

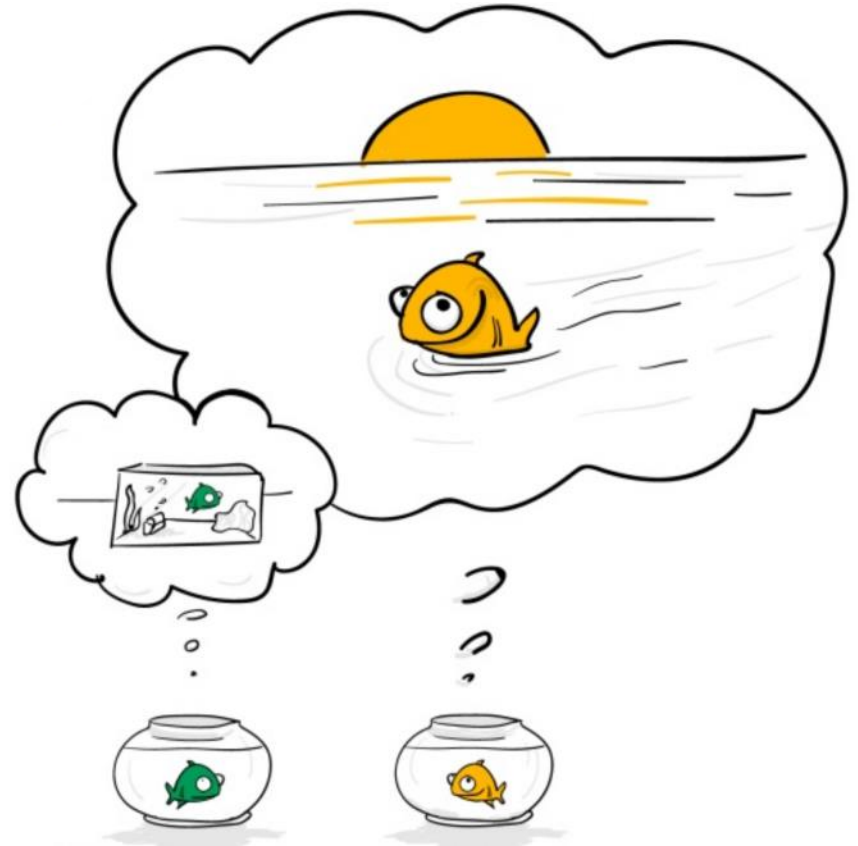


EXETER
CityFutures

A path to energy independence for Greater Exeter

Ask yourself, what ~~will~~ ^{could} Greater Exeter
look like by 2025?

thir
big!

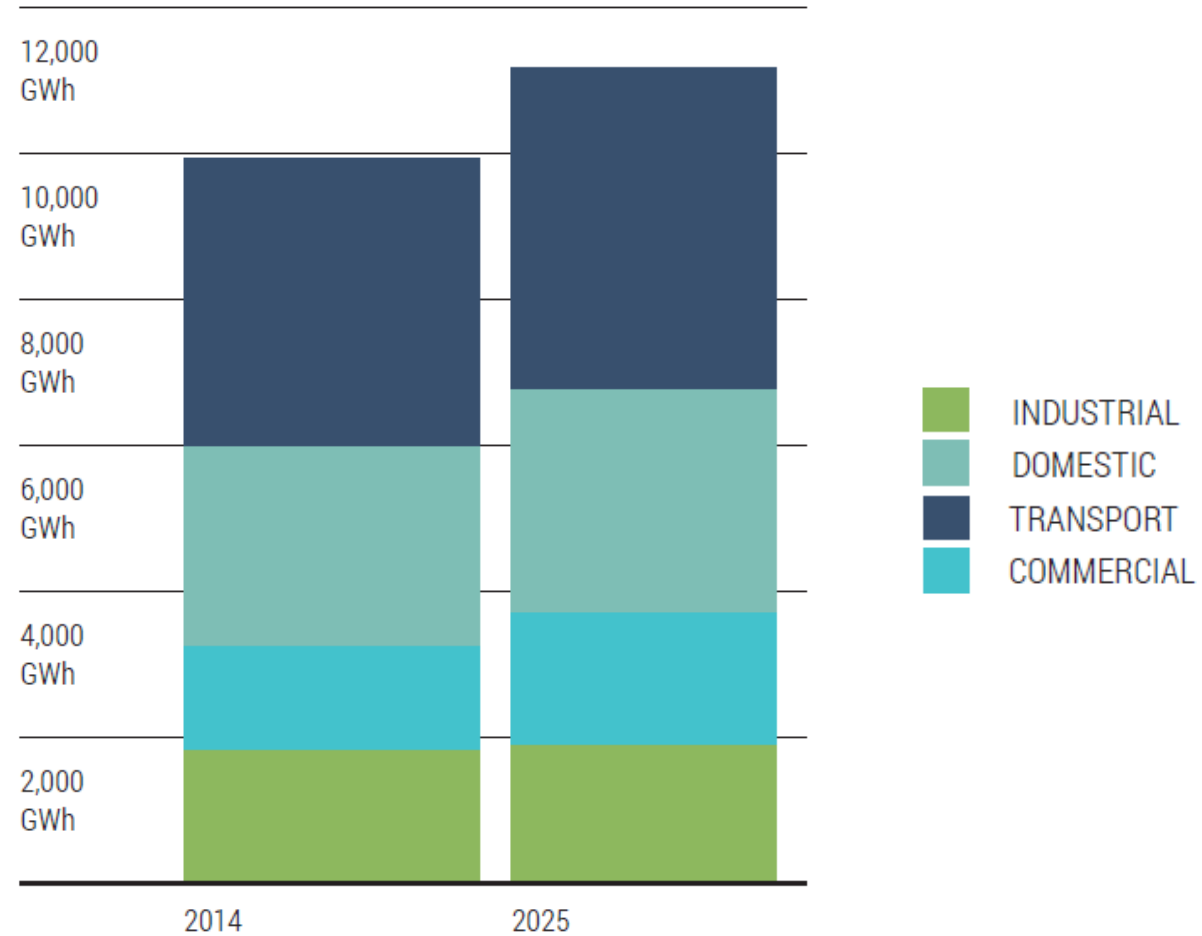




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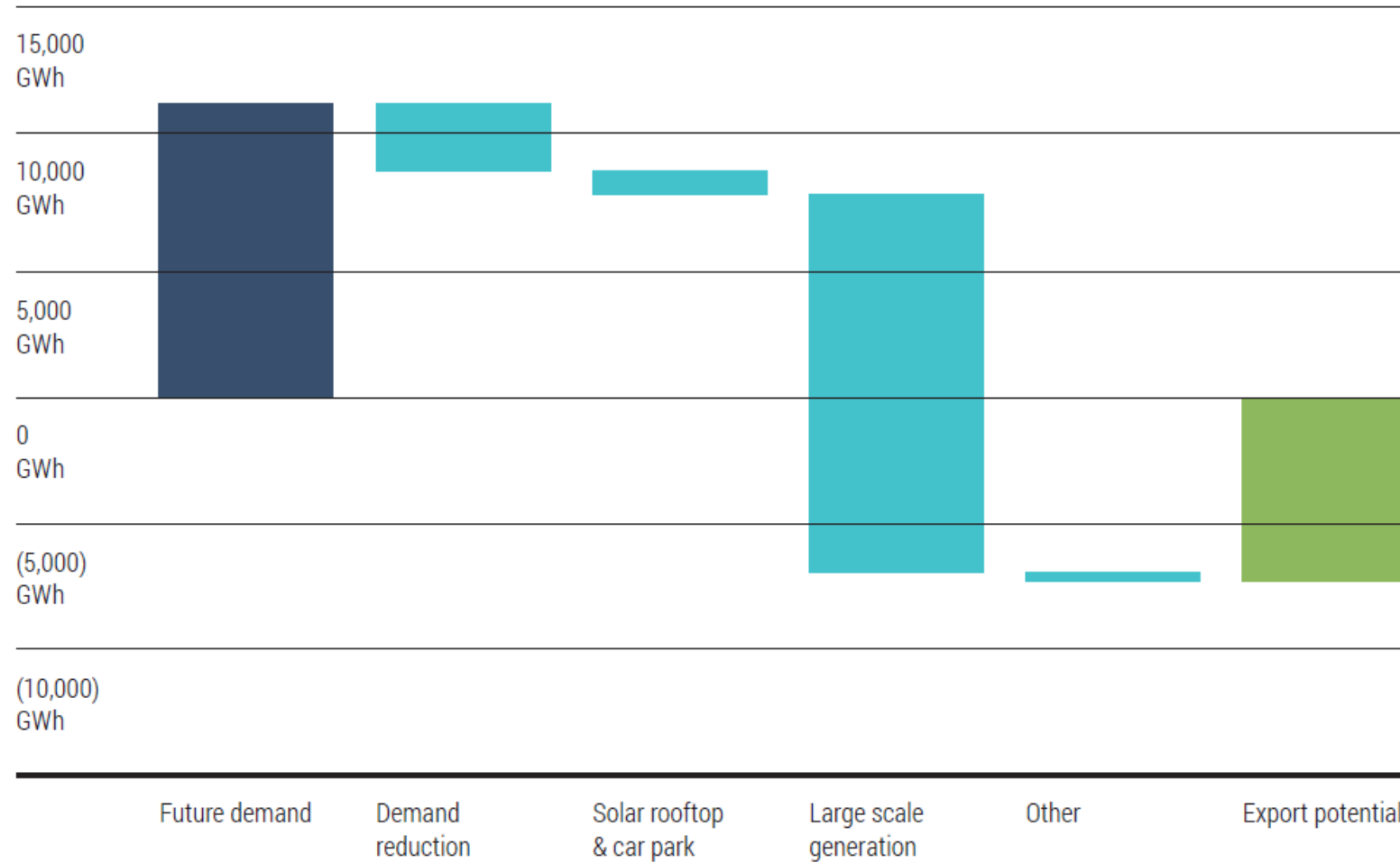
**Energy independent and congestion
free by 2025**

Energy Consumption in 2014 and Projections for 2025

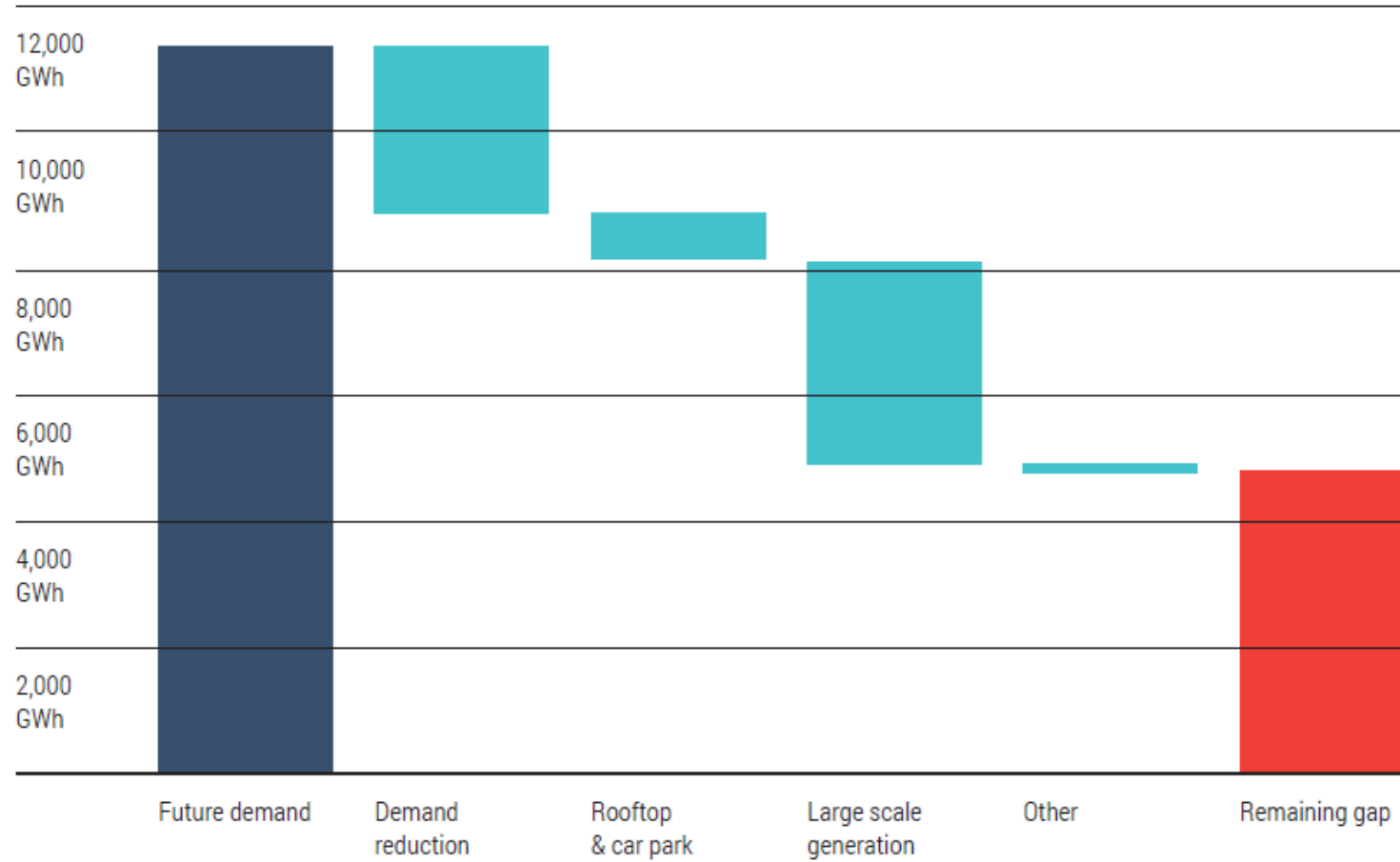




Maximum Technology Scenario



Addressing the gap





We have **10** specific recommendations about how to move forward

- Technically it is possible
- There is huge resource in the region
- Significant barriers stand in the way.



1. Net Energy Positive Buildings

- Supply chain and policy that ensures net positive buildings
- Local Authorities already involved in building energy efficiency projects

Possible transactions

1. Establish a net positive energy zone
2. Privately financed net positive energy development
3. Creation of new positive energy developer and architectural practices

110 GWh

2. Develop credible roadmaps to large-scale domestic retrofit

- Need viable business models
- Significant investment in skills required

“UK would need to start retrofitting current housing stock at rate of more than one per minute over next 30 years in order to hit 2050 energy targets.” – Radio 4 News on UK Green Building Council.

Possible transactions

1. Accelerate a series of technology trials on council properties to progress and monitor technologies
2. Establish a retrofit company
3. A training centre - 2,500 skilled people required

1.78 TWh

meh . .



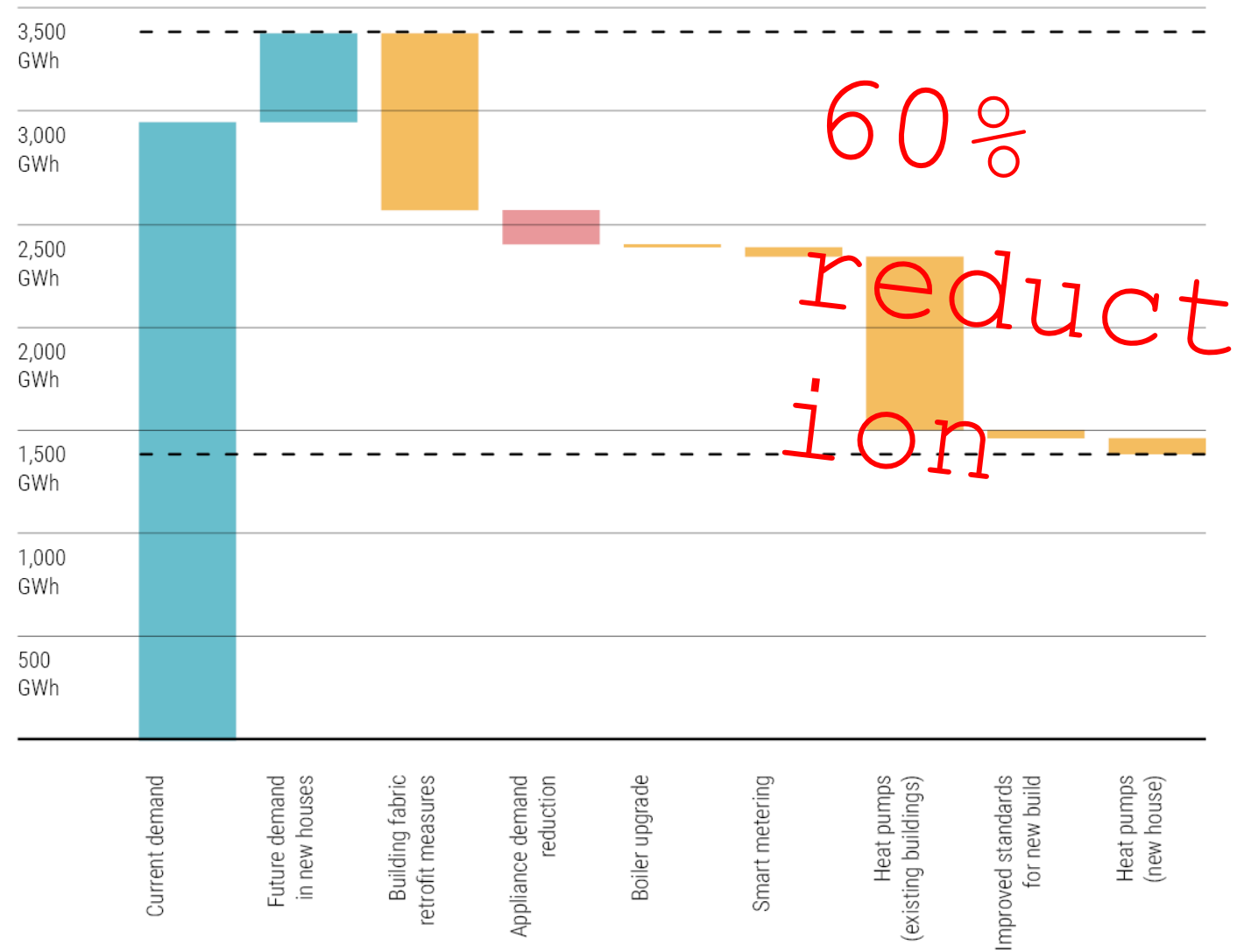
Old 2025



Woah .



New 2025



3. Reduce domestic appliance energy usage

- Appliances use 0.5 TWh of Greater Exeter demand
- Promote benefits of energy efficient appliances.

105 GWh

Possible transactions

1. A smart home monitoring company
2. An appliance scrappage scheme



4. Commercial and industrial case studies

- Exeter needs zero-carbon demonstrator projects
- Need local partnerships to develop strategies

Possible transactions

1. Holistic Industrial Redesign
2. Zero-carbon projects:
 - a) Restaurant
 - b) Hotel
 - c) Supermarket.



618 GWh

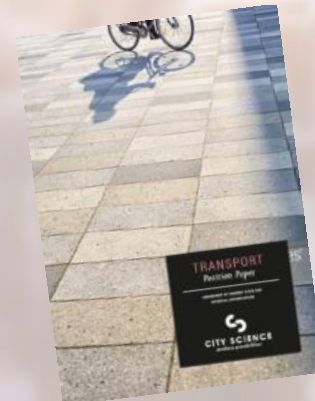
5. Cut transportation consumption

- Largest energy consumer
- Development and encouragement of alternative modes of transport

Possible transactions



1. Full report from **CITY SCIENCE**
endless possibilities
coming shortly
2. Potential solutions: MaaS operator, last-mile solutions operator, car/bike-sharing club and analytics.



4.4 TWh

6. Co-ordinate solutions to address grid constraints

- Critical technical constraint
- Essential if regional energy is to thrive



Key enabling
technology

Possible transactions

1. Demonstration of private wire projects – current projects being explored include DCC Great Moor House and Oxygen House.
2. Applications of smart grids
3. Hydrogen gas network



7. Stimulate onshore generation

- Improve understanding of the impact of onshore generation options.
- Exploration of aesthetically acceptable options e.g. integrating solar into rooftops

Possible transactions

1. Local pensions for local generation

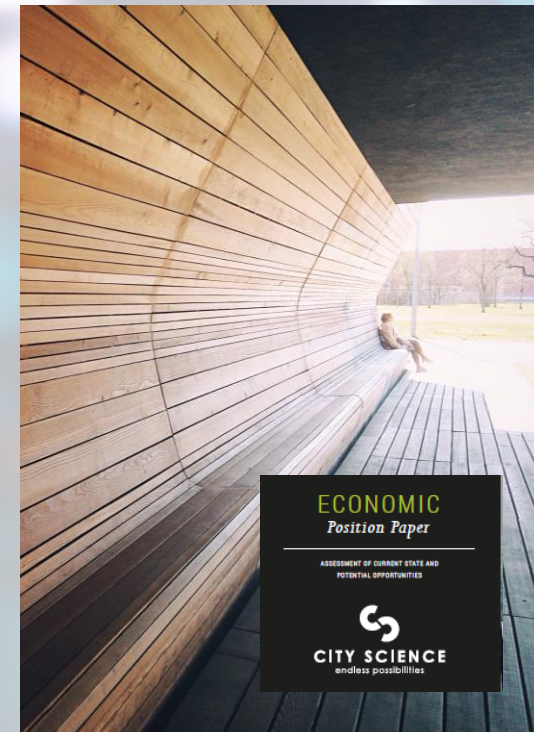
3.9 TWh

8. Provide an economic evidence base

- Need evidence of the economic benefits of the proposed approach

Possible transactions

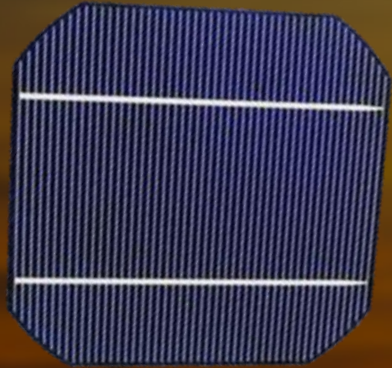
1. Economic report will propose a series of actions



Support
Development

9. Encourage and support research into enhanced generation efficiency

- Research into conversion efficiency
- Solar cell research



0.5 TWh+

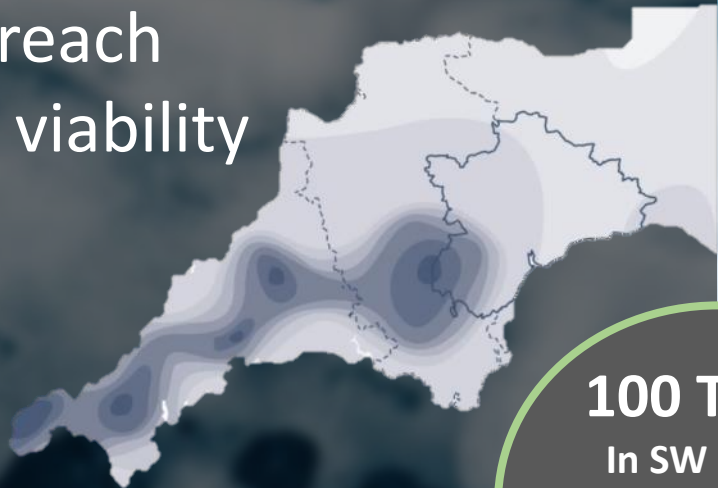
Possible transactions



1. Cornwall campus has renewables expertise
2. Focused technology innovation fund

10. Encourage investment in marine and geothermal technologies

- Sizeable unconstrained potential in the South West
- Capital intensive
- High levels of investment required to reach commercial viability



100 TWh+
In SW region

Possible transactions

1. New Low Carbon Technology Fund
2. Encouraging financial support
3. Tax breaks or contributions from national government



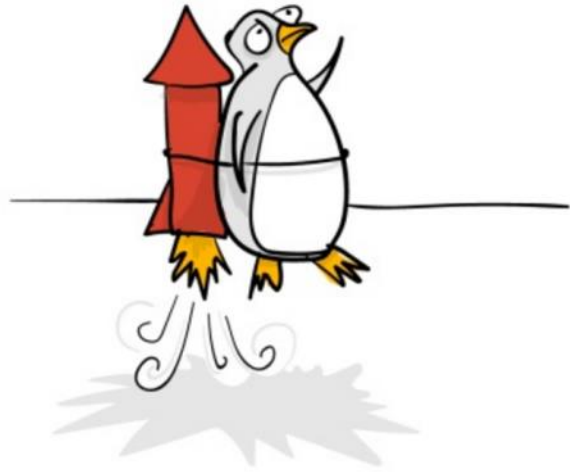
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ENERGY INDEPENDENCE 2025

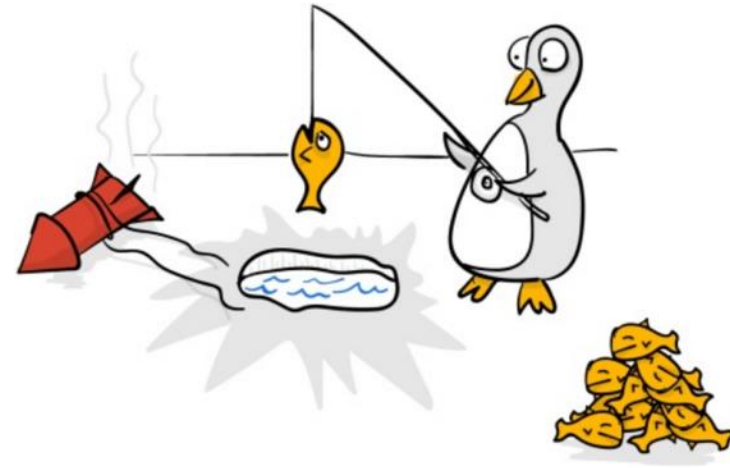
Roadmap to city-scale Energy Independence

A REPORT FOR EXETER CITY FUTURES

#ExeterEnergy



Set
ambitious



Reap the
rewards



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