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Sustainable Energy: Options for the Isle of Wight

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IoW Characteristics

Baseline statistics

Lower Super Output Area (n = 89) Output Areas (n = 466)

Electricity and Gas Consumption

Sales (GWh/annum)

Year

kWh/km²/annum

Electricity consumption is concentrated within the key urban areas

Gradual reduction in the consumption of electricity and caused by a combination of improved efficiency, reduced industrial consumption.

Data calculated from Sub-national electricity sales and numbers of customers (GBES2016)

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Access to Gas Network
Households lacking a gas connection to their premises

Households

There are 12% of domestic gas customers, of whom 12% are estimated to lack access to gas network. Electricity-based heating systems including ASHP and GSHP are more cost-competitive than Oil and LNG.

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Low carbon opportunities for IoW UNIVERSITY OF Southampton

Renewable Energy Options – Solar Photovoltaics

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18 794
Total number of buildings around Cowes

2917
Suitable for rooftop PV

48 MWp
Total estimated installed capacity for rooftop PV

41 GWh/year
Estimated electricity generation

**IWO consumption 2015 ~ 273 GWh/year, 41GWh
15% of total domestic consumption in of IoW**

Opportunity for local loads and storage

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Constraints on local electricity UNIVERSITY OF Southampton

Generation capacities

- 140 MW Open Cycle Gas Turbine at Cowes
- 10 MW of Domestic PV?
- 40MW Solar farms?
10MW Solar farms approved?
- 30 – 100MW???
Tidal stream array?

3 x 99MW lines to maintain, assume 2 in service

IoW electrical demand

- Winter peak 133MW
- Summer min 33MW

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