Cynulliad Cenedlaethol Cymru
Pwyllgor yr Economi, Seilwaith a Sgiliau

Ddatgarboneiddio trafnidiaeth
EIS(5)DT09
Ymateb gan RenewableUK Cymru

National Assembly for Wales
Economy, Infrastructure and Skills Committee

Decarbonisation of Transport

Evidence from RenewableUK Cymru

**About you**

RenewableUK Cymru

**Your opinion**

**1. Are the transport emissions reductions targets, policies and proposals (set out in Prosperity for All: A Low Carbon Wales) achievable and sufficiently ambitious?**

Partly

**1.1 Please outline your reasons for your answer to question 1**

- RenewableUK Cymru's members are building our future energy system, powered by clean electricity. We bring them together to deliver that future faster; a future which is better for industry, billpayers, and the environment. Our members are business leaders, technology innovators, and expert thinkers from right across industry.
- RenewableUK Cymru welcomes the ambition, breadth and scope of the policies and proposals set out in 'Prosperity for All: A low Carbon Wales'.
- RenewableUK Cymru also welcomes Welsh Government's ambition to meet and exceed the 95% GHG emissions reduction target recommended by the UK Climate Change Committee.[1]; [2]
- However, these must be set in context against the likely increase in demand for power arising from transport sector decarbonisation policy.[3]

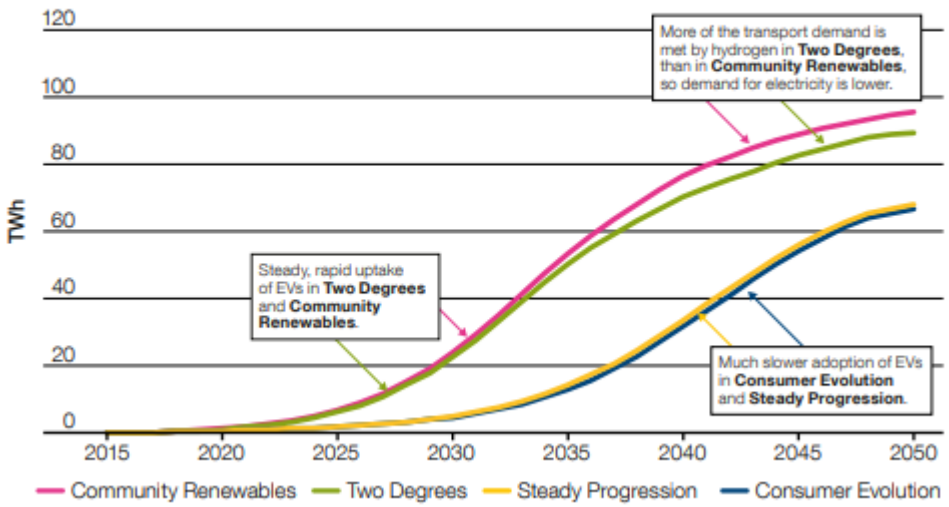
[1] Gov.Wales June 2019 https://gov.wales/wales-accepts-committee-climate-change-95-emissions-reduction-target

[2] Net Zero – The UK's contribution to stopping global warming, May 2019

[3] Figure 4.20: National Grid Future energy scenarios, June 2019. Potential demand increases arising under differing scenarios

**Figure 4.20**

Annual road transport electricity demand – TWh/year




- As the UK Climate Change Committee notes in its recent progress report regarding reducing UK emissions (in relation to transport) the UK is already playing catch-up:

  "Progress is generally off-track in most sectors, with only seven out of 24 of the indicators on track in 2018 (Table 3.1). Progress in deploying measures to reduce emissions is off-track across transport, buildings, agriculture and land use. In these areas, progress to date is behind virtually every indicator we track, often by a wide margin. – Reductions in the $CO_2$ emissions of new vehicles have fallen well short of our indicators. Lack of progress over several years has contributed significantly to surface transport now being the highest-emitting sector in the UK" (Box 3.1).

**Table 3.1.** Assessment of key indicators required to meet carbon budgets

| Sector | Measure | 2018 indicator | Actual | Unit | Met? |
|---|---|---|---|---|---|
| Transport | New car $CO_2$ emissions | 107.5 | 124.5 | $gCO_2/km$ | ✗ |
| | New van $CO_2$ emissions | 159.5 | 167.1 | $gCO_2/km$ | ✗ |
| | Electric car registrations | 3.4% | 2.5% | % market share | ✗ |
| | Biofuel uptake | 6.6% | 3.1% | % of fuel sales by energy | ✗ |
| | Vehicle distance driven | 550.6 | 549.1 | Billion-kms | ✓ |

- National Grid's Future Energy Scenarios report (June 2019) also details possible power demand impacts across all sectors.
- It states that the overhaul of the UK's energy system required to achieve net zero could increase electricity demand from 348TWh per year today to 491TWh in 2050. This would equate to 20

per cent more electricity generation capacity to be built by 2050. This is echoed by the Carbon Brief's analysis of the UK Climate Change Committee's net zero report:

> "In a net-zero UK, the electrification of sectors such as transport and heating would result in a doubling of electricity demand. Under the CCC's projections, all of this power would need to be produced by low-carbon sources, which must quadruple their supply by 2050."

- At a Wales level, it is therefore likely that a pursual of rapid decarbonisation policies which include the transport sector will require the deployment of renewable power generation at a strategic scale.
- As the 'prosperity for all' document itself notes specifically in relation to electric vehicles (p.106):

> "The planned large-scale uptake of electric vehicles will place pressures on the electricity grid in Wales; we will work with the energy sector to plan for this. We will also support innovative actions to test and promote smart charging, renewable energy, energy storage and local energy network linked to electric vehicles."

- This will require a planning environment which has the flexibility to enable renewable energy projects to come to fruition at both local and national scale.
- As the cheapest form of renewable energy production which is currently deployable at scale, RenewableUK Cymru specifically highlights onshore and offshore wind as the technologies which will need to do the heavy lifting as part of Wales' decarbonised future.
- With this in mind, RenewableUK Cymru therefore identifies Welsh Government's proposed National Development Framework as the most significant influencer of the future pipeline of renewable energy projects. It is vital that the NDF is a future enabler of renewable power development at scale.
- In summary, Renewable UK Cymru regards Welsh Government's statement of intent to exceed the UK Climate Change Committee recommendations for 95% GHG emissions reduction by 2050 as sufficiently ambitious. It looks forward to regulations being brought forward in 2020 to make this a binding commitment.
- However, Renewable UK Cymru remains concerned that a failure to create a planning framework which is conducive to large scale deployment of renewable energy projects will result in Wales falling short of its stated ambitions for decarbonising power, heat and transport.

## 2. Is the Welsh Government's vision for the decarbonisation of transport sufficiently innovative, particularly in terms of advocating new technologies?

Partly

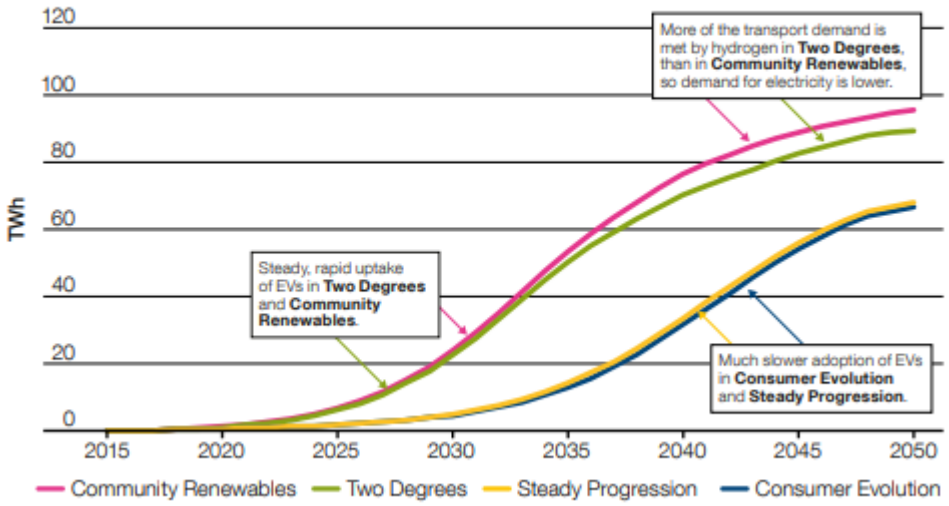
## 2.1 Please outline your reasons for your answer to question 2

- The Welsh Government's broad policy ambition represents a practical response to the challenge of de-carbonising transport. RenewableUK Cymru recognises that there is no panacea for the decarbonisation of transport in Wales.
- RenewableUK Cymru is broadly supportive of the policy suite envisioned by Welsh Government which includes active travel, increasing rail and bus travel (and associated emissions reduction pathways for both), delivering uptake in EV / LE vehicles. For example, RenewableUK Cymru

welcomes the bold ambition to achieve a zero-emission bus, taxi and private hire vehicle fleet by 2028.

- It also welcomes the 'common sense' approach which acknowledges that low carbon modal shift does not necessarily require huge technological leaps to achieve.
- However, even allowing for modal shift to 'zero impact' modes of transport, decarbonisation of transport will, under all scenarios, require a significant uplift in power capacity[4].

**Figure 4.20**
Annual road transport electricity demand – TWh/year




- The 'prosperity for all' document acknowledges this in several passages:

  "We will also assess the opportunities to promote renewable energy to support the increased demand for electricity…. The planned large-scale uptake of electric vehicles will place pressures on the electricity grid in Wales; we will work with the energy sector to plan for this."

  Also…

  "In order to ensure future demand can be met, significant investment will be needed in energy generation, transmission and distribution infrastructure…. We expect power demand to increase into the 2020s and 2030s as electric vehicles become increasingly common and more heating is electrified."

  Also…

  "Lack of charging infrastructure should not be a barrier to EV uptake in Wales. We will set out a plan for public charging infrastructure to at least meet the demand created by 60% of new sales for cars and vans being electric vehicles by 2030 (around 35% Plug in Hybrid and 25% Battery electric)."

- Therefore, Wales will require a planning environment which has the flexibility to enable renewable energy projects to come to fruition at both local and national scale.
- As the cheapest form of renewable energy production which is currently deployable at scale, RenewableUK Cymru specifically highlights onshore and offshore wind as the technologies which will need to do the heavy lifting as part of Wales' decarbonised future.
- If Increased renewable power capacity is generated upstream it is likely it will need to be supported by a strengthened, robust distribution network. However, this additional capacity,

[4] Figure 4.20: National Grid Future energy scenarios, June 2019. Potential demand increases arising under differing scenarios

infrastructure and associated cost could be potentially offset by interconnection, storage, and demand flexibility that have the potential to displace part of the need for new generating capacity. [5]

## 3. What action is required, and by whom, to achieve the targets, policies and objectives?

- The action required is the creation of a planning framework which is permissive of large-scale renewable energy projects. The action is required of Welsh Government.
- It is absolutely critical, therefore, that the National Development Framework is cognisant of its duty to accommodate future developments at both the local and strategic scale.
- Action is also required on a multi-stakeholder, sector wide basis to bring forward the strengthening of the electricity grid. The multi-sector de-carbonisation programme will require an uplift in power capacity to distribute electricity from renewable sources to where it is needed. A failure to strengthen the underpinning transmission and distribution network will result in Wales failing to meet its 2050 decarbonisation goal.
- Given the additional powers Wales has accrued over aspects of Transport policy, and in light of the declaration by Welsh Government of a climate emergency, the netzero ambition, and the strategic role decarbonising transport will play in achieving this, RenewableUK Cymru would like to see Transport afforded a distinct portfolio within cabinet. This would provide proper accountability between the 'arm's length' body and Welsh Government.
- A demand mapping exercise should be a priority for the Wales Transport Strategy to inform projections of potential uplifts in power capacity under a variety of scenarios. This could include the potential development of demand side response mechanisms (e.g. V2G) which could contribute to grid capacity management. However, as noted by the Energy Systems Catapult report, 2018:

  > "In all cases investment is needed in our transmission infrastructure to facilitate the transition to EVs and there is much uncertainty in the costs, benefits and limitations of smart solutions…As the assets take time to construct, it is necessary to forecast future load growth many years ahead and it is risky to assume that other solutions such as smart charging would achieve the required levels of performance in terms of de-loading assets, within the constraints of consumer acceptability."

- Taking EVs as an example, the following illustration outlines some key events likely to forecast EV uptake out to 2050[6]

[5] Smart Power: The UK National Infrastructure Commission

[6] Preparing UK electricity network for electric vehicles, Energy Systems Catapult 2018

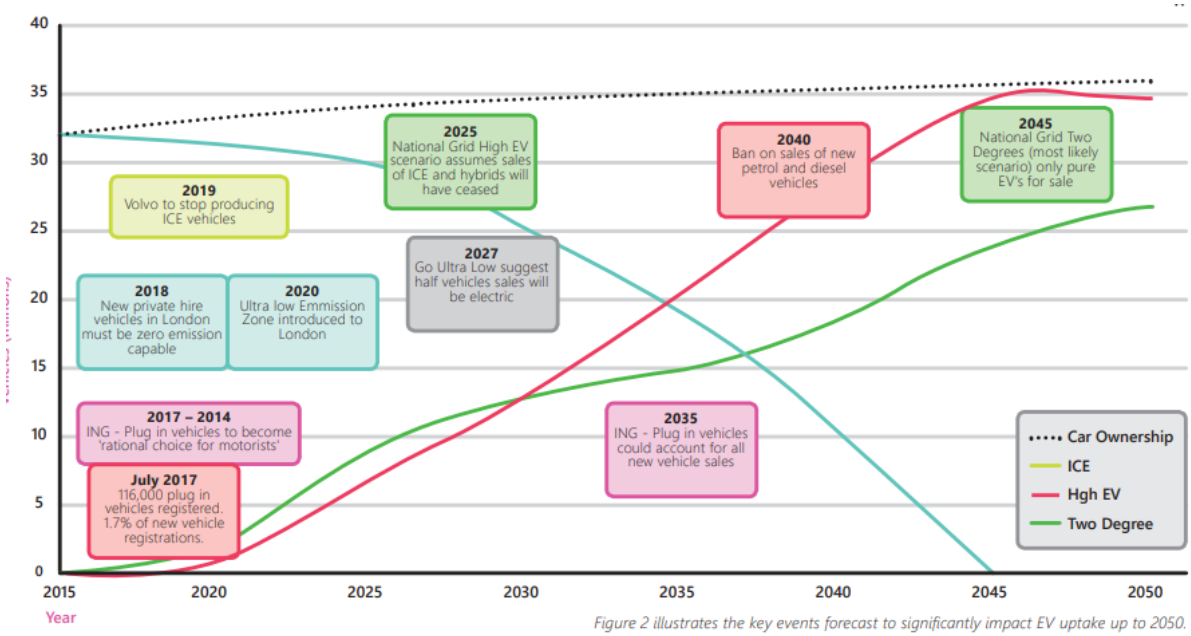



*Figure 2 illustrates the key events forecast to significantly impact EV uptake up to 2050.*

- Seen from a Wales level, demand mapping could provide for assessing the potential uplift requirement in power capacity and to inform the potential mitigatory impact that demand side response (DSR) measures might play in minimising transmission and distribution infrastructure upgrade requirements.

## 4. How should the new Wales Transport Strategy reflect the actions needed to decarbonise transport?

The Wales Transport Strategy should reflect the actions needed to decarbonise transport by ensuring that it regards a planning system which enables delivery and distribution of renewable power at scale as pre-requisite.

- It should detail this by undertaking a demand mapping exercise to inform the likely uplift in power which would be required to accommodate the decarbonisation of the transport sector in Wales.