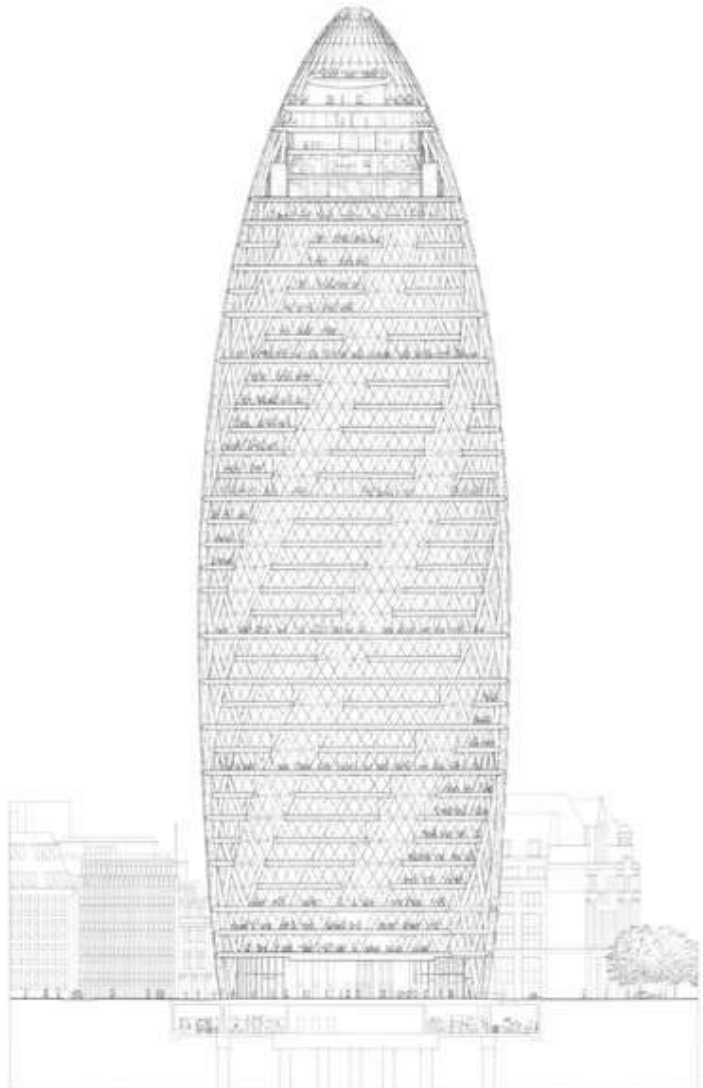
Spatial Strategy

- Delivered through *regional* spatial strategies
- Integration of land use and transport
- Facilitate design solutions and innovation (more of this later)
- Promote nature-based solutions
- Deliver infrastructure to reduce emissions

- Integrated strategic planning (lucky you)

Facilitate design solutions and innovation

We will ensure planning policies support the very significant reductions in emissions from buildings that we need to see. This is not just about new development – our existing buildings and places will need retro-fit solutions and we will make use of the embedded carbon across the built environment. Planning can facilitate low carbon methods of construction, which create a whole building approach to emissions including construction and decommissioning. We will support developments that make use of low energy and emission materials as well as natural and micro-climate features which reduce the resource demand of the development. We will align our strategy with Building Standards to create a consistent approach, and actively encourage buildings that go beyond current standards where there is appetite to do so. We will also enable and encourage deployment of renewable and zero emissions heating, including by facilitating development of the networks they require.

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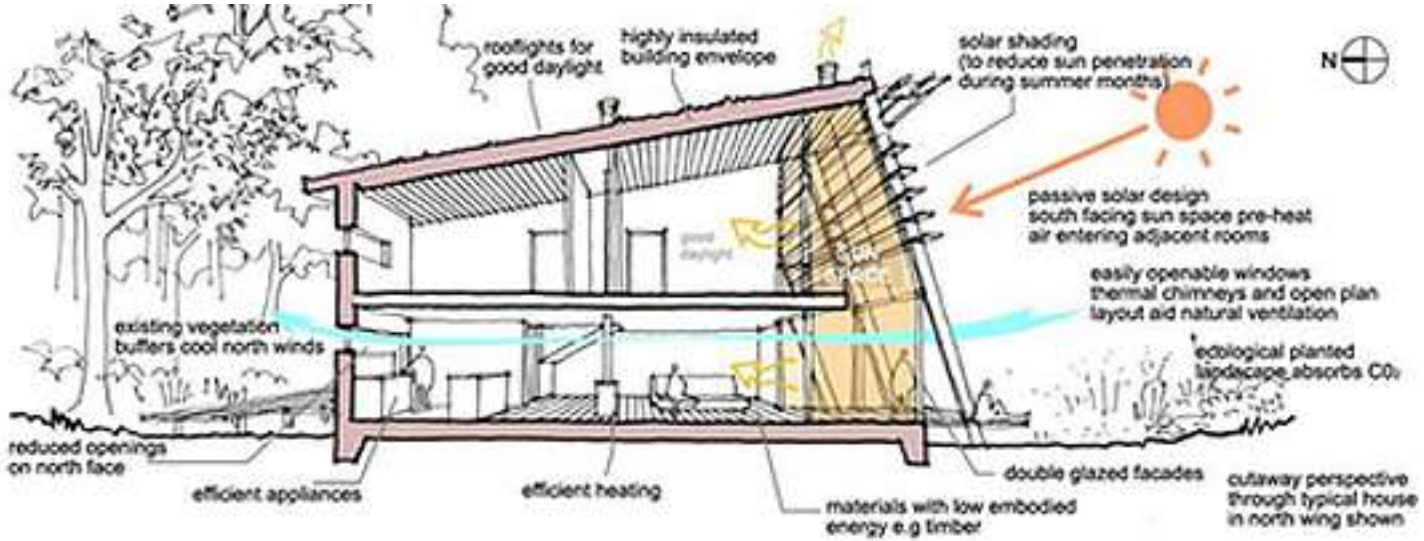
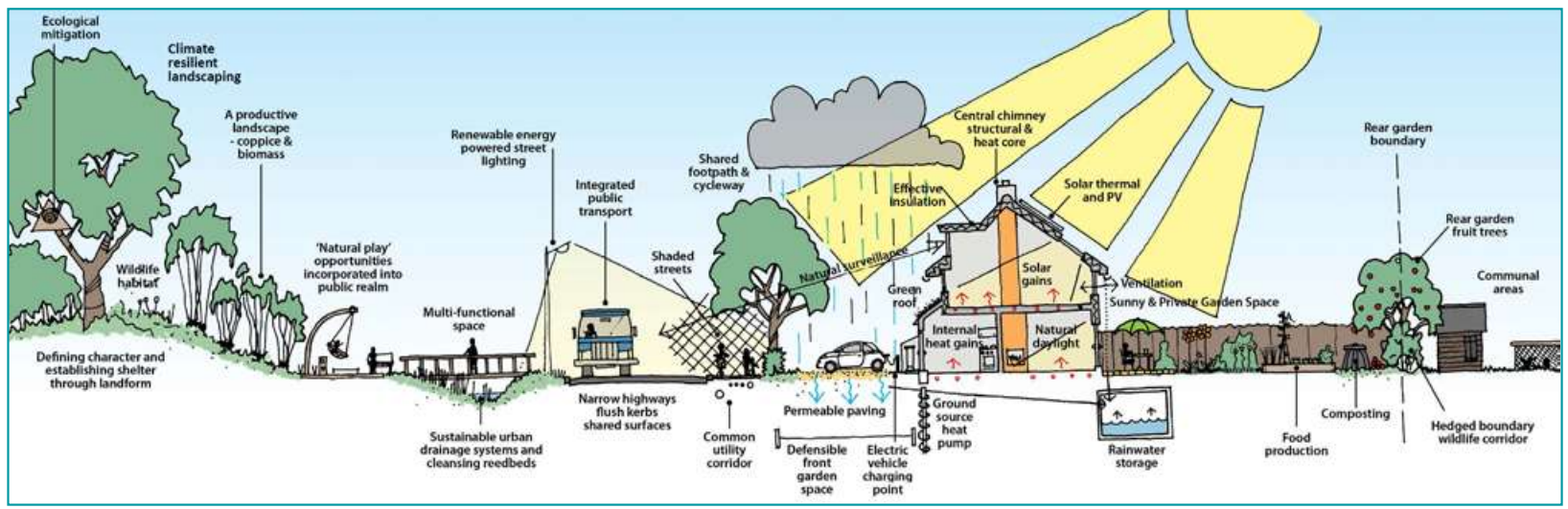
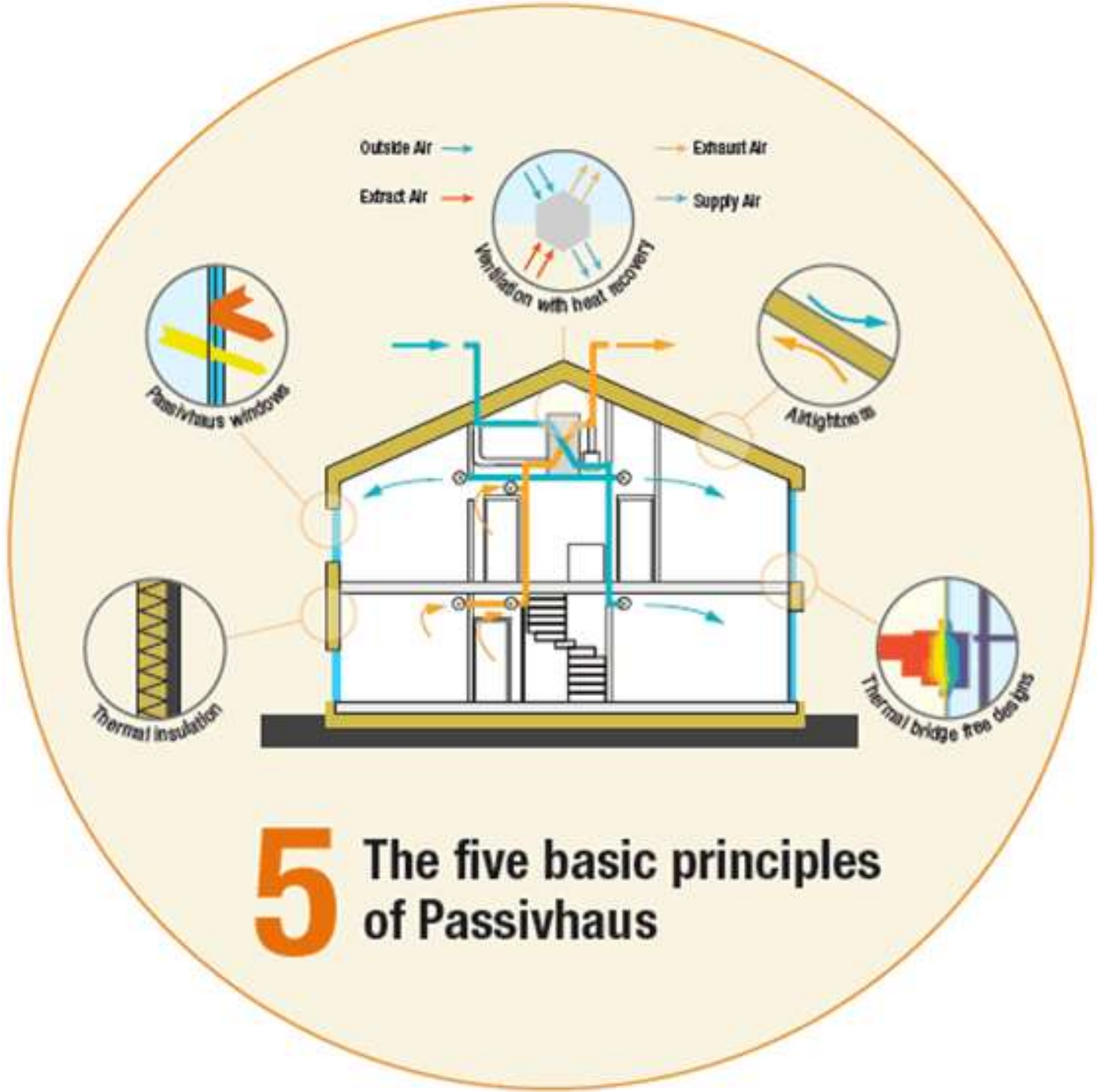
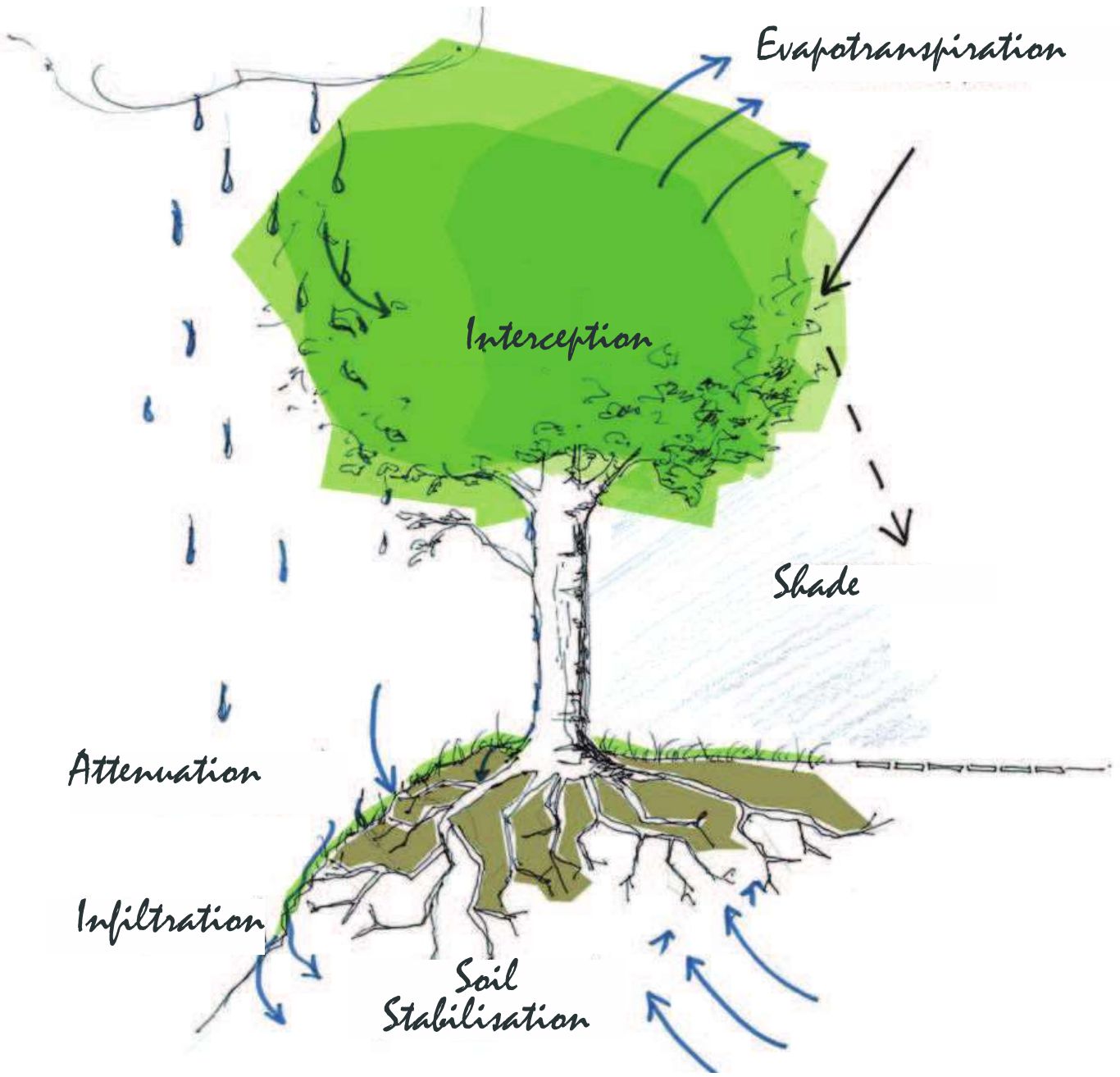

rooflights for good daylight
highly insulated building envelope
solar shading (to reduce sun penetration during summer months)
N
passive solar design south facing sun space pre-heat air entering adjacent rooms
easily openable windows thermal chimneys and open plan layout aid natural ventilation
existing vegetation buffers cool north winds
ecological planted landscape absorbs CO2
reduced openings on north face
efficient appliances
efficient heating
materials with low embodied energy e.g timber
double glazed facades
cutaway perspective through typical house in north wing shown


Ecological mitigation
Climate resilient landscaping
A productive landscape - coppice & biomass
Renewable energy powered street lighting
Integrated public transport
Shared footpath & cycleway
Central chimney structural & heat core
Effective insulation
Solar thermal and PV
Rear garden boundary
Rear garden fruit trees
Communal areas
Wildlife habitat
'Natural play' opportunities incorporated into public realm
Shaded streets
Natural surveillance
Green roof
Solar gains
Ventilation
Sunny & Private Garden Space
Multi-functional space
Internal heat gains
Natural daylight
Defining character and establishing shelter through landform
Narrow highways flush kerbs shared surfaces
Permeable paving
Ground source heat pump
Composting
Hedged boundary wildlife corridor
Sustainable urban drainage systems and cleansing reedbeds
Common utility corridor
Defensible front garden space
Electric vehicle charging point
Rainwater storage
Food production



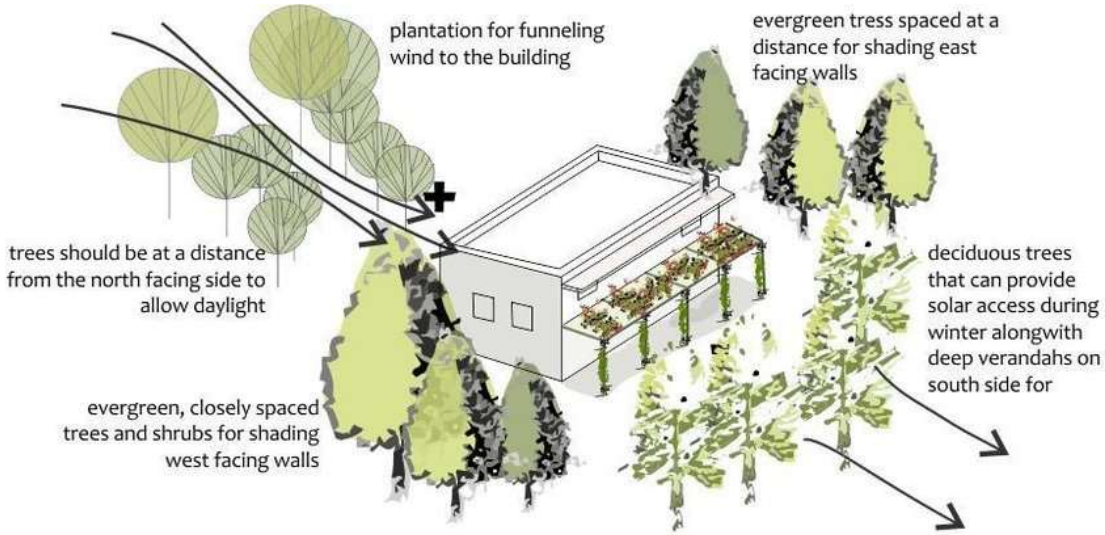
5 The five basic principles of Passivhaus



One adult tree = five air conditioning units working 20 hours/day = 11.4kWh of energy saved per day, amounting to 500 euros of energy cost saving per year (assuming a yearly energy consumption of 1000 kWh/yr)

Key Considerations

- Orientation
- Sun path
- Landscaping (existing and proposed)
- Prevailing wind
- Site layout
- SuDS
- Water bodies
- Summer cooling



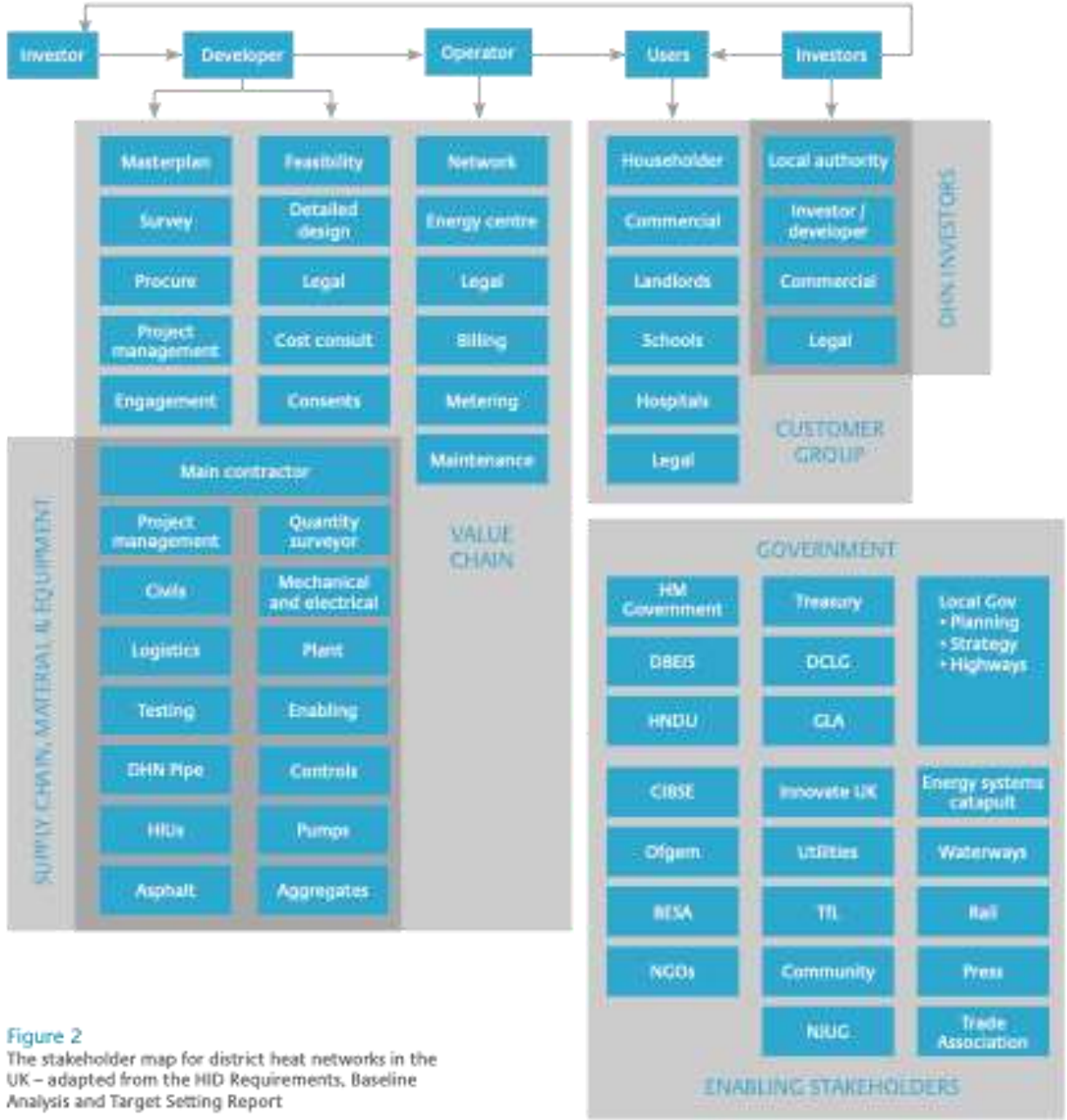


Figure 2
The stakeholder map for district heat networks in the UK – adapted from the HID Requirements, Baseline Analysis and Target Setting Report

Last Thoughts

- Energy is not separate from wider planning objectives
- Don’t forget wider strategic priorities such as location, density and clustered services
- Gather as much data as possible about your local area – local character is important
- Link energy to other priorities such as design quality

- Get help from APSE Energy