THE ASSOCIATION FOR RENEWABLE ENERGY & CLEAN TECHNOLOGY

REA Member Forums Meeting

12th February 2020

A warm welcome to REA members working in the solar, energy storage, electric vehicles, large scale power markets and finance areas.

Competition Law – A Friendly Reminder

No discussion on prices, or purchasing practices

This continues on top any social gathering which may be considered connected to the event (eg EVCC Launch networking)

Minutes of these sessions are recorded

Access & Forward-looking Charges Review – Member Discussion

Summary Grid Changes

Recovery of sunk costs of today's network

by

Reviewing the **demand residual**

Through

Ofgem's Targeted Charging Review – a Significant Code Review

Having access rights that meet future flexible uses of the network

by

Reviewing **Access rights**

Through

Charging Futures Access Task Force Access & Forward looking charges

Recovering future costs of the network

by

Reviewing **Forward Looking Charges**

Through

Charging Futures Forward Looking Charges Task Force Access & Forward looking charges

Access & Forward-looking Charges Review

- Review of costs for connecting to and using the Distribution Network
- Aims to address ministerial concerns of projects 'islanding' themselves from the network
- Final scope of review published just before Christmas
- Linked to TCR SCR process – seeking more information on how these interlink/coordinate

REA Joint letter sent to Ofgem on need for review to address how to encourage flexibility

Access rights – Options - Ofgem

Ofgem have identified three key options and several cross-cutting considerations

Firmness of rights	This is the extent to which a user's access to the network can be restricted (physical firmness) and their eligibility for compensation (financial firmness) if it is restricted.
Time-profiled rights	This would provide choices other than continuous, year-round access rights (eg 'peak' or 'off-peak' access).
Shared access rights	Users across multiple sites in the same broad area obtain access to the whole network, up to a jointly agreed level.
Bespoke vs standard	The extent to which access choices should be standard or bespoke
Small users	Whether should better define levels of access for small users

Access rights Options - Ofgem

Firm-ness of rights

Defined by physical assets

Defined by user experience

- Could lead to more efficient use and development of system capacity. Data from "flexible connection" to demonstrates the potential benefits.
- CFF and CG stakeholders have stated that they would value this choice and "flexible connections" demonstrates that there is demand for this type of access.
- Firmness defined by consumer outcomes, may be easier for users to understand likely level of curtailment.
- No obvious feasibility issues identified – all DNOs offering flexible connections. We need to consider further how we charge for this access choice

Financial firmness

- Could help support more efficient and use of system capacity.
- However distribution-connected parties with non-financially firm access can already take action to mitigate against the risk of curtailment (eg storage). If a DNO wants to curtail a user with "standard connection", then the DNO must pay the user
- Many stakeholders consider that this could be valuable (ensures reliable revenue stream).
- Financially firm access requires the development of agreed planning and security standards. There is insufficient time to develop and implement these in time for 2023.

Time-profiled rights

Static time-profiled access rights

Dynamic time-profiled access rights

- Could lead to more efficient use and development of system capacity.
- Network conditions change will change over time. Some stakeholders have highlighted that this may be very useful for them.
- No obvious feasibility issues identified. Some DNOs already offering this type of access. We need to consider further how we charge for this access choice.
- However, network and system operators have signalled that it would be more challenging to offer dynamic time-profiled access.

Access rights Options - Ofgem

Shared access rights

- **Local shared access**
- **Wider shared access**

- Could lead to more efficient use and development of system capacity behind a network constraint.
- However, could have a negative impact on system diversity, especially when access is shared by a large number of users over a wider area.
- Some stakeholders have highlighted that this may be very useful for them. Other stakeholders do not consider that this access right would be useful.
- Difficult to charge for wider shared access (eg users at different voltage levels).
- Practical issues may create additional challenges (eg monitoring and enforcement, sharing access at different sites may require "exchange rates, sharing access between multiple suppliers). These challenges are exacerbated for "wider shared access".

Small users

- **Defined access for small users ?**

- May incentivise users to take action to reduce access requirements and reduce need for network reinforcement. It could also provide better information about where new network capacity is required.
- Individual users' access unlikely to drive need for wider network reinforcement at LV.
- May be difficult for small users (or their suppliers) to understand and accurately identify access requirements. Risk that users choose insufficient levels of access
- May be difficult to reflect different access options in charging.

Access rights Options - Ofgem

Bespoke vs standard

Bespoke

- Bespoke access right choices could provide greater efficiency of network utilisation.
- However may require more work to administer and provide.
- May better meet individual users' needs and may help facilitate innovation. However, could be more challenging for some users to understand, compare and trade. May be more suited to larger users.
- It may be difficult to administer and charge for bespoke access rights. Bespoke access rights may also make it harder to operate the system.

Hybrid

- Hybrid options could support efficient network (eg tailoring access choices to reflect local network conditions).
- Could provide access choices that are easy to understand, with the ability to tailor meet individual user needs. Facilitate innovation, whilst maintaining degree of commonality.
- This would still increase complexity (Eg administration, charging and system operability), but could be easier to implement than bespoke access rights.

Standardised

- There is a risk that standardised options may result in less efficient utilisation of the network.
- There is a risk that standardised options may not meet individual users' needs and may reduce ability to innovate. However, they may be simpler for users to understand, compare and trade. May be more suited to small users.
- Standardised options may be simpler to administer and charge for. They may also make it easier to operate the system.

Ofgem say they need to continue their quantitative analysis to better understand:

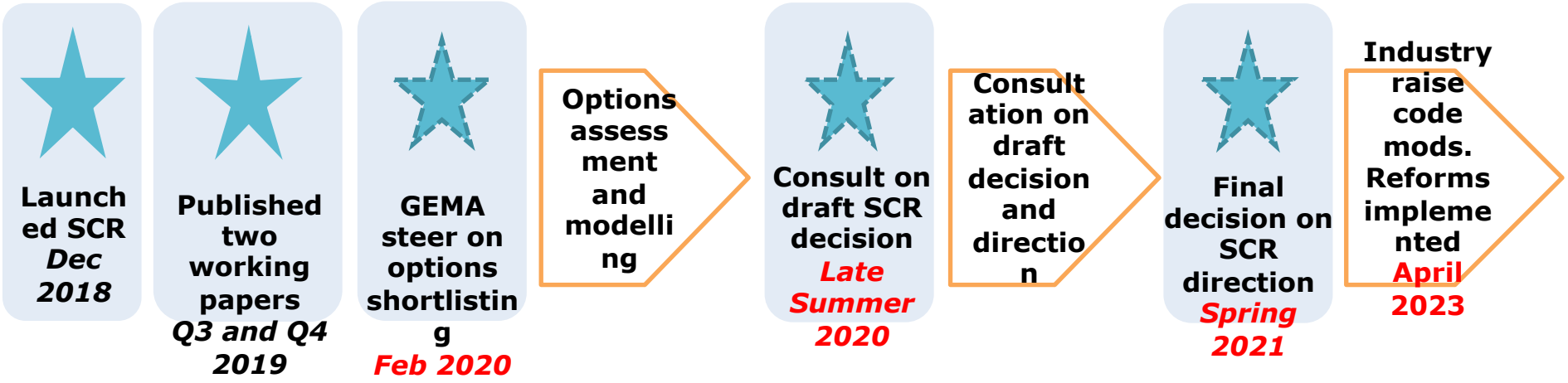
- How developing access options could support efficient use and development of system capacity
- The rate of uptake of access options and the potential impact on the electricity system
- The cost of offering and operating these access right options.

They believe further work is needed to identify:

- How we would charge for each of these access choices
- How each of these access rights choices would be defined and would work in practice (eg shared access)
- Initial thinking on hybrid options.

2020/21 Grid Changes planning

Key dates



- The focus of Ofgem planning is on "Options assessment and modelling" to inform their draft decision in late Summer 2020.
- Ofgem's key activities during this period will be:
  - Ongoing assessment of shortlisted options under individual workstreams
  - Analysis of packaged options
  - Impact assessment modelling

Access & Forward-looking Charges Review – Member Discussion

Access and Forward Looking Charges Review discussion points:

- *What has member experiences of the TCR process been so far? How have you been impacted?*
- *What conversations are you having with Ofgem and BEIS on this topic?*
- *What would member preferences be for new grid connections?*
- *How do you see the trade-offs between (more expensive) firm or (less expensive) non-firm connections?*
- *What are other groups / organisations saying about this topic?*
- *What do you think the REA's opportunities for influencing are?*
- *Are there other unexpected considerations we should be thinking about?*
- *Who would useful and engaged allies be?*

THE ASSOCIATION FOR RENEWABLE ENERGY & CLEAN TECHNOLOGY

REA Energy Storage Forum

Presentation for member meeting 12th February 2020

Kindly chaired by Vijay Shinde, Chief Technical Officer, Harmony Energy

Agenda

Policy & Market Update:

- Capacity Market
- Planning Rules
- Standards

Related Updates & Member discussion

Capacity Market Update

Capacity Market T-1 Auction results

Capacity procured: 1024.41 MW

Delivery Year: 2020/21

Clearing Price: £1.00/ kW / Year

Storage projects: 2 successful projects

Foresight 10MW

UK Energy Storage Services

80% capacity : NEMO Interconnector

Provisional results until 19 February

Capacity Market Update

Capacity Market T-3 Auction results

Capacity procured: 45,058 MW

Delivery Year: 2022/23

Clearing Price: £6.44/ kW / Year

Storage projects: 2 successful projects

Anesco

Eel Power

Listed as DSR CMUs

Provisional results

Update on Ancillary Services

National Grid ESO have announced ‘zero-carbon Ready system by 2025’

Means reform of c.24 balancing ‘products’ into c4 ‘products’

One third of balancing services to be procured from new sources by 2025

Progress still awaited, but work ongoing

- Frequency response auction trial

- Power Potential Market DSO trail blazer

Project CLASS

Ofgem announced 10/02/20 that minded to accept DNOs provision of services into Ancillary Services markets

To be allowed to bid into these markets throughout the RIIO 2 Price control period (2023 – 2028)

Seen as competition to ‘traditional’ flexibility services

Relatively low cost is attractive to the regulator

Update - Project TERRE

Project TERRE will open up the European balancing market to new players and create more of a European market

Originally scheduled for December 2019 Implementation

French Grid ESO RTE has experienced delays in implementing necessary IT systems. Means UK delay as well

Implementation now expected in June 2020

Ofgem seeking views on how to implement

Targeted Charging Review (TCR) Latest

Final TCR decision implemented as expected

Slight changes to timelines (positive) and charging options (minor)

Access and Forward looking charges proposals still developing – a range of options

Still unclear if these will outweigh damage from TCR changes. Case studies and more information requested.

Energy Storage Planning Rules - Final Outcome & Follow-Up

Department for
Business, Energy
& Industrial Strategy

FOLLOW UP CONSULTATION ON PROPOSALS REGARDING THE PLANNING SYSTEM FOR ELECTRICITY STORAGE

Includes Government Response to original consultation

Planning changes for energy storage, initial proposals

The first, January 2019 consultation set out two main proposals for electricity storage:

- To retain the 50 megawatt (MW) Nationally Significant Infrastructure Project (NSIP) capacity threshold that applies to standalone storage facilities; and

- To amend the Planning Act 2008 to establish a new capacity threshold for composite projects including storage and another form of generation, 6 such that a composite project in England would only fall into the NSIP regime where either its capacity, excluding any electricity storage, is more than 50MW; or, the capacity of any electricity storage is more than 50MW. Therefore, where the capacity of both the storage and non storage elements of the generating station are less than 50MW individually, but over 50MW in combination, the generating station would fall under the local planning regime.

Co-located storage & generation sites to gain from increased threshold in National Planning assessment - Final Outcome

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Co-located storage & generation sites to gain from increased threshold in National Planning assessment - Final Outcome

- Following campaigning, with the exception of Pumped Hydro projects, BEIS is minded to carve out all electricity storage projects from the NSIP planning regime in England & Wales (subject to further consultation)

- This would mean that the "primary consenting route in England will be under the Town and Country Planning Act 1990 (TCPA). Section 35 of the Planning Act 2008 will continue to apply in England, allowing the Secretary of State to direct projects into the NSIP regime, where she considers it appropriate. In Wales, planning decisions for electricity storage (except pumped hydro) of any size will generally fall to be consented by the relevant Local Planning Authority under the TCPA regime, whereas currently this is only the case for electricity storage (except pumped hydro) below 350MW."

- Follow up consultation published, closes 10 December

Permitted Development Rights and Environmental Impact Assessments (EIAs)

- The Consultation document also clarifies the position regarding Permitted Development rights in the planning system, and requirements around Environmental Impact Assessments (EIAs) for energy storage.

They clarify Permitted Development rights where the building is not used primarily for energy generation as such:

- Where storage is installed within an existing premises to support its primary use, there are no external changes proposed to the premises, and the majority of electricity is used on the premises, it would be unlikely that a material change of use had occurred and therefore it would not be considered 'development' requiring planning permission.
- Permitted development rights allow the extension of certain existing premises to provide additional space to accommodate electricity storage where this is ancillary to the primary use of a premises and the majority of electricity stored is used on the premises. Those wishing to make use of these rights should ensure extensions are within the limits (footprint, height etc) outlined in Part 7 of Schedule 2 to the Permitted Development Order.

- Note that they also clarify that the majority of the electricity stored does not need to be used on site, but that, the storage must be ancillary to the primary use of the premises.

Planning Consultation - Final Outcome

- REA Believe the proposals are very welcome. Problem has been highlighted and requirement for change evidences by the Welsh (350MW) threshold difference

  - Believe the planning situation would be further improved by a standalone definition for energy storage in the Electricity Act 1989

- Related note: clarification of whether 50MW size threshold for generation is on a DC or AC basis received late 2018 – if generation capacity goes above 50MW in either DC or AC then becomes notifiable NSIP project

Planning for Energy Storage – Further questions

Liaisons with BEIS continue on:

- Use Class Designations for energy storage in the planning system: would a new Use Class be beneficial?

- Anecdotal evidence that local planners view applications negatively without one, as classified with a less desirable Use Class

- For example: storage of consumer batteries (eg Duracell!) has unique Use Class, as does Warehousing (B8)

Member views welcome

Energy storage standards update

MCS Smaller-Scale Storage Certification Scheme

National certification scheme MCS (Microgeneration Certification Scheme) published certification for battery energy storage system installations

REA and REAL sat on the development group, with members

Aims to better equip the industry to roll out small-scale energy storage installations while ensuring consumer protection

Available at the MC Website

Energy storage standards update

BEIS Health & Safety Standards Committee

- Undertaking gap analysis at present
- Long standing REA ‘ask’ – very welcome

Environment Agency to join committee - recent questions around second life batteries and recycling options for Li-Ion batteries

Energy storage standards update

EI Energy Storage Working Group with REA – Possible future projects

Funding being applied for development of guidance on:

- Second life batteries and Life-cycle assesment of battery technologies/ recycling issues

- Workshop on sharing learning from incidents/issues/near misses - Chatham House rules, to aid forward planning, to also explore possible confidential reporting system/protocol to enable better sharing of incidents, near misses etc. in industry

- Tentative contribution towards a BSI 'mini-standard' on battery storage H&S. Will depend on whether the standard actually goes ahead - won't know until a little later this year

Energy storage: IET Standard Update

Installation Guidance: ***Under Review 2020***. First comprehensive behind the meter battery storage installations for installers – update coming in 2020.

New MCS Standard links to this (same lead author)

REA initiated process, published by IET

Download current version (payment required):
http://www.theiet.org/resources/standards/eess-cop.cfm

Best Practice Guidance

EI Technical Note, REA initiated & review

Provides overview guidance for planning departments with multiple storage planning applications

Aims to provide information and allay planners fears

Published September 2019

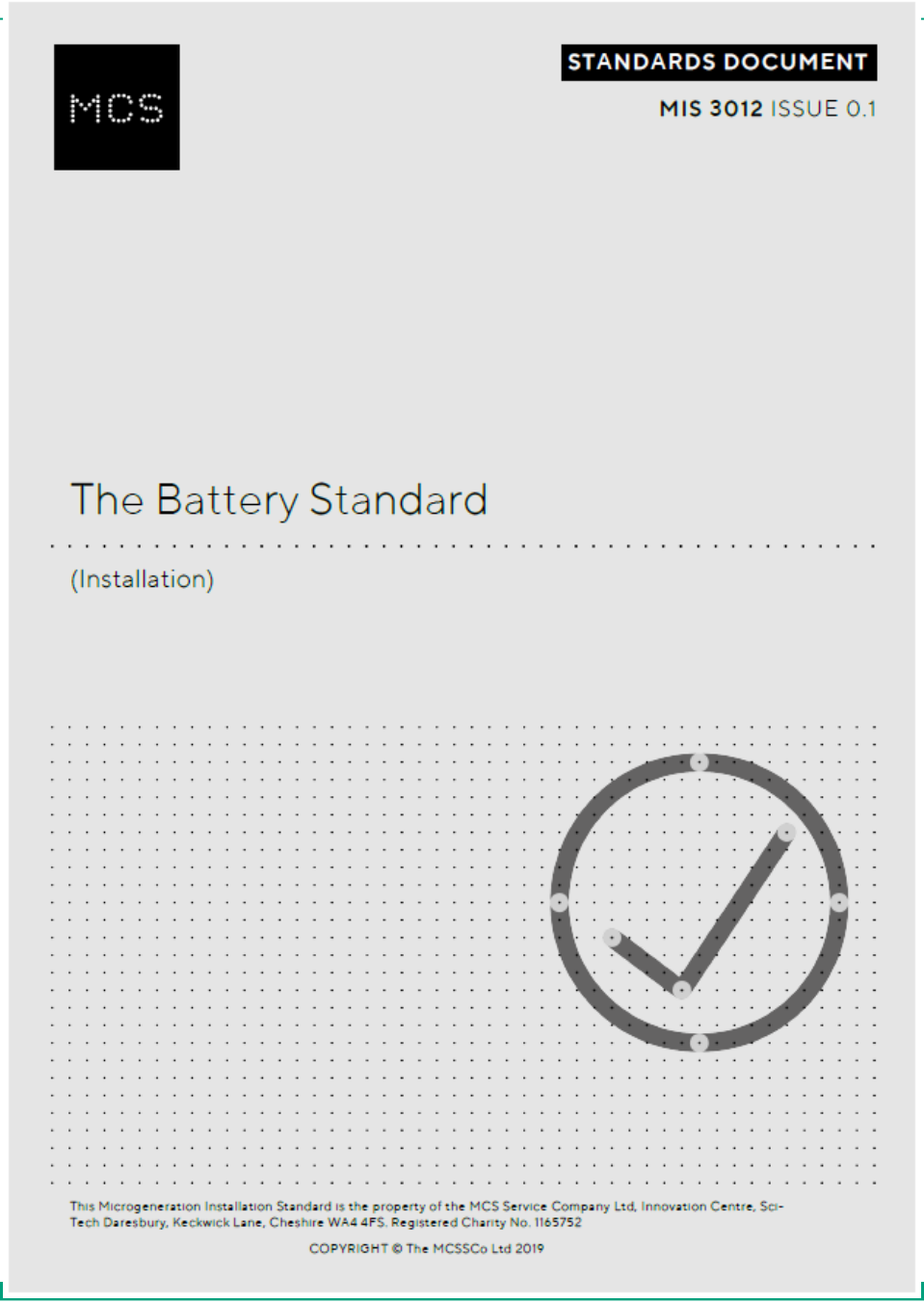
https://publishing.energyinst.org/topics/power-generation/battery-storage/battery-storage-guidance-note-1-battery-storage-planning

Battery Fire Safety guidance

Developing Best practice guide on battery fires through EI

Consultants started work – questionnaire on details circulated to interested parties

New MCS Battery Storage Installation Guide



MCS Battery Storage Installation Guide

New guide published January 2020

For installers of smaller-scale battery storage systems

REA and REAL involved in Steering Group

Initial Pilot phase proposed

Trade Opportunities Update

REA Frequently approached by Government regarding exporting and trade visits

Latest Opportunities are:

SME mission to South Africa: Call for 'Expressions of Interest'

Energy Systems Catapult are inviting small and medium sized UK businesses (SMEs) innovating in the power sector to submit an Expression of Interest to join a mission to South Africa in order to build partnerships and showcase their expertise.

The mission takes place Monday 30 March – Friday 3 April 2020. The selected SMEs will receive return flights to South Africa and domestic flights as necessary, hotel accommodation and access to Solar Show Africa, the continent's largest energy event, with 250+ exhibitors, 300+ speakers, and 8000+ attendees from 40+ African Countries. More information available here.

Trade Opportunities Update

Visit of Polish and Eastern European Cities to UK

The Foreign & Commonwealth Office are organising a visit to the UK of leading Eastern European cities

Electric Vehicles and Smart Tech focus

10 and 11 March 2020 - Central London

Contact REA if interested in meeting delegates

DIT Interest in speaking to Energy Storage exporters

Aiming to establish priorities and perceptions

Contact Frank for details

REA Work on Influencing for Flexibility and the Energy Transition Readiness Index Report

Impact of REA's reports and influencing strategy for flexibility

2019 represented a major year of publications and policy output for the REA on behalf of the flexibility sector.

With the support of members, we released three major reports including:

- *Developing flexibility: the new cornerstone of the grid* (June 2019)
- *Flexible Futures: using data to understand and navigate the new power market* (October 2019)
- *The Energy Transition Readiness Index* (November 2019)

Backbone of the REA's evidence base and arguments for true markets for flexibility to emerge.

REA Work on Influencing for Flexibility and the Energy Transition Readiness Index Report

The Energy Transition Readiness Index in particular equally irked and intrigued regulators, Government, and other sector stakeholders as it ranked the UK second-last for the development of a market for flexibility.

Between the three documents REA met with over a dozen civil servants and regulators in Q3 and Q4 2019. Energy Networks Association has requested regular meetings.

These reports build on the evidence base we assembled in 2017 and 2018 Bloomberg New Energy Finance reports.

REA Work on Influencing for Flexibility and the Energy Transition Readiness Index Report

Our Plan for 2020

This year, we are looking to build on this momentum as we believe the REA is increasingly seen as the go-to Association in this field.

The reports and media attention have served two core purposes:
– to add evidence to the discussion and
– to keep pressure on key stakeholders to maintain progressive action

We are discussing updating some of these reports in 2020 and may host a one-day storage event to inform such activity.

Do get in touch if you would like to be involved.

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All groups Update

12th February 2020

A warm welcome to REA members working in the solar, energy storage, electric vehicles, large scale power markets and finance areas.

Brexit Update

BEIS Seeking input and views on trade priorities with United States

Formal Consultation launched on trade tariffs on goods from other countries / Most Favoured Nation

Work ‘ongoing’ on other trade deals

Spending Review & Priorities Update

REA Working on core set of policy asks

This in context of multiple competing topics and complex stakeholder landscape

Extraordinary influencing opportunity in 2020 in light of:

COP 26 Host Nation

Net Zero Target Strategy planning

Continued (stated) commitment to flexibility

Spending Review & Priorities Update

REA believes we need to, as a priority:

1.1 Implement '**quick win' policies in 2020** which would help decarbonise heat, power, and transport and preserve our natural capital, and to report on progress at COP 26.

1.2 **Ensure that the new Office for Environmental Protection has strong enforcement capabilities** to ensure the Government produces policy that supports decarbonisation in line with the Carbon Budgets and advice of the Committee on Climate Change.

1.3 Implement **a more effective taxation system** that protects natural capital, and incentivises renewable energy and clean technology beyond fossil fuels and announced at COP 26.

1.4 Ensure that the **Net Zero Strategy includes a detailed, funded and measurable roadmap** that delivers the wholesale systems-change required to decarbonise heat, power and transport, while protecting natural capital and creating jobs – getting the transition right can create jobs and investment in all parts of the UK and aid the levelling up agenda.

We have a detailed set of proposals to deliver this.