Net Zero Communities (NZCom)

Work Package 8.1

Working definition of vulnerability of non-domestic consumers

Version	Written/ Edited	Released	Notes/Changes
4	Tim Jones/Cordel Butler	22 September 2021	
5	Tim Jones	27 September 2021	Additions to conclusion

The transition to net zero for the small business sector

Defining vulnerability in the Domestic energy sector

There is a clear definition from OFGEM of vulnerability in the domestic energy market. The focus is put on affordability for energy consumers and the detriment they may experience through their inability to act freely in the market. It is important to note that this definition is not about carbon emissions or additional challenges that the transition to net zero carbon consumption may create.

The definitions used for vulnerability in the domestic sector are such that large number of consumers could be included – WPD estimate up to 25% of consumers in their four network regions could qualify for their Priority Service Register (PSR). However, it is also recognised that households can move in and out of vulnerability classifications.

Non-domestic consumers are not afforded the same protections as domestic consumers especially regarding debt and the risk of disconnection from supply. They are not, for instance, covered by a similar "Vulnerability Commitment" available to domestic consumers that provides a legal safety net for debt and disconnection, (although note below the potential outcomes from Ofgem's Strategic review of Microbusinesses).

Small business definition

The UK Government define Small and Medium sized Enterprises (SMEs) as companies with under 250 employees. SMEs make up around 99.9% of all businesses in the UK, and 96% have fewer than 10 employees. The European Commission defines a microbusiness as one which has fewer than 10 employees and a turnover or balance sheet total of less than €2 million.

According to government data, there were over five million microbusinesses in the UK in 2018, accounting for a third of employment and 21% of turnover. In this context, and for the purposes of the Net Zero Communities project, the emphasis in this paper is on understanding the impacts of the transition to net zero on microbusinesses, rather than larger SMEs.

Energy consumption of microbusiness

Ofgem also classify microbusinesses as those that use less than 100,000 kWh/year of electricity and no more than 293,000 kWh of gas per year.[1] On average a microbusiness will spend 10% of their total annual operating costs on electricity and gas.[2] These small businesses make up a significant proportion of the UK's overall energy expenditure - £3.5 billion in 2018, but consume a relatively low proportion of energy demand. As a result, microbusinesses pay more for their energy than larger businesses and engage with the energy market in very different ways to large users.

[1] https://www.ofgem.gov.uk/information-consumers/energy-advice-businesses/types-business-energy-contracts

[2] See also https://www.citizensadvice.org.uk/Global/CitizensAdvice/Energy/Citizens%20Advice%20-%20Closing%20the%20protection%20gap(2).pdf

The outcome of the proposals made in Ofgem's Strategic Review of the microbusiness retail market are currently awaited[3]. However, in the Opening Statement (May 2019) for the Review[4], the following issues for microbusinesses were identified.

Overarching theories of consumer harm

1. The smallest microbusinesses cannot effectively engage with the current market given its complexity, including the very wide range of offerings and providers. At present their size and lack of expertise places them at a significant disadvantage when engaging with providers, leading to them ending up on expensive and/or unsuitable deals.
2. The cost of disengagement is higher for microbusinesses than disengaged domestic consumers leading to disengaged microbusinesses overpaying for their energy.
3. Barriers to accessing, using and sharing consumption data are preventing some microbusinesses fully benefiting from smart data and other technological innovations. This is hampering their ability to make informed switching decisions, use energy more efficiently and budget effectively.

These issues very clearly echo the definition used by Ofgem to describe vulnerability in the domestic sector. Ofgem also recognise that home-based, single site businesses (that is where an individual uses one room in their home as an office) are unlikely to engage with the business energy market. Instead they will likely consume energy under standard domestic supply contract(s).

The consultation proposes to make a number of changes to the supply licence conditions (see Working Draft p51 linked in footnote 3) to address some of the concerns microbusinesses face, although again, it should be noted that this agenda is about access to the existing energy market, not the transition to net zero consumption.

Challenges, barriers and opportunities in the transition to net zero

In the same way that domestic consumers can move in and out of vulnerability, the operating conditions for microbusinesses are fluid and their risk of vulnerability can change over time. Therefore, it is proposed to identify a number of barriers and challenges that are likely to be met by small businesses in the transition to net zero; facing multiple concurrent barriers will clearly be a disincentive to business owners, and so identifying the combination of factors that constrain immediate or mid-term action will help shape appropriate support and advice. It is also important to note that the transition may present new opportunities and advantages to businesses.

Although the Net Zero Communities project is principally considering the barriers to decarbonising the supply of metered electricity and gas, and therefore identifying factors creating vulnerability to this change, there are a broad range of challenges and possible vulnerabilities facing the business community that may or may not directly affect the use of their metered energy. They are worth considering at this stage, as the indirect effect on their metered energy consumption may not be immediately recognisable.

[3] https://www.ofgem.gov.uk/publications/microbusiness-strategic-review-statutory-consultation-modify-slcs-all-gas-and-electricity-supply-licences
[4] https://www.ofgem.gov.uk/publications/opening-statement-strategic-review-microbusiness-retail-market

Key issues that may impact small businesses in their transition to net zero carbon identified at the start of the Net Zero Communities project:

- For some businesses, energy is a higher than average proportion of their operating costs. Rapid fluctuations in energy prices can make their ability to forecast cashflow and create a stable business plan more difficult.
    - E.g. the need for refrigeration to store food, or requiring energy intensive machinery. Food companies that use electricity and gas for cooking as their key business activity, for example, could therefore, be more vulnerable to energy price changes whilst trying to remain competitive. While renewable tariffs remain higher than non-renewable tariffs there is a potential disincentive to switch.

    - The price increases in the wholesale gas market during 2021 have led to significant disturbance in the domestic supply sector with a number of smaller suppliers collapsing. While most attention has been given to the impacts of these changes on domestic consumers, clearly unexpected increases in energy costs will have a damaging impact on those small businesses that do not have the capacity to adjust their product pricing to accommodate these costs.

      Behind the immediate reaction to rapid price increases, lies the greater concern about security of supply, which potentially leads to consideration of locally sourced renewable energy supply as a more stable and sustainable option. For businesses whose reliance on a reliable energy supply is critical to their operation, the case for investment in low carbon options becomes more relevant; accordingly, while the impact of large price increases will have an immediate impact on their trading position, in the medium term, this could be an important driver in the speeding the transition to zero carbon energy consumption.

- The majority of businesses do not own the premises they occupy and so are unlikely to be able to make changes to the premises or invest in property improvements to reduce energy usage costs, or reduce their carbon footprint; for example, through installing insulation and or renewable energy generation technology. Where typical business leases are less than 5 years, the payback on investment is, potentially, unlikely to be quick enough within a lease period.

    - For all businesses that rent premises, and the landlords of business space, they must address the Minimum Energy Efficiency Standards (MEES) for Non-Domestic properties. This states that all non-domestic premises starting a new tenancy must have an Energy Performance Certificate (EPC) rating of an E or better, and from April 2023 all existing tenancies must have this rating. Awareness of this standard is low in the sector and experience of the MEES for the private rented sector shows high levels of non-compliance.

      The government's proposed requirement that all rented non-domestic buildings will

be Energy Performance Certificate Band B by 2030,[5] (barring lawful exemptions) may help business with their energy costs but may also have a detrimental effect on rents and/or the availability of premises. The consultation document states that nearly 1 in 5 commercial properties are rated EPC F and G, and an estimate that over 1 million properties will need improvement measures to achieve EPC B – 85% of the existing occupied commercial building stock.

  - From work CEP is doing in the domestic private rental market it is clear that there is a significant lack of awareness of the MEES, and what appropriate actions should be taken to improve the energy efficiency of buildings. We do not see any evidence that awareness and understanding of the energy efficiency regulations is any better in the commercial sector.

- Mixed Use properties. Where, for example, a building is primarily non-domestic but has a domestic component, i.e. a retail shop has integral private accommodation above it. Assuming a business energy supply tariff, these properties are more susceptible to being disconnected for debt and the customer does not have the same protection as for domestic properties.

- Investment costs in more environmentally friendly technology and infrastructure may be prohibitive due to the required scale of change.
  - E.g. switching a fleet of delivery vehicles to electric, or removing existing and purchasing new large industrial machinery due to its current fuel use will take careful planning and a clear investment strategy.

- One pressure too many. Businesses have expressed concern about their capacity to learn and adapt to new challenges, while facing the combined impact of Brexit, the Coronavirus pandemic and supply chain issues. A busy small business may not have the time and resources to invest making the changes.
  - Taking time to learn and plan, for a small business with limited capacity beyond that needed to deliver core functions is a significant barrier. They need to be able to easily access information and/or consultancy that provides clear guidance on the decarbonisation challenge.
  - Limitations on the ability of existing management to do a comprehensive S.W.O.T. analysis (Strengths, Weaknesses, Opportunities and Threats) on the zero carbon requirements for their business – the sector the business operates within clearly has a major influence on the scale of the transition required.
  - This journey is new to many businesses and the 'where do we start' question especially for small business may increase their vulnerability to necessary changes. Currently there is a plethora of reports and studies being published addressing sectoral concerns and challenges about the net zero carbon challenge, mostly considering the task at a very high, aggregated level. Translating this analysis into a

[5] https://www.gov.uk/government/consultations/non-domestic-private-rented-sector-minimum-energy-efficiency-standards-epc-b-implementation

menu of options and actions that individual business owners can take is a separate activity that is at an early stage.

- Carbon intensity in supply chain where core business activities are based primarily around carbon intensive products, raw materials and/or markets overseas.
    - For example
        - The question of how to decarbonise operations becomes bigger when factoring low carbon freight and distribution. These questions would not specifically impact current electric or gas consumption, but would if the business decided to switch to more localised manufacturing. For example, an importer of rum products from the Caribbean cannot easily switch to local manufacture, and the measurement of carbon emissions embedded in the supply chain, including overseas production and importing finished products and then distribution to retail outlets will be a challenging task.
        - A building company using timber and other materials sourced from around the world: again, investigating local supplies of raw materials would not directly affect the current energy use of that business, but would affect potentially the local saw mill with an increased energy use.

- A business may become more vulnerable if the transition to low carbon markets requires membership of a certification process that could potentially discriminate against those companies unable to make the changes needed to achieve such certification, or adopt new systems quickly.
    - Smaller companies may face pressure from larger companies on compliance to new environmental standards as part of tendering and procurement processes. With more limited resource and capabilities this may jeopardise their potential competitiveness.

- The majority of microbusiness are on negotiated energy supply contracts and can therefore be more liable to Third Party Intermediary (TPIs) miss selling. (TPI's can include energy brokers and consultants for energy procurement, efficiency and management.)
    - There is a lack of focus on smart tariff comparison tools aimed at the small business, unlike the situation for domestic consumers where ease of switching and the use of price comparison websites has been actively encouraged by government.

- Changes in transportation, for those businesses reliant on existing petrol or diesel vehicles there will potentially be vulnerabilities at the early stages of the transition in accessing electric charging. While significant growth in the charging infrastructure should reduce range anxiety issues, the complications of supporting an all-electric fleet will continue to raise concerns with transport managers.
    - For those businesses that rely on heavier transport or HGV use, the potential change of fuel to hydrogen or biodiesel will possibly impact or delay a transition to decarbonised operations with uncertainties about new fuel supply availability and dependency on these new fuels, especially as these new technologies go through

their early trial stages.

Broader vulnerability in the energy market to consider for industry:

- There is increased vulnerability for those sectors exposed to international competition if UK energy prices rise (particularly from countries outside EU with less ambitious climate policies). The price of energy in the UK may well rise, compared to the cost faced by competitor firms abroad, placing those UK manufacturers competing at a significant disadvantage.

- Low carbon electricity supply may potentially become unreliable and that the costs of power cuts will rise. Those industries/companies that have heavily energy intensive processes would be more vulnerable to losses at these times.

Industry Sector Considerations

Actual vulnerabilities in the transition to Net Zero in the energy market will vary greatly between industry sectors and specific businesses.

There will be many common vulnerabilities such as technology change barriers, the price of energy and access to the right information and advice to help with changes.

Some business will be affected more than others, particularly where the product or service relies on fossil fuels for its current core business and there is an increased risk in changing that product/service quality or character, for example a mobile caterer currently using LPG gas for cooking.

The food and drink industry will face challenges as mains gas is intensively used in the baking or production process with expensive or possibly product changing results in incorporating the proposed electrification of heat.

The manufacture and construction industries will face material substitution issues, the increased use of wood instead of concrete and more focus on design optimisation to reduce material inputs and waste minimisation. Again those businesses with the motivation and scope to change will be less vulnerable to those that are reliant on the more carbon intensive construction methods.

Within the Retail sector, those unable to source locally produced products or to reduce their packaging or change to recycled or more ‘green’ packaging will effectively be vulnerable to reducing carbon in their business structure. Making the store premises net zero will again depend on the barriers involved with ownership, location etc.

The main service industry in the WREN area is undoubtedly tourism. Low carbon transport availability issues to the area, such as no train availability would make this sector vulnerable to Net Zero change and if global travel restrictions continue this may see continued growth in UK tourism, which will accentuate the carbon use of tourism in the local area.

Conclusions

The purpose of this discussion paper is to consider whether a definition of vulnerability in the non-domestic sector would be helpful when looking at the transition to net zero carbon energy consumption; possibly, a definition could be developed that reflects the well-established definition that Ofgem uses for vulnerability in the domestic sector. This leads to the possibility of identifying those businesses at risk or who are more vulnerable, and engaging with them in the same way as the Priority Service Register for domestic consumers.

At this stage, our conclusion to both questions is that is unlikely that a definition that is sufficiently robust could be agreed, given the greater diversity of businesses. Consequently we cannot see that there are clear benefits that a non-domestic PSR could provide. Others may disagree with these conclusions, and further engagement with SMEs and microbusiness through the Net Zero Communities may give opportunity to revise this view.

It should be noted that one of the primary reason for WPD's register, is their ability to alert consumers whose circumstances could be seriously impacted by a loss of power. This includes customers who need an uninterrupted electricity supply to operate medical equipment, where a loss of power could be life-threatening. Although some businesses may require uninterruptible supply, for instance, to ensure consistent heat in food preparation, it assumed that those businesses will make the necessary arrangements in terms of emergency generators to back up their supply and so the need for WPD intervention is lessened. Business Interruption and Disruption plans and specific insurances are common for sectors where breaks in supply are a recognised risk.

This paper is written in the context of the desire of WPD and other Network Operators to ensure that no-one is left behind in the transition to net zero carbon operations. This therefore addresses a wider challenge than just the energy element of a business's activities; energy will be central to their focus but should recognise the embedded carbon and demand for emissions reduction will go much further. Accordingly, the range of barriers and challenges all businesses are currently facing are widespread in scale and impact every sector, and as a result vulnerability becomes a difficult concept to identify. Ofgem in their Statutory Review of Microbusinesses recognise that companies employing fewer than 10 employees do face difficulties engaging with the energy market and are proposing some additional safeguards to licence conditions; but, as noted throughout, the transition to net zero carbon consumption and operations affects more than just energy usage.

CEP has previously supported businesses that wanted to take action to reduce their carbon footprint who had been caught by the early mover risks. In making early investment they were either poorly advised, over-sold or were unduly optimistic about the benefits of specific investments. When the equipment failed to deliver the outcomes promised, the costs of rectifying the issues led to extreme caution by businesses that previously had been enthusiastic to trail blaze on low carbon action. Accordingly, in trying to identify challenges to the microbusiness sector we recognise that many business owners will want to take a cautious approach.

Equally, we recognise one area of caution is the risk of taking immediate actions that later have to be undone in order to progress further. This scenario is common when property owners (domestic and non-domestic) consider energy efficiency upgrades to achieve a certain level of energy performance. Unless a holistic, whole building approach is adopted there is a risk that adopting a specific measure, while justified in its own right, will prove to be a barrier for more significant

improvements, especially where major capital expenditure requires a payback period, or depreciation.

Additionally and in relation to the above point, while the primary focus of this analysis has been the consequences of decarbonising the energy supply. However, to achieve net zero carbon consumption across the entire business there should be consideration of the wider issues including waste management and recycling, water management, and personnel matters. The inter-relation of these elements on investment strategies may cause delays and barriers to rapid decarbonisation plans.

Vulnerability in the non-domestic energy market, be it to the lack of control of supply or susceptibility to potential increases in the direct metered energy consumption and/or costs will affect nearly all business.

Broader threats to competiveness or actual business viability in the transition to Net Zero are complex and business specific. Each individual business will face its own challenges, barriers and therefore vulnerability to this change.

The success of the net zero carbon transition process in the non-domestic energy sector will depend on a complex mix of clear relevant information, resource availability, practicality, technology, government policy and consumer response, as well as the necessary motivation to change, be that in personal intent or in response to financial necessity.

September 2021