



Llywodraeth Cymru
Welsh Government

Jennifer Pride

Decarbonisation and Energy Division
Welsh Government

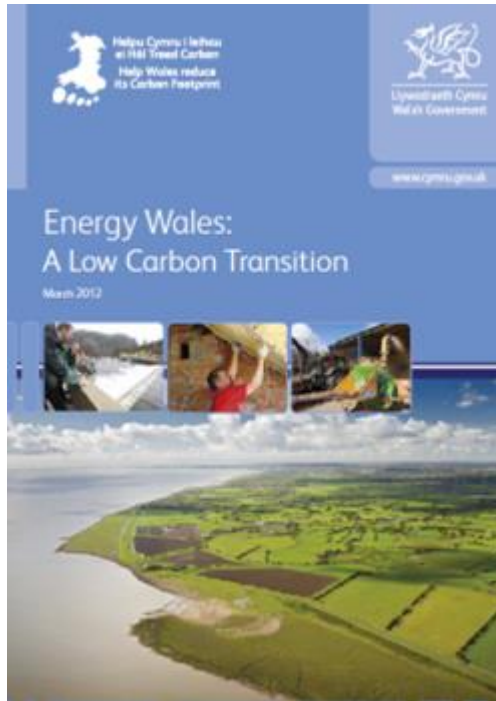
Welsh Government Priorities

Lesley Griffiths AM

- To use energy more efficiently
- To reduce our reliance on energy generated from fossil fuels
- To actively manage the transition to a low carbon economy



Welsh Government Energy Drivers



Environment (Wales) Act 2016

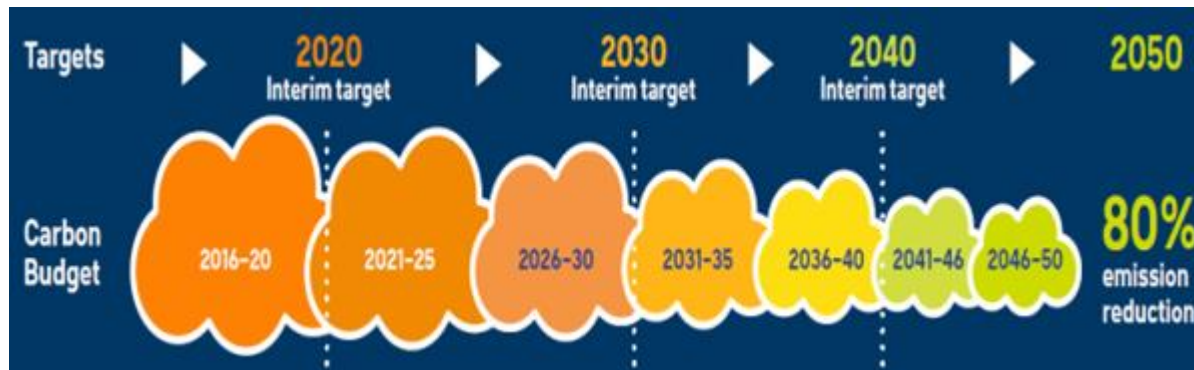
Environment (Wales) Act 2016

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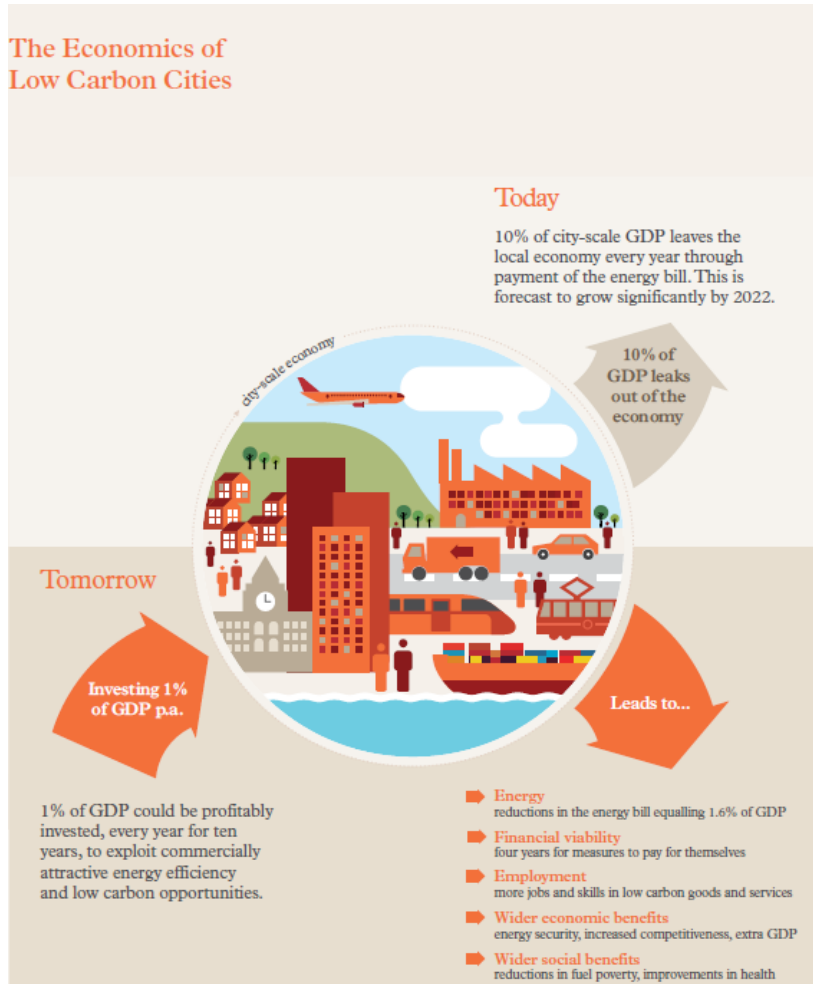
PART 2
SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES

Introduction

- 1 Purpose of this Part
- 2 Natural resources
- 3 Sustainable management of natural resources
- 4 Principles of sustainable management of natural resources
- 5 General duties of public authorities
- 6 General purpose of Natural Resources Body for Wales
- 7 Resilience and avoidance of ecosystem duty
- 8 Resilience duty and duty to take steps to maintain and enhance biodiversity
- 9 Duty to prepare and publish state of natural resources report
- 10 National natural resources policy
- 11 Duty to prepare, publish and implement national natural resources policy
- 12 Area-based implementation of the national policy
- 13 Showing of public bodies as sections 11 to 13
- 14 Area statements
- 15 WGAU Ministers' directions to implement area statements
- 16 Clearance ahead implementing area statements
- 17 Duty of public bodies to provide information as often as possible to NRW
- 18 Duty of NRW to provide information as often as possible to public bodies



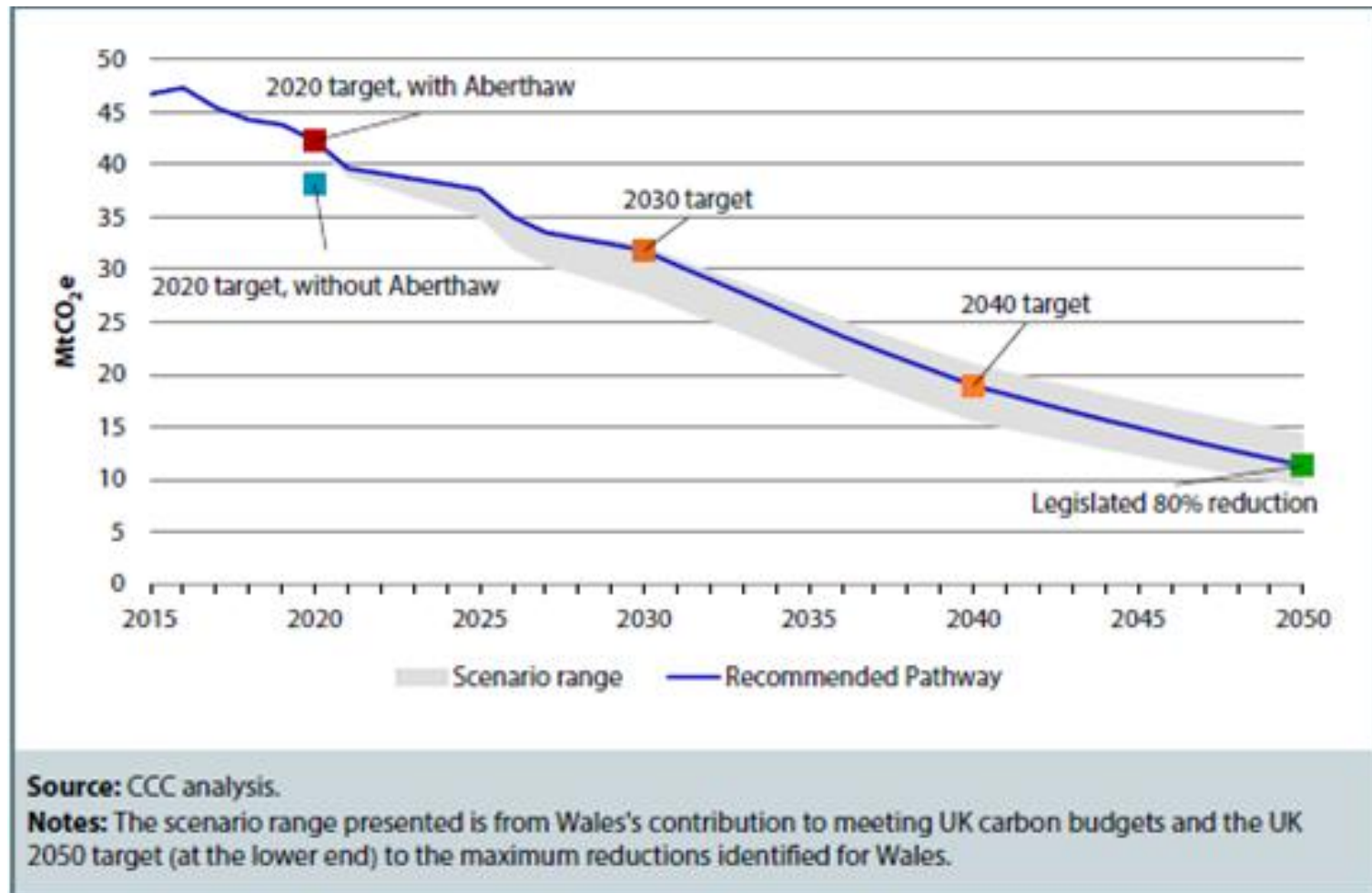
GVA Leakage



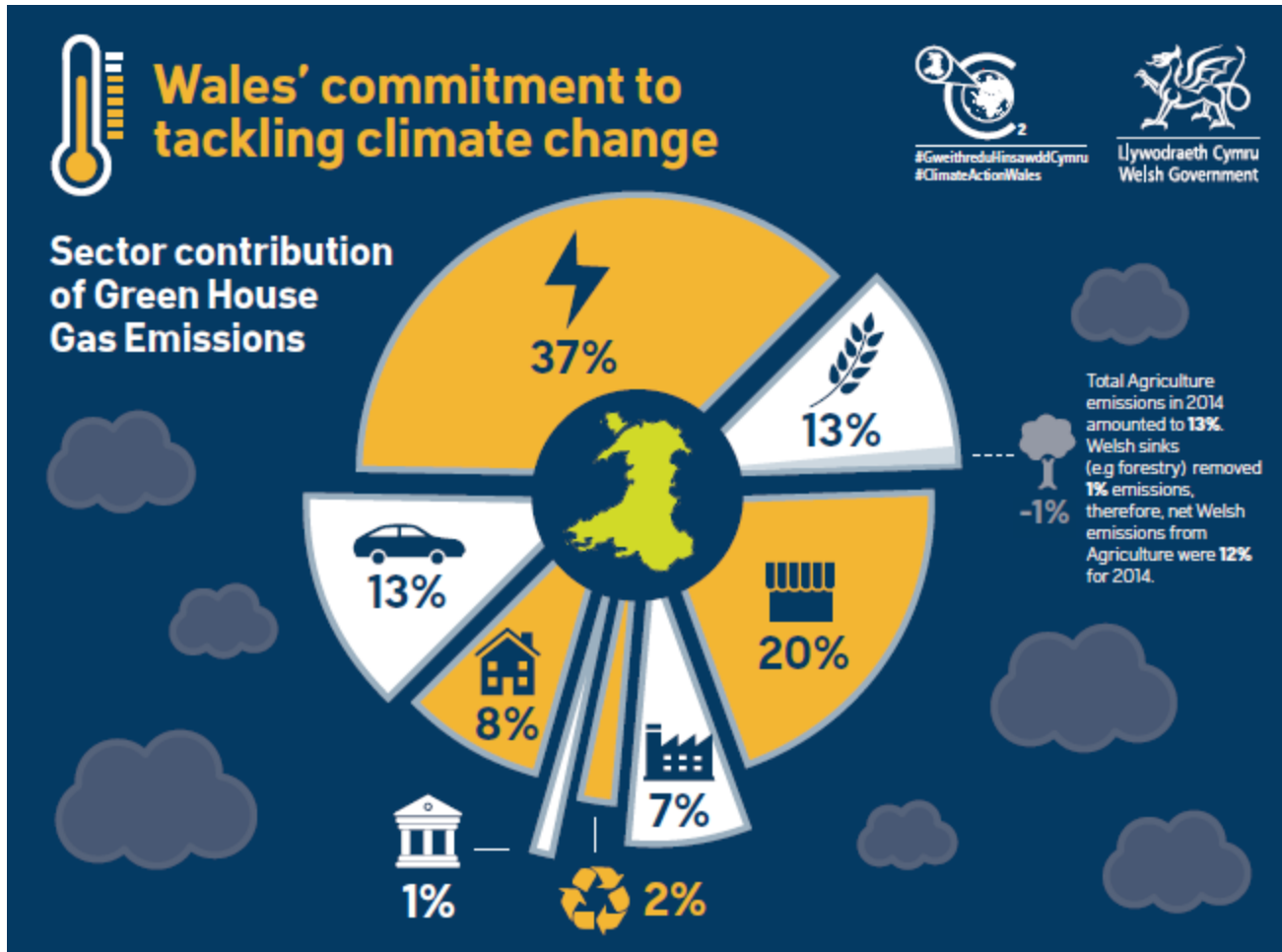
“In 2012, the EU’s oil and gas import bill amounted to more than €400 billion or approximately 3.1% of the Union’s GDP”.

<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52014DC0015&from=en>

Emissions Scenarios and Targets



Sector Emissions



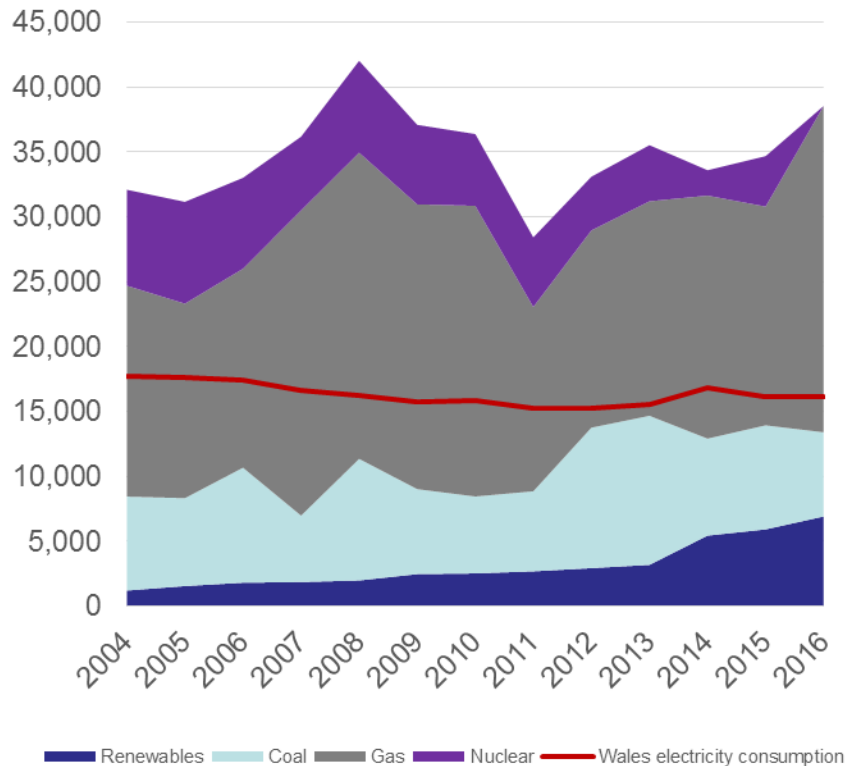
Energy Generation in Wales 2016



Data on energy generated in Wales:

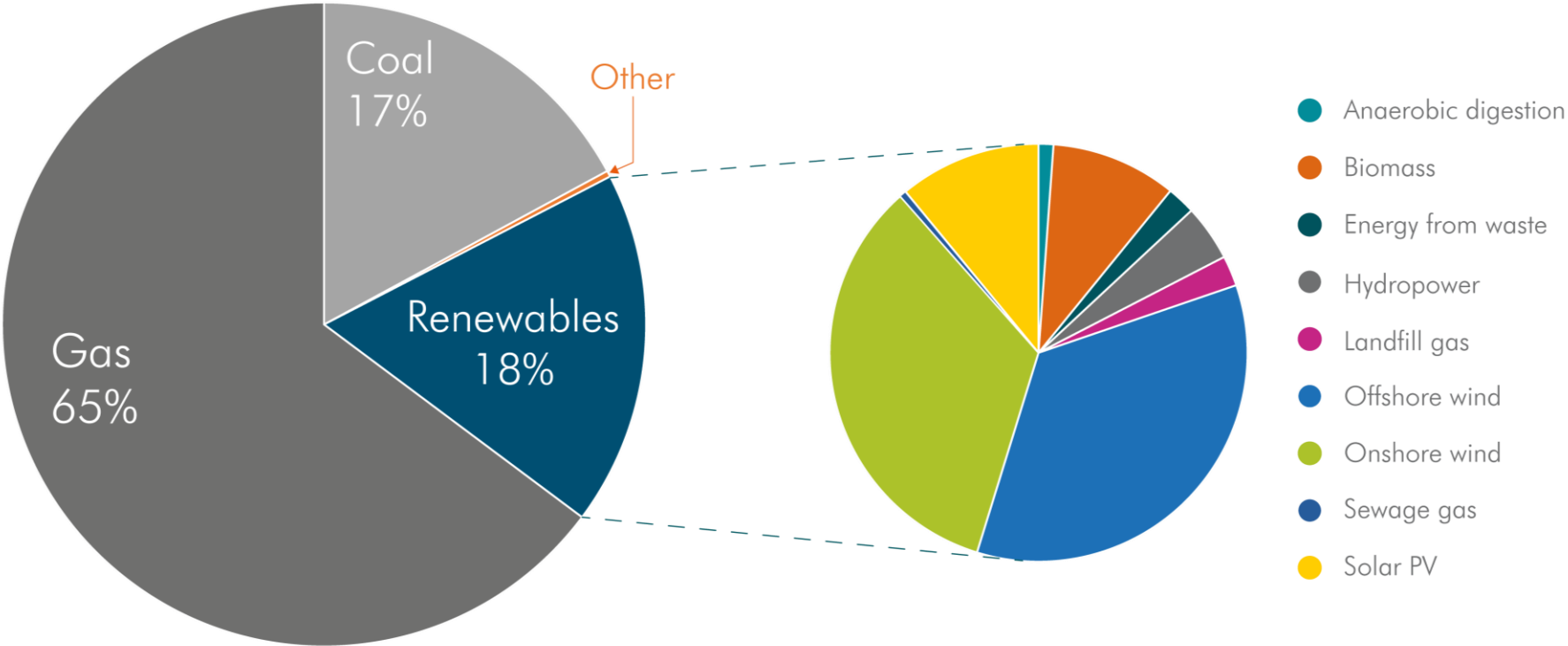
- Renewables
- Fossil Fuels
- Storage.

Electricity Generation



Of the estimated 38.8TWh of electricity generated in Wales in 2016, 6.9TWh was from renewables.

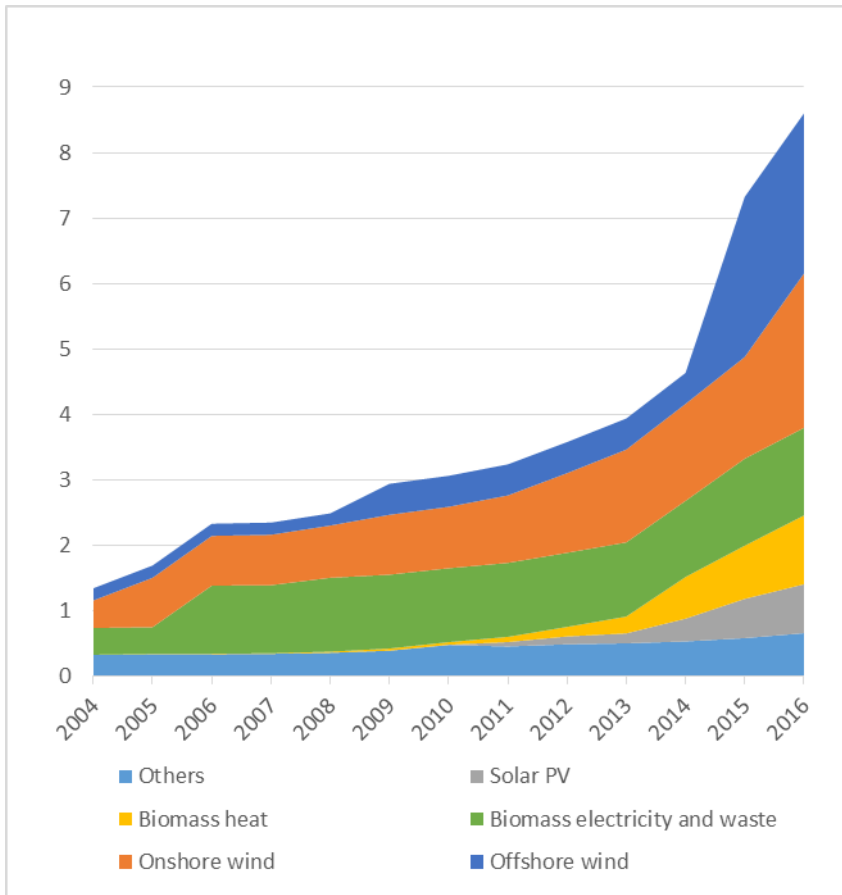
Total electricity generation in Wales



Energy Targets

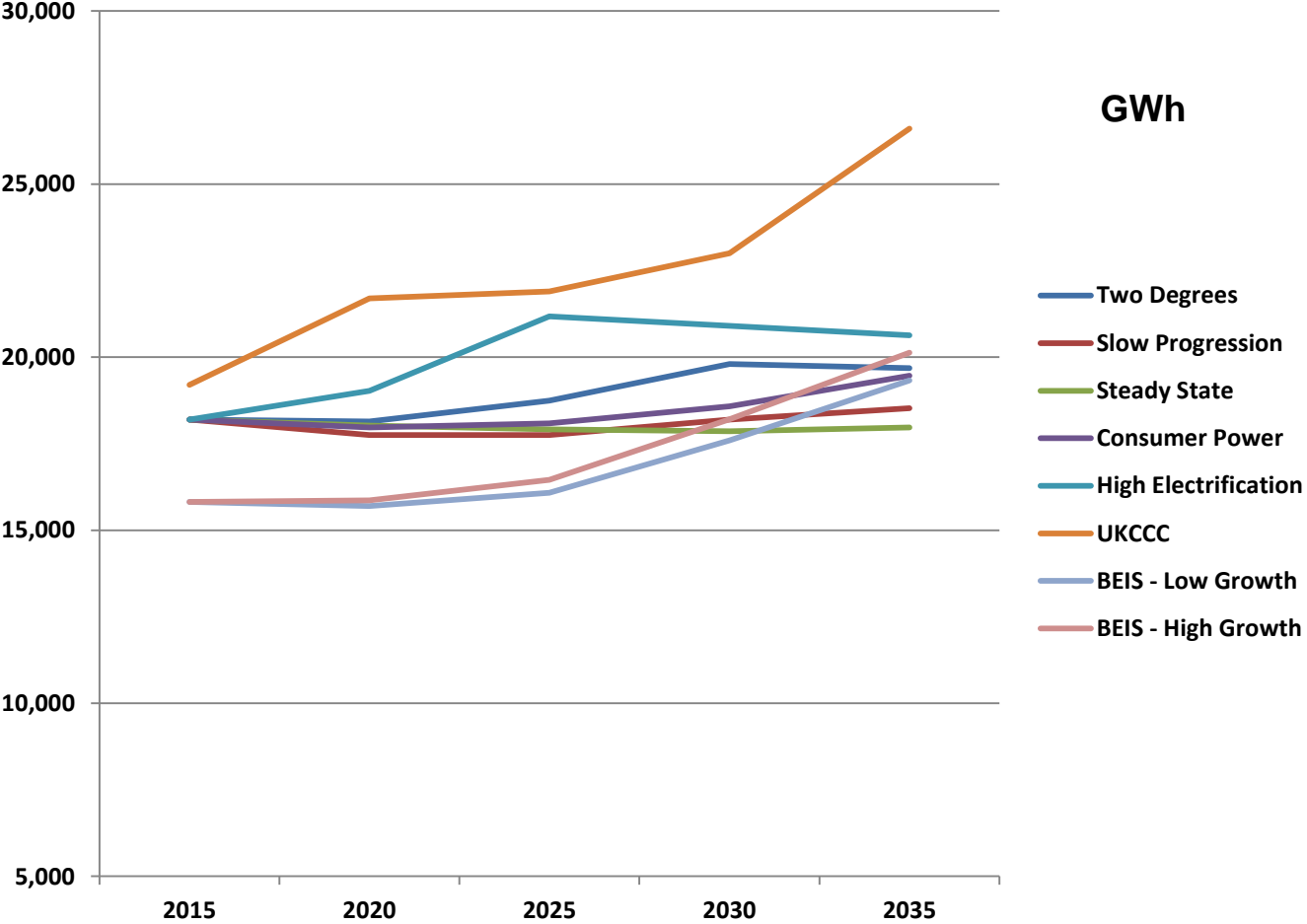
- Generate 70% electricity consumption from renewable energy.
- 1 GW renewable electricity capacity locally owned by 2030.
- New renewable energy projects to have at least an element of local ownership by 2020.

Renewable Energy Generation



In 2016, it is estimated 43% of **electricity** consumption in Wales was met by renewable generation.

Future Electricity Demand



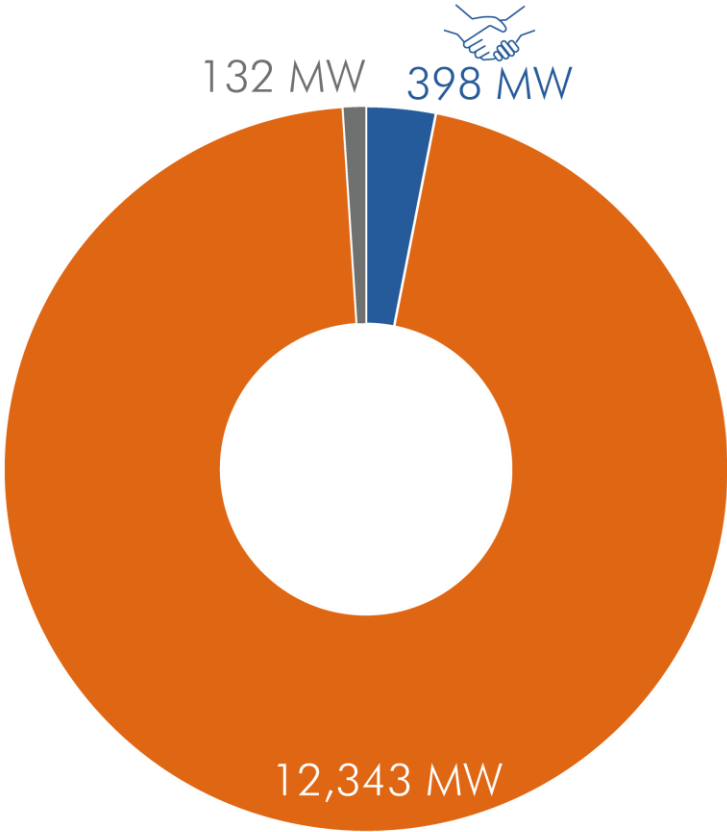
Looking Forward

- Generation of energy from fossil fuels
- Ownership of developments
- Grid and infrastructure
- Land use and resource mapping
- Decarbonising Heat

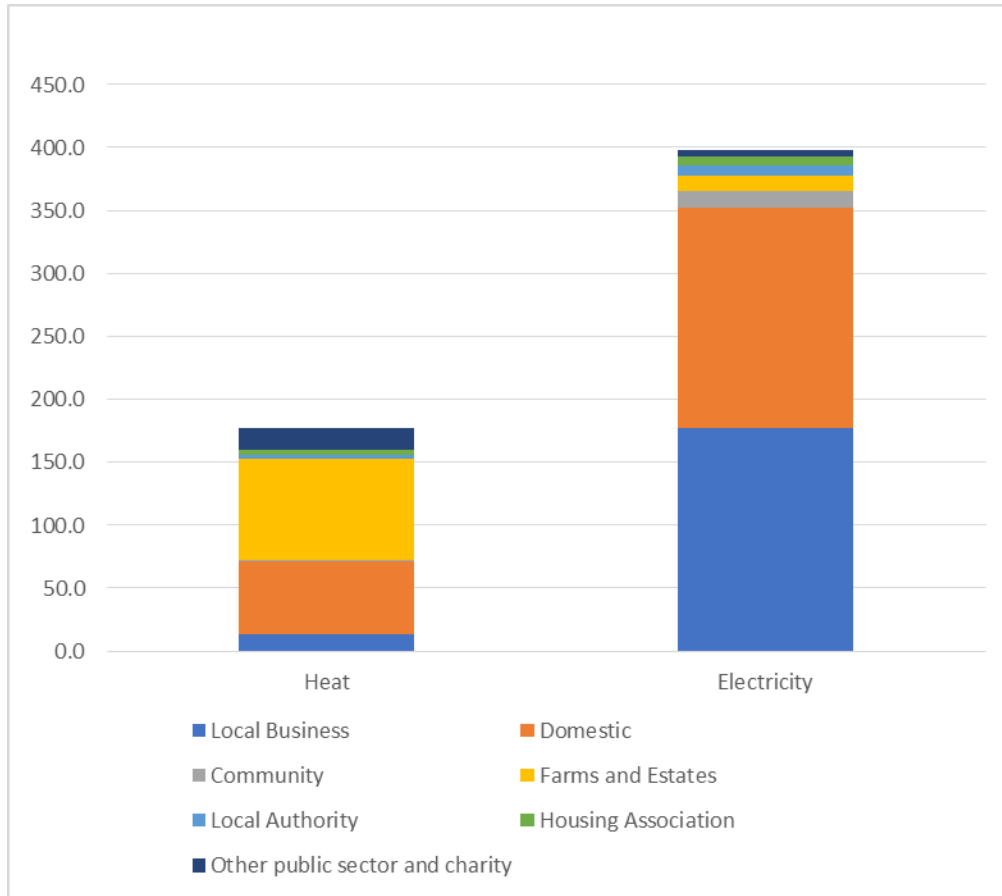
Ownership

Electricity Capacity

- Locally owned
- Non-locally owned
- Unknown



Locally Owned Renewable Energy



397MW of locally owned renewable electricity

177MW of locally owned renewable heat

17% of renewable capacity; 5% of all generation

Local ownership target

1GW

of renewable
electricity
capacity in Wales
to be locally
owned by 2030

2014



21%

2016



40%

2030
target



200

400

600

800

1,000

Locally owned renewable electricity capacity (MW)

Call for Evidence on Ownership

- Benefits
- Challenges
- Ownership models
- Finance & role of investment mechanisms



Green Growth Wales service provision

Services

Technical Support

- REW Client Managers
- REW Framework

Commercial Support

- Commercial / Procurement Transactors

Energy Performance Contracts

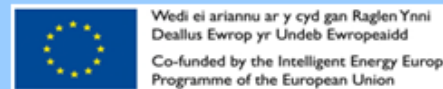
- Re:fit Cymru PIU
- Re:fit Cymru Technical Services
- Re:fit Framework

Finance

- Salix
- Invest to Save - Green Growth

Products and Partners

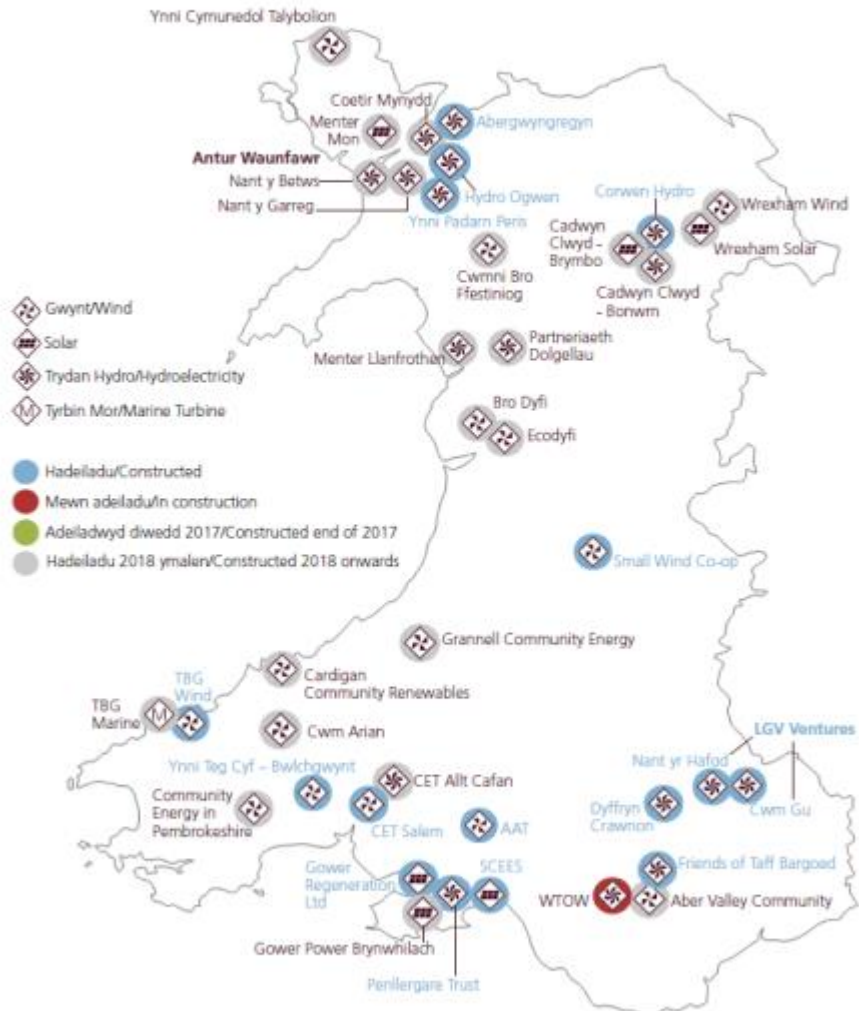
Cymru Effeithlon
Resource Efficient Wales



2017/18 Investments / Potential Future Renewable Investments

Projects committed in 17/18		
Project	Investment	
Council Schools LED Lighting	£113,613	Committed
Council Street Lighting	£231,427	
Council - schools	£318,747	
Council Street Lighting	£750,000	
Council Street Lighting	£636,238	
Other	£437,000	
Council Street Lighting	£187,226	
Higher Education BMS	£169,000	
Community Council Street Lighting	£82,000	
Higher Education LED	£76,000	
Further Education LED	£47,661	
Council Street Lighting	£377,085	
Council Street Lighting	£2,500,000	
Council Street Lighting	£600,000	
Council Street Lighting	£1,508,838	
Further Education Boilers	£60,615	
Community Council Street Lighting	£69,810	Commitment Expected
Higher Education Multiple Measures	£509,497	
Other Hydro-electric project	£150,000	
Council Street Lighting	£165,000	
Council Street Lighting	£2,000,000	
Council Street Lighting	£2,500,000	
Council Street Lighting	£1,478,966	
Schools Lighting and Boilers	£300,000	
Higher Education Re:Fit	£2,000,000	
Council Re:Fit	£1,000,000	
Council Re:Fit	£1,300,000	
Council Re:Fit	£2,000,000	
Council Re:Fit	£2,000,000	

Project	Estimated Capex (£m)	Generation capacity (MW)
- solar	£17.500	25.0
- wind	£8.050	6.0
- solar	£1.950	3.0
- solar	£3.790	5.0
- solar	£5.638	8.0
- solar (phase 2)	£10.778	15.0
- solar (phase 1)	£1.174	1.8
- solar	£2.000	3.0
- solar	£1.369	2.0
- solar	£1.288	2.0
- solar	£2.970	4.0
- solar	£1.420	2.0
- solar	£2.042	3.0
- solar	£1.040	1.5
- solar	£3.400	5.0
15	£64.409	86.3



Gywir o Tachwedd 2017

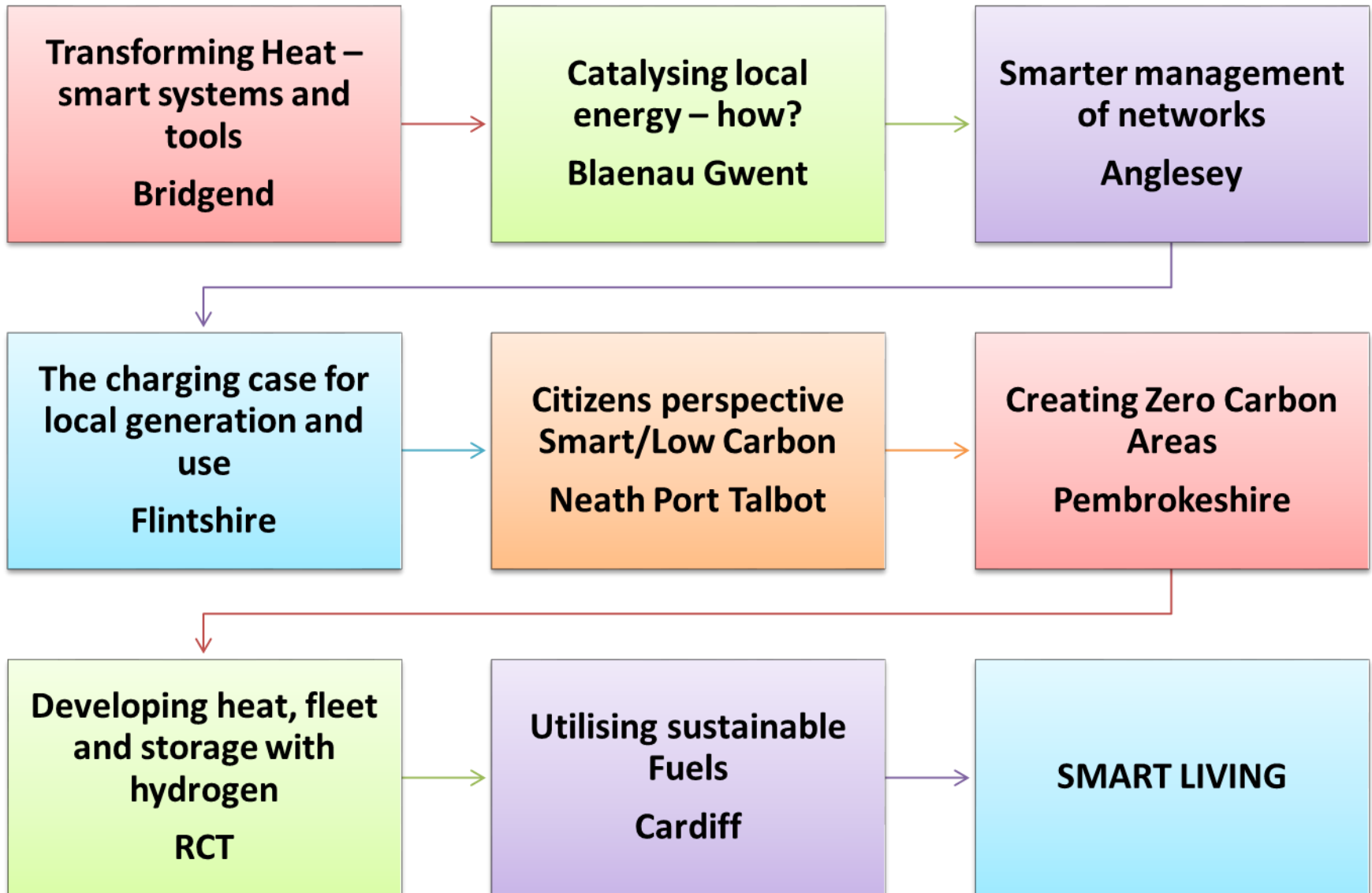
Correct as at November 2017

Mae'r eiconau yn dangos lleoliad bras y grŵp cymunedol arweiniol ar gyfer pob prosiect ac nid o'r safle'r offer cynhyrchu.

The icons show the approximate location of the lead community group for each project and not the site of the generating equipment.



Smart Living: First Demonstrators



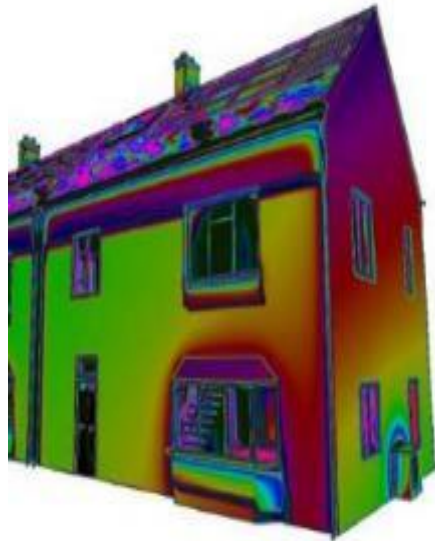
Making the case for local generation, use and storage - Flintshire



- Case for influencing and informing local charging structures
- Improve potential investment capacity for local schemes
- Involves Flintshire Council, SPEN, N Power and SPECIFIC

ETI's Smart Systems and Heat Programme Bridgend County Borough Council

Delivered by
CATAPULT
Energy Systems



- Connecting together – the understanding of consumer needs and behaviour with the development and integration of technologies and new business models into...
- Delivering enhanced knowledge amongst industry and public sector
- Resulting in industry and investor confidence to implement from 2020 which enables a UK heat transition

Our Members



CATERPILLAR



Rolls-Royce



Innovate UK
Technology Strategy Board

ETI programme associate

HITACHI
Inspire the Next

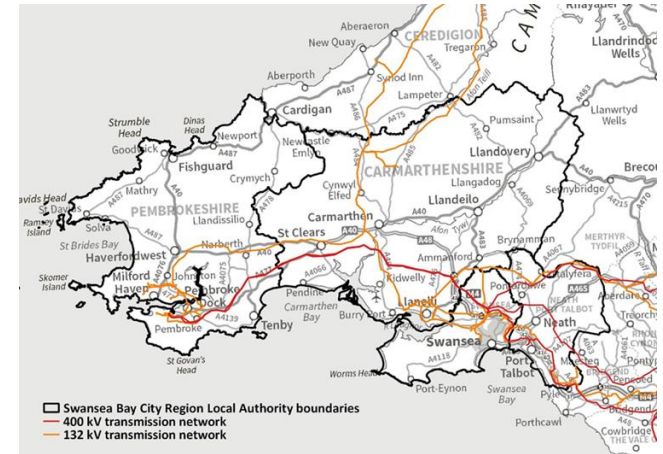
Re-energising Wales

A future energy vision for the Swansea Bay City Region

....whole energy system vision and strategy looking out to 2035 for the Swansea Bay City Region

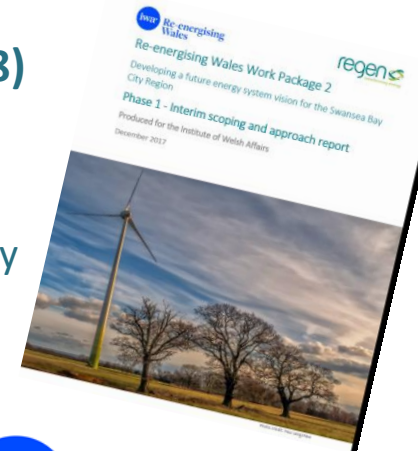
Phase 1 – Scoping and vision report (complete Nov 2017)

- Current energy system analysis
- Regional energy resource and opportunity assessment
- Future growth, generation and demand assumptions
- Modelling approach – electricity, heat and transport
- Future energy vision goals and objectives



Phase 2 – Future energy system modelling and strategy (Launch April 2018)

- Energy system modelling and scenario analysis
- Base case to achieve vision decarbonisation targets and objectives
- System balancing, flexibility - electricity, heat and transport, and energy efficiency
- Policy steps and recommendations
- Extrapolation of regional analysis to Wales and UK





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Welsh Government

Diolch

Thank You

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