



Putting customers at the heart of the energy transition

Attractive, easy and affordable

Contents

Executive summary	3
Introduction	5
The global context	5
The Sustainable Markets Initiative	5
Our Research	6
This report and supporting materials	7
Getting from here to there: The vision for energy customers	8
Business customers - large businesses and SMEs	8
Well served domestic customers with a reliable grid connection	9
Under-served customers with limited electricity access or off grid	10
Barriers: what is stopping customers from engaging with the energy transition?	11
Opportunities for large businesses	13
Opportunity area 1 - The impact of energy purchasing	13
Opportunity area 2 - Supporting suppliers on their transition	15
Opportunity area 3 - Exploiting their wider influence	16
Customers	16
Employees	16
Influencing policy	17
Voluntary Carbon Offsets	17
Opportunities for energy companies	18
Understanding the customer - starting where they are	19
Making it attractive, easy and affordable	21
Opportunities for banks and investors	22
Providing small scale funding to individual households and SMEs	22
Providing funding to corporate clients	23
Providing funding to the wider energy ecosystem	24
Conclusion	25

Executive summary



We urgently need to decarbonise our energy system to fight climate change and protect our planet. At the same time, we need to provide access to clean, reliable energy to the nearly one billion people currently without electricity. But this transformation cannot simply be driven by energy companies and producers making decisions for people - it must have customers at its heart.

The energy transition relies on people changing the way they power and heat their homes and the forms of transport they use. It relies on businesses seeing a commercial case for investing in green energy and reshaping their businesses to take advantage of it. In the developing world, it relies on people seeing renewable energy as a better way to meet their energy needs, not as something that will slow down aspirations for a better life. We have to look at these changes through the customer lens. People have to see and feel the benefits. Without customers on side progress will be slower and less certain and opportunities to deliver wider benefits will be missed.

Looking at the barriers customers face today, our conclusion is that putting customers at the heart of the energy transition means making it **attractive, easy and affordable** for them to go green. This applies to customers large and small, across the developed and developing world. While this might sound obvious and simple, it requires a mindset shift from thinking of customers as simply “bill payers” or “meter points” to really understanding what matters to them.

Of course governments and regulators have a role in putting the right policies and incentives in place, but the private sector - **energy companies, large businesses and the financial community** to whom this report is addressed - have a substantial opportunity to drive this transition and to respond to the growing concerns from their customers about climate change. There are also clear benefits for them - in terms of reputation, competitive edge and the bottom line - in doing so.

Through the interviews and roundtables we have held in putting together this report we have found inspiring examples of companies who are

already taking a lead. We do not claim to have all the answers and we know that the opportunities vary by sector and geography, but we hope that the ideas and examples in this report will provoke conversations and motivate others to think about what steps they can take.

From our discussions it is clear that **large businesses** have a pivotal role to play, not just through the decisions they take about their own, often significant, energy usage but also through their supply chain, their wider influence with their customers and employees, with policy makers and through their approach to voluntary carbon markets. We have found inspiring examples of large businesses recognising their additional responsibilities and pushing the boundaries - from Google looking to move to 24/7 Carbon Free Energy globally through to Schneider Electric supporting whole supply chains to decarbonise.

In the **energy sector** a new ecosystem is emerging of companies providing products and services to help customers engage with the energy transition - from smart home solutions to carbon reporting platforms. The energy sector's boundaries are blurring and existing energy companies must adapt and form new partnerships, or risk losing out to these new players. To do this they need to use

data and wider insights to deepen their customer understanding as Octopus Energy is doing with its Centre for Net Zero. We also look at the example of Modern Energy Cooking Services in Africa and what that can teach the developed world about how to be more customer-centric.

For the **finance community**, there are opportunities to develop new products that will help customers of all kinds pay for the energy transition. Tweaking traditional mortgage loans can help domestic customers pay for home upgrades like insulation, solar PV or heat pumps. More innovative funding models are also emerging with fintech company 4R Digital using a Pay-As-You-Go model in Africa to track carbon savings and tap into finance from voluntary carbon markets.

Moving forward requires all of these players - energy companies, large businesses and the finance community - to work in partnership to make the transition attractive, easy and affordable for customers.

Reflecting the ethos of the Sustainable Markets Initiative, this report encourages business leaders to come together, to share learning and find new ways to collaborate, putting customers at the heart of the transition.

Introduction

The global context

The scientific evidence is clear. We have to take urgent steps to decarbonise our energy system if we are to avoid irreversible damage to our planet. At the same time, we need to meet the growing needs of populations across Asia and Africa who are currently without access to electricity or who lack a reliable supply.

We need to become far more energy efficient and to stop burning unabated gas, oil and coal. We need to decarbonise our electricity supplies – using electricity generated from renewables and other zero carbon sources – a journey that has begun in many parts of the world but still has a way to go globally. On top of that we need to electrify transport and heat – adding to the demands on the electricity system. We will also require alternative zero carbon solutions for some of the most energy intensive industries and for heavy transport.

The energy transition will become increasingly difficult without customer buy-in and support. Progress requires changes to the way people live their lives, to maintain citizens' support for action on climate change they must share in the benefits. The energy transition can't be done to people, it must be done for and with them.



The Sustainable Markets Initiative

[The Sustainable Markets Initiative](#) (SMI) was formed at the invitation of His Royal Highness the Prince of Wales, at the World Economic Forum (WEF) Annual Meeting 2020, with the goal of creating a coalition of business leaders who share his view that progress towards a sustainable future must be accelerated.

The Energy Transition Task Force is a sub-group of the SMI made up of a variety of companies looking to accelerate the transition of the energy industry to a resilient, low carbon, and sustainable future.

This report is the deliverable from one of three work streams in the Task Force and is focussed on exploring what corporates in the SMI and beyond can do to promote a customer-centred energy transition.



Our Research

As research for this report, we held interviews and roundtables with businesses, energy companies, financial institutions, energy experts and stakeholders from all around the world. Insights from these conversations, as well as a review of related research and our own reflections, have informed this report.

It is not exhaustive, rather we hope it will be the beginning of a much wider conversation, inspiring businesses, energy companies and investors to act on the ideas and to put customers at the heart of the transition.

We are very grateful to everyone who has given their time through this process and for the inspiration they provided. We have spoken to the following people / entities:

International

International Energy Agency

UK

The Assoc. for Decentralised Energy
 NatWest
 Santander
 Scottish Power
 Abundance Investment
 Nationwide
 Centre for Net Zero
 Prof Nick Pidgeon - *Professor of Environmental Psychology and Risk, Cardiff University*
 Dr Moira Nicolson - *Behavioural Science Lead, UK Cabinet Office*
 Shell Energy Retail
 Energy Systems Catapult

USA

Generation IM
 Amazon Web Services
 Energy Impact Partners
 Dr Ahmad Faruqui - *Economist and Time of Use Expert, Brattle*
 Sepa Power

Africa

Prof Matt Leach - *Modern Energy Cooking Services*
 4R Digital
 Okra Solar
 World Bank Group

Asia

Vedanta India
 ReNew Power

Wider Europe

Schneider Electric
 Ørsted
 FlexiDAO
 Ipsos Mori
 Astra Zeneca

Australia

Iberdrola Australia
 Charles Sturt University
 Port of Newcastle
 Origin Energy

This report and supporting materials

The report starts with our visions for a customer-centric energy transition and what that future world might look like for different customer groups (households and businesses in the developed and developing world). We then reflect on the situation “as is” for these different customer groups and the barriers they face. While the practicalities and the wider benefits of sustainable energy can vary significantly across different geographies and customer segments, our view is that addressing the barriers in all cases involves making the transition attractive, easy and affordable.

We then look in turn at what energy companies, businesses and investors can do to help achieve these three goals.

Additional resources are available which provide more detail on the ideas in this report for those looking to take the next step.

The working group that produced this report was made up of representatives from: Octopus Energy, The Energy Institute, Scottish Power, ReNew Power, Wipro Ltd and BP.

octopusenergy



ReNew
POWER



Getting from here to there: The vision for energy customers

The visions below explore the role that different customer groups across the world can play in the energy transition and how they can benefit from it. We also look in turn at where each of the customer groups are today.

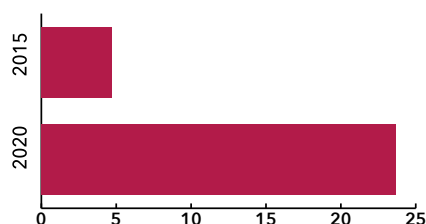
Whilst we are some way from achieving these visions globally, there are places around the world where significant progress has been made and some inspiring examples - that we draw on in the rest of the report - of energy companies, businesses and the finance community helping move us towards these visions.

Business customers - large businesses and SMEs

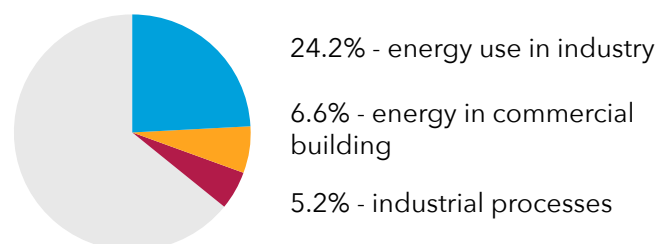
Where are we now?


Large businesses - historically responsible for a large share of emissions but starting to act

Corporate PPAs have hit 23.7 GW globally, up from 4.7 GW in 2015³



Global emissions in 2016¹




 Over 2000 businesses are working with the Science Based Targets initiative to set climate targets in line with the Paris agreement²

SMEs - have a large collective impact but can be overlooked by energy companies and can lack the inhouse resources to engage with the transition



In Europe only 13% of SMEs say they have already adopted a sustainability strategy⁵

 2,895 businesses from 88 countries have joined the SME Climate Hub, pledging to halve emissions by 2030 and achieve net zero by 2050.

¹ <https://ourworldindata.org/emissions-by-sector>

² <https://sciencebasedtargets.org/companies-taking-action>

³ <https://about.bnef.com/blog/corporate-clean-energy-buying-grew-18-in-2020-despite-mountain-of-adversity/>

⁴ <https://smeclimatehub.org/together-for-our-planet-business-climate-leaders-campaign-the-sme-climate-hub-supports-the-uk-governments-new-campaign-to-encourage-small-businesses-to-go-green/>

⁵ <https://www.sme-enterprize.com/wp-content/uploads/2021/09/SME-EnterPRIZE-White-Paper.pdf>

What is the vision?

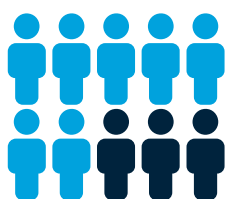
Businesses of all sizes will have **easy** access to **affordable and reliable** clean power and to the technologies to decarbonise their heat and cooling, transport, business and industrial processes. They will also have access to the tools to control how much energy they use and when – allowing them to take advantage of clean electricity when it is abundant and cheap, playing their part in achieving a zero-carbon energy system whilst keeping costs down.

The **business case** for using renewable energy will be overwhelming. Through these actions businesses are able to respond to growing **investor interest** in managing climate risks and **customer demand** for sustainable products and services. **New business opportunities** will be created across the globe as green energy becomes plentiful and cheap at new times and in new places and as new markets open up for the products and services underpinning the transition.

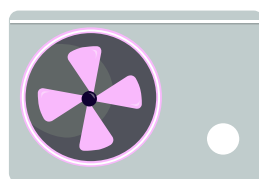
Well served domestic customers with a reliable grid connection

Where are we now?

Increasing concern has begun to translate into action



Climate change is a regular concern for half of citizens globally, with 7 in every 10 people already concerned about the impacts taking place in their country⁶



Heat pumps have become the most common technology in new builds in many countries but still only meet 7% of global building heating demand⁷



42% of under 35s are willing to pay a premium for a green energy supply in the UK⁸. In 2020 4.6% of new cars sold globally were EVs⁹, up from 2015 where EVs still only accounted for less than 1% of all new car sales¹⁰.

What is the vision?

Households will be provided with green energy as the **default** option. Many households will produce their own power from solar panels, storing surplus energy in home batteries or selling it on to others or back to the grid. **Electric vehicles** will be the norm and most homes will have reached a high level of **energy efficiency** with new forms of **low carbon heating** and cooling adopted as standard. Customers will see the benefits of having made the change, including **lower bills** and improved comfort.

These investments will be **affordable** for the average household and arrangements will be in place to ensure that lower income households can benefit too. Those in rented accommodation will be able to participate via community schemes or through agreements with landlords. Public transport will be decarbonised which, together with a rise in electric micro mobility like e-bikes and scooters, will allow everyone to benefit from a cleaner environment. All homes will have access to the **tools and information** they need to manage their energy usage and keep costs low. Customers that want to play an active role in supporting a low carbon energy system by, for example, charging EV batteries off peak when grid capacity and renewable generation is plentiful, will be **rewarded** for it.

6 <https://www.ipsos.com/en-uk/earth-day-2022-global-attitudes-climate-change>

7 <https://www.iea.org/reports/heat-pumps>

8 https://www.ey.com/en_uk/power-utilities/consumers-hold-the-key-to-a-greener-future

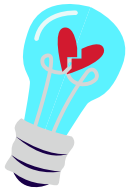
9 <https://www2.deloitte.com/uk/en/insights/focus/future-of-mobility/electric-vehicle-trends-2030.html>

10 <https://www.iea.org/news/2015-the-year-electric-vehicles-went-mainstream>

Under-served customers with limited electricity access or off grid

Where are we now?

A wider challenge still exists to meet basic energy needs



Over 10% of the world's population do not have access to electricity, accounting for more than 750 million people globally¹¹. Many more lack reliable power and face regular blackouts.



More than 2.5 billion people around the world don't have access to clean cooking equipment resulting in around 2.5 million premature deaths a year from exposure to smoke from toxic cookstoves¹³.



80% of unconnected people live in just 23 countries, 18 of which are in Africa and 5 in Asia¹².

What is the vision?

Renewable generation will enable **universal access** to clean, affordable, reliable power for the first time, **improving quality of life** and **boosting local economic opportunities**. Those on grid will benefit from greater **reliability, control and affordability** - and from improved air quality. Those currently off grid will have reliable energy access for the first time, powered by renewable sources. Standalone micro or mini grids will provide energy access to those living in remote communities beyond the reach of the national grid. The focus on meeting the growing energy needs of customers sustainably and quickly, reduces the pressure for investment in fossil fuels.

This new electricity access opens the door to electrical appliances that deliver wider social benefits. Universal access to clean cooking stoves improves health and reduces the workload of women in many households. The products and associated financing will be **designed** with customers and their needs at heart.

11 <https://www.iea.org/reports/sdg7-data-and-projections/overview>

12 <https://www.seforall.org/publications/tracking-sdg7>

13 <https://www.iea.org/reports/sdg7-data-and-projections/overview>, <https://www.seforall.org/data-stories/seforall-analysis-of-sdg7-progress-2021>

Barriers: what is stopping customers from engaging with the energy transition?

If we are to put customers at the heart of the transition, we need to recognise that customers have different needs and motivations and different starting points in energy use and attitudes to climate change. Countries are also in different positions economically and in terms of the energy resources they have available to them.

At the same time many of the high level barriers that customers face are the same. Across all customer groups the problem is not the technology – in most cases that already exists – but helping customers to access it. There is a huge opportunity for large business, energy companies and financial institutions to work together to meet this challenge.

Interest and motivation – need to make it attractive

Customers are typically not interested in energy but in what it enables them to do. They also have many competing demands on their time, money and attention.

For many businesses Covid-19 and rising inflation have put an emphasis on short term survival. Cost and reliability of energy supply are crucial. Larger businesses are facing growing legal and reporting requirements and coming under increased pressure from investors and their customers to help address climate change – making the business case more compelling. That focus is starting to trickle down into their supply chains but SMEs are still unclear what the transition means for them. Rising energy prices are a real concern but the options are not widely understood.

Households with reliable grid connections are increasingly aware of and concerned about climate change but do not always see the link to their own energy behaviours. With the exception of a minority with solar PV or EVs, energy remains low interest, although rising bill prices are prompting more customers to explore new options.

Under-served households are primarily concerned about the reliability of access or obtaining access in the first place. Stand-alone solar products are sold as lighting systems or systems for charging mobile phones – reflecting what matters to people. It is often not clear to people why they need to move away from the traditional cooking fuels that they are used to.

Complexity and hassle – need to make it easy

Customers large and small need help to navigate their way through the energy transition. The choices are complex and it can be hard to know where to start, especially when investing in your own home. This is compounded by low levels of trust in energy service providers, the jargon involved which can alienate customers, and a range of practical barriers.

Larger businesses looking to decarbonise their energy supply will often be reliant on expert advisers to help them work through the options and project manage the solution. Many procurement teams won't have the knowledge and experience of entering into renewable contracts and will rely on sustainability professionals which can come at a cost to the business.

SMEs have the same need for advice and support, though may have more trouble affording or finding it. They can also face practical challenges with most smaller businesses operating out of rented properties, and so needing the agreement of the landlord to install low carbon technology.

Domestic customers face similar challenges knowing where to start. Options are more limited in rented properties and customers can be put off by the upheaval of a building retrofit, loft clearance for insulation, or finding trusted installers. Lack of digital skills can also be a barrier for some.

Cost and bill predictability - need to make it affordable

Customers large and small struggle to fund the upfront costs of low carbon technologies.

For large businesses who might be looking at corporate PPAs, the length of contract required (typically 15 years) can be out of step with the shorter planning horizons they work within. In parts of the world where there is less track record of renewables, investment in renewable projects can be seen by investors as too risky.

SMEs face even starker time horizon challenges when looking to invest in low carbon technologies or energy efficiency measures which may have lengthy paybacks. Their credit rating may mean they are not eligible for conventional loans.

Similarly, households can struggle to fund the upfront costs for low carbon technologies or energy efficiency measures. In developing countries, the impacts of Covid-19 have slowed, and in some cases reversed, progress towards universal energy access, pushing many back into energy poverty, unable to afford basic energy supplies.



Opportunities for large businesses

Large businesses are in a pivotal position – as **significant energy users**, as **producers of consumer products** and as **buyers of products and services** through their supply chains – to drive forward a customer-centric energy transition. We do not try to define “large businesses” but hope that these ideas will be helpful to a range of organisations who have significant influence through their scale and reach.

They will, of course, all have different challenges and opportunities depending on the nature of their business and the parts of the world they operate in. Yet for all businesses there is potential to do more to decarbonise their own energy use and to assist and encourage others to do the same.

From our conversations it is clear that where companies are taking action it's because it makes good business sense. Investors are keen to see clear net zero plans and can provide access to cheaper green finance to support these plans. Only a few customers are willing to pay a premium for green products but there is growing interest and many larger businesses are thinking about how to meet their customers' aspirations (and those of their customers' customers). With the costs of renewables falling against a backdrop of unstable global gas prices, the conventional business case is looking stronger than ever – and it is clear that things are only going in one direction.

The conversations we've had show that there are three broad ways in which business can play a role in and benefit from the energy transition – **through their energy purchasing, through their supply chains, and through their wider influence**. By sharing the experiences of those we have spoken to we intend to provide inspiration and encouragement to businesses to reflect on what more they can do. We know that it's challenging, particularly in certain parts of the world, so not all companies will follow the same journey or simply be able to emulate the pioneers we identify. However the case studies and opportunities outlined below can hopefully spark some new ideas and motivate people to act.

We are also aware businesses can't do this on their own. To make progress in this space, they will need to work with partners and in particular with the energy sector and banks / investors. Separate sections of this report relate to those groups – and how they in turn need to work with business to make the transition attractive, easy and affordable. Our Additional Resources for Businesses report provides more information and examples on the opportunity areas identified in this section.

Opportunity area 1 - The impact of energy purchasing

For most companies setting out on the journey to net zero, obvious first steps are improving efficiency and making greater use of renewable electricity. Depending where they are located – and how developed the market for renewables is in that location – and depending too on their scale and how much electricity they use, different companies will want to take different approaches on energy purchasing.

As a simple first step (in markets where it is an option) businesses can switch onto a “green tariff” from an energy supplier who purchases green energy on their behalf.

Businesses looking to make a stronger commitment can enter into contracts (called power purchase agreements - PPAs) with renewable generators. These are long term contracts that can be complex to negotiate but that provide price stability and lower costs for the business. By providing a secure long-term revenue stream – typically around 15 years – these PPAs can significantly strengthen the business case for renewable generators looking to invest.



Case study: [Vedanta](#)

Vedanta is an Indian metals and mining company, operating globally.

Much of their emissions come from hard to abate sectors but they are investing to develop ways of producing green metal (Aluminium, Copper etc), recognising the demand from their customers, in particular vehicle manufacturers and other environment conscious customers.

Given the energy intensive nature of their business their plans include contracting for 2.5GW of "round the clock" renewable electricity by 2030 - a major commitment with a potentially transformative impact and creating the precedent as to how private sector can take part in decarbonization of the economy and make business sustainable. They are also looking to decarbonize their fleet (LMV & Mining vehicles) through electrification.

While operating in a hard to abate sector and in a relatively undeveloped market, Vedanta were keen to make public commitments on their plans for net zero, even where it was not yet fully clear how they could be delivered since the technology is still evolving. The clear intent is to make the energy transition with a defined timeline.

In the contractual models set out above, and in general where companies talk about being 100% renewable, this is based on matching their energy consumption with an equivalent amount of renewable generation on an annual basis.

However as the amount of renewable generation on the electricity system increases it becomes increasingly important to think about when energy is used, not just how much. What happens when the wind is not blowing or the sun is not shining?

To respond to this, some companies like Google have now set targets for 24/7 Carbon Free Energy (CFE), matching their demand with renewables every hour and in every location in which they operate.



Case Study: [Google 24/7](#)

Google met its "100% renewable" target in 2017. It now has a goal to be 100% 24/7 Carbon Free Energy by 2030. Google calculates an hour-by-hour score for each of its data centres - with scores ranging from 19% in Taiwan through to 96% in Oklahoma and Finland, reflecting the different challenges in each of the regions where it operates.

They are pursuing a 3-part strategy to reach their 24/7 goal by 2030: developing new approaches for buying clean energy around the clock, supporting the commercialization of next-generation clean

energy technologies, and advocating for policies that accelerate the decarbonization of electricity grids around the world. They are also developing smart solutions for reducing their energy demand and shifting their energy consumption to regions and times of day where carbon-free energy is most readily available.

Through this initiative Google can have a transformational impact – paving the way for the global shift to 24/7 Carbon Free Energy that is needed to decarbonize electricity grids and reach net zero.

And even if a business isn't ready to commit to a 24/7 CFE target there is value in them starting to think about when and how much electricity they use as energy companies will increasingly be looking to reward companies that can be flexible in their use of electricity to help support the wider system. Using electricity when it is abundant, green and cheap offers a win-win opportunity for businesses.

Opportunity area 2 - Supporting suppliers on their transition

Large businesses can also have a significant impact by working with their supply chain to help their suppliers reduce their emissions. Businesses that have committed to science based targets are required to consider their supply chain emissions under what is known as scope 3. There is consequently the same investor and customer pressure to start thinking about these emissions too - albeit there is wide acceptance that this is one of the more difficult areas to tackle.

While it may be hard, a focus on scope 3 can have a huge impact in improving the business case for smaller businesses to decarbonise their energy use, driving change across whole sectors within the business community. This involves large businesses not only demanding more from their suppliers and partners, but providing them with tools and support to begin that journey and to help them justify the investments required.

There is also an opportunity here for collaboration as the businesses operating in a sector will often have common supply chains and face similar challenges.



Case study: [Schneider Electric and partners](#)

Through its Zero Carbon Project, Schneider Electric is working with its top 1,000 suppliers to reduce their carbon footprints 50% by 2025. The offering is tiered to take account of the level of maturity of the company they are working with and ranges from free, online resources from small suppliers just starting on the journey, through virtual training sessions and data tools to tailored strategic advice.

They also use their expertise to help other large businesses with their supply chains. Partnering with AstraZeneca and other pharmaceutical companies through the [Energize programme](#), they are helping the sector work together to support their supply chain in decarbonising, many of whom are only just starting to think about climate change. As well as providing educational materials and advice, Schneider Electric are also developing "aggregated PPAs" where, by pooling together, smaller suppliers can benefit from economies of scale and purchasing expertise that normally only larger businesses can access.

Opportunity area 3 - Exploiting their wider influence

The scale and reach of larger businesses means they can have significant influence beyond their own energy use and supply chains. The precise nature of the opportunity will vary for different businesses, but we have identified four areas that businesses might usefully think about - their customers, their employees, their influence on policy and any voluntary carbon offsetting they undertake.

Customers

A customer-centric energy transition requires a reshaping of many aspects of how homes and businesses use energy, and businesses can help to make that transition more attractive, easy and affordable. Pioneers include IKEA helping to build the market for LED light bulbs by making them affordable and Tesla helping build the market for EVs by making them aspirational and attractive cars to drive.



Case study: [Ikea](#)

The second-largest part of the IKEA climate footprint after materials came from the electricity needed for lighting and home appliances in its customers' homes.

In 2011 IKEA founder Ingvar Kamprad set a challenge: create LED bulbs that everyone can afford – a \$1 LED light bulb. This required them to think differently about efficiency in production, new materials and the whole value chain.

In 2015, the switch was made to light-emitting diodes (LEDs) for all lighting sold globally. As well as price, a key step was making a wide range of LED bulbs available that enabled customers to easily change old incandescent bulbs to LED without changing the lamp base – focussing on what matters to customers at a practical level.

These bulbs use 85% less energy than a traditional lightbulb, and IKEA continue to bring out new versions that improve energy efficiency and have a longer life.

Employees

Large businesses will often have a significant number of employees, presenting an opportunity to shape people's behaviours in both their work and home lives. This can extend from simply building awareness about climate change and the energy transition through to practical support such as EV chargers in the employee car park or salary sacrifice schemes for the purchase of EVs or other low carbon technologies.

For example, as part of its pledge to be a net zero business by 2035, the [John Lewis partnership](#) is engaging with professional membership body the Energy Institute (EI) to roll out its [EnergyAware](#) behaviour change tool.

Case study: [Energy Institute and John Lewis Partnership](#)

The John Lewis Partnership, a major UK retailer, is set to make an immersive online training course available across its workforce to help reduce energy consumption, energy use and carbon emissions in their home and working lives.

As part of its pledge to be a net zero business by 2035, the Partnership is engaging with professional membership body the Energy Institute (EI) to roll out its EnergyAware behaviour change tool to all 76,000 of its employees - known as Partners - over the next two years.

The online tool, which has previously been applied in office, manufacturing, logistics, warehouse, construction and healthcare environments, takes users on an immersive journey, educating them about their ability at home and at work to influence energy consumption, helping to cut costs and harmful emissions.

Influencing policy

Businesses can use their influence and voice to advocate for policies that support renewable energy or that facilitate the transition more broadly. Businesses will have a practical understanding of the challenges of purchasing renewables in different parts of the world which policy makers can benefit from hearing.

Voluntary Carbon Offsets

Offsetting gets mixed reviews. To stay on the right side of this argument, businesses need to ensure that they focus first on reducing their own emissions as far as they possibly can and then, where they are offsetting, doing so through accredited "high quality" offsets. If they do that and are transparent about the role offsetting is playing in their plans, businesses can have a real impact through their participation in voluntary carbon markets, given the urgent need to scale up near-term climate finance.

Where they make use of voluntary carbon markets, businesses can look to purchase quality assured carbon credits with a focus that fits their wider business goals and ethos – whether that is nature or technology, support for local communities or developing countries. There are also opportunities for pioneers to use their carbon offsetting investment to tackle some of the more intractable problems we face on the journey to net-zero. [Microsoft](#) is a pioneer in this space, having provided support to [M-KOPA](#) (which offers underbanked customers in Africa access to solar-powered appliances via its financing platform) to get accredited. Microsoft also invests in cutting-edge technology-based carbon removal projects as part of a transparent portfolio of carbon offsetting projects.

Opportunities for energy companies

Energy companies should understand better than anyone what is involved in the energy transition and what the impacts are of shifting to cleaner but more variable sources of renewable electricity, dependent on the weather. The energy transition also requires a focus on how customers themselves can help keep the costs of the system down by looking at when and how they use electricity. As more of the services people rely on like heat and transport become electrified, really understanding how customers use energy is key to unlocking opportunities so people can benefit from green power.

In response, the energy transition is reshaping the energy value chain, bringing in new players alongside traditional utilities. There is now a whole new **energy ecosystem** emerging that supports end customers, spanning:

- energy advisers / intermediaries who can also provide support on carbon reporting
- data analytics, AI and machine learning – helping customers make sense of energy consumption and emissions information, and managing smart systems
- aggregators who work with customers willing to shift the hours of the day they currently use electricity to help balance the wider system
- providers of the products that are key to the transition for households – EVs, EV chargers, electric scooters, heat pumps, solar PV and storage, clean cookers etc, – and for businesses
- investment in home insulation and heat networks (as an alternative way of delivering zero carbon heat to communities)
- installers of these low carbon solutions – and trainers of those installers
- alternatives to grid provision in the developing world: stand alone solar systems, mini and microgrids
- providers of green energy solutions – including microgrids – for corporate customers
- financiers including providers of micro finance to those without bank accounts, including through the voluntary carbon market.

Boundaries are not fixed and if these new players offer a more holistic, customer-centric service they could end up expanding into the energy company space, taking over and improving on that core customer relationship. The question for incumbent energy companies is where they want to lead, where they want to partner and where they are happy for others to take over.

Across the world there are a range of different energy market structures: regulated and competitive, grid connected and standalone. Whatever broad strategy energy companies decide to follow, the first step must be to understand customers better – and with that insight look to make the transition attractive, easy and affordable.

Understanding the customer - starting where they are

There is no such thing as a typical household or business customer. Energy companies can use data, behavioural insights, dialogue and active learning to build a more granular understanding of the needs, values and behaviours of their customers. Building on this, energy companies should offer a range of services and tariffs whilst making it easy for a customer to find the right one for them.

Businesses in particular will be at different stages on their journey and energy companies should be looking to provide solutions that support businesses whatever stage they are at – helping them move to the next stage.

[ReNew Green Solutions](#) in India offers a portfolio of different solutions to meet the needs of customers with different levels of buying power, interest and risk appetite. Without this support businesses will increasingly look to independent advisers for help in designing their energy solutions.

Building trust is essential to getting customers to take on more complex offers like time of use tariffs and, in future, to allow companies to control their appliances to help manage demand. Energy companies must build trust with customers over time by being transparent, by doing their core job well and with customers' interests at heart, and by demonstrating that they are playing their part in tackling climate change.



Case Study: [Octopus Energy](#)

Octopus Energy is an international energy supplier with 3.5 million customers globally.

The company provides a choice of innovative smart tariffs, including Agile Octopus which reflects wholesale prices but with a cap to ensure customers are not overly exposed if prices spike. Aimed at households with smart meters that can shift their usage out of peak times, Octopus' smart tariffs allow customers to directly benefit from using energy at times when energy is cheaper and greener. Their Fan Club Tariff also allows customers living near an Octopus windfarm to get low cost energy when the wind is blowing locally.

Octopus also founded the [Centre for Net Zero](#), a high-impact independent research organisation. The centre collaborates with world leaders and innovators in technology and academia to help design a future energy system. This enables Octopus to build an understanding of customers' energy usage behaviour and how that is impacted by the different tariffs they offer.

Case Study: [Modern Energy Cooking Services programme](#)

Modern Energy Cooking Services (MECS) is a five-year programme focusing on integrating modern energy cooking services into the planning for electricity access. It also aims to leverage investment in renewable energies (both grid and off-grid) to address the clean cooking challenge in the global South where cooking with polluting solid biomass dominates.

Professor Matt Leach FEI who works within the programme identified how for customers currently living without access to clean cooking, even though the contextual needs will be very different to ones faced by well served energy customers, many of the fundamental consumer issues are similar.

Energy companies across all geographies need to:

Understand the services people want – for MECs this is what people eat and how they like to cook.

Work out how to make the transition aspirational – for MECS, greater controllability of electric stoves is a key selling point.

Push for affordability and consumer confidence – have business models been demonstrated, are there plans for finance or stimulating the market?

Reach people with trusted information – in the clean cooking context, this may be by working with women's groups who tend to be the main decision makers in the kitchen in the countries MECS are targeting, creating E-cookbooks explaining traditional recipes using electric cooking, sharing stories via social media, etc.



Making it attractive, easy and affordable

Below is a list of actions energy companies can take to ensure the energy transition is customer-centric. For those that are interested to learn more, our Further Resources for Energy Companies report provides more detail.



MAKE IT ATTRACTIVE

Build off what matters to people

People care about the services energy offers – EVs, ability to use their appliances, etc.

Use purchase of services as a trigger.

Help to address spiralling energy prices

Ensure reliability and security

Recognise – and work with – external influencers

Banks and investors, customers and employees

Manufacturers of appliances

Media and social networks

Be creative

Finding solutions to people's problems

Gamify your services

Use behavioural insights

Build basic energy literacy



MAKE IT EASY

Complexity - Where to start?

Explain the options

Use simple language

Find trusted expert

intermediaries to fill the gaps

Complexity - putting it together for the customer

Work with partners that have specific expertise

Technical integration for smart home solutions

Build and operate solutions for businesses

Hassle and other barriers

Working with property owners in rented properties

Partner with trusted traders

Using your voice

Policy and regulation is crucial:

demand more from government

A coalition of industry and customers can have more influence



MAKE IT AFFORDABLE

Does green have to be more expensive?

Capitalise on the falling costs of renewables

Energy efficiency and time varying tariffs are a win-win

Avoiding price shocks

Time of use tariffs can motivate behaviour change whilst avoiding price shocks

Managing the upfront costs

Work with innovators to reduce cost

Work with finance partners on loans / leasing

Explore shorter PPAs for corporate customers

Opportunities for banks and investors

Since the financial sector committed to support net zero at COP26 there have been a range of initiatives aimed at bringing forward much-needed investment to support developing countries in hitting their national targets for renewable generation.

Looking beyond essential infrastructure investment, our research has highlighted the pivotal role investors are playing in focussing business attention on the need to decarbonise. We have also found a need for innovative forms of finance to support energy users with the costs they face when buying the technology to decarbonise their power, heat and transport.

Given the scale of the changes required, there are huge opportunities here for investors across the board, working in partnership with energy companies and others, to support customers large and small and fund the development of the wider energy ecosystem.

Providing small scale funding to individual households and SMEs

With progress in decarbonising electricity well advanced in many developed countries, the next phase of decarbonisation is what happens with buildings and transport. Customers will be looking for help to fund the costs of home upgrades and solar PV / batteries as well as electric vehicles or heat pumps. With many people living in rented properties there is an opportunity to target landlords as well as homeowners. In developing countries, the funding is needed to provide energy access even in areas where most customers don't have access to bank accounts.

What matters to customers as well as access to finance is an easy application process, manageable repayments and some protections if they get into payment difficulties.

As well as the retail banking sector, innovative funding models are emerging from the Fintech sector, including for customers whose credit history precludes them from accessing conventional loans.

- [4R Digital](#) has built on the mobile phone-based technology used for PAYG finance and other affordable services in Africa to track carbon savings and tap into finance from voluntary carbon markets by aggregating small projects through the Carbon Value Exchange (CaVEx) platform;
- Buy Now Pay Later models have been adopted in Australia by companies like [Plenti](#) enabling zero interest rate loans for solar panels with costs recovered through fees and payments from vendors;
- [Abundance](#) is a UK crowd-funding platform allowing anyone to invest and play a part in the energy transition from just £5. Areas they invest in include green energy and improving social housing (installing heat pumps and solar panels).

Beyond simply providing finance, banks also have the opportunity to play a role as trusted advisers, as NatWest is doing in the SME sector, or to work with partners to offer a full package of technical advice and finance, as the [EBRD](#) is doing in Morocco. Partnerships are important in tackling the wider barriers to uptake discussed above.



NatWest

Case Study: [NatWest](#)

NatWest is supporting customers on the energy transition with a variety of products to make investing in green homes, businesses and transport more affordable, whilst also providing tools and information to get people started on their journey.

For domestic customers, NatWest offers green mortgages designed to reward customers who purchase energy efficient homes, by offering a reduced rate on a 2 year or 5 year fixed rate mortgage for homes with a valid Energy Performance Certificate (EPC) rating of A or B. They also offer discounted rates on electric vehicle charge points installed by Octopus Energy when you sign up via NatWest.

NatWest also offers green loans and funding to help businesses finance sustainable assets like electric vehicle charging, heat pumps (air or ground), LED lighting or on-shore wind turbines. They also provide support in the form of mentorship and their [Climate Accelerator Programme](#) - which is a free 6 month programme, providing entrepreneurs with assistance like one-to-one coaching.

Providing funding to corporate clients

Growing legal and reporting requirements in many countries, alongside investor pressure, are playing an invaluable role in focussing the attention of large businesses on ESG and their energy usage. With higher interest rates applying where climate risks are greater, CFOs are increasingly supportive of plans for decarbonisation. This is creating a burgeoning demand for funding from corporate clients looking to invest in low carbon - although it can create challenges for companies in harder to decarbonise sectors who need funding.

Our research suggests that the long term (15 year) PPAs which renewable generators are looking for can be problematic for some corporates who have shorter time horizons. With new finance models emerging, investors and energy companies need to work together on how best to fill this gap.

In established markets, green bonds can be used to fund specific assets or energy reduction projects. However, mainstream finance is necessarily cautious and will often only enter a sector once the case has been proven. Different markets with different regulatory and policy contexts bring new risks. At the early stages in a market's development, and in developing countries with wider geopolitical risk, there can be a role for blended finance - using a small amount of concessional donor funds to mitigate specific investment risks, alongside private finance. This can then play a catalytic role in giving confidence to subsequent investors.

Providing funding to the wider energy ecosystem

With customers large and small having to change the way they use energy, new players are emerging in the wider energy ecosystem – using technology to support customers on their journey and innovating to provide new products and services which help make the transition more attractive, easy or affordable for customers. This creates another opportunity area for investors as they support the growth of new markets.



ENERGY **IMPACT** PARTNERS™

Case Study: [Energy Impact Partners](#) (EIP)

EIP is a global investor focused on climate tech and the energy transition, with portfolio companies ranging from [Arcadia](#), a digital energy platform, to [Addenergise](#), a leading EV charging provider.

Most recently, EIP has created a [Deep Decarbonization Frontier Fund](#), targeting early-stage, revolutionary technologies that accelerate the transition to net-zero. The Frontier Fund has invested in projects from cheap multi-day storage to green steel, as well as tech innovators like Electric Hydrogen, which is driving down the cost of clean H2. The Fund has a unique collaborative model, working closely with its strategic investors – from the utility, energy, built environment, finance, infrastructure and technology sectors – to identify, invest in and scale disruptive innovation.

Conclusion

Reaching net zero - and providing universal clean energy access - requires customers large and small to change how they use energy, including adopting new forms of heat and transport. To achieve this, decarbonising energy needs to be attractive, easy and affordable for customers. While this might sound obvious and simple it requires an understanding of the diverse needs, values and behaviours of customers. Historically the energy sector thought of customers as “meter points”, “load” or at best “end users”. To develop aspirational products and services requires deeper insights - underpinned by data, dialogue and active learning - putting customers at the heart of the transition.

The private sector - energy companies, large businesses and finance - have a substantial, and often under-estimated, opportunity to drive the transition. There is clear evidence that those businesses who lead in this space will gain in terms of reputation and ESG reporting, competitive edge and long term value.

In particular, large businesses have a pivotal role to play, not just as energy customers but also through their wider influence including their supply chain, customers and employees and through their approach to voluntary carbon markets and engagement on policy issues. The opportunities will vary depending on the nature of the business and its geography but there is scope for everyone to look at what more they can do and there are pioneers who have pushed the boundaries in each of these areas.

Moving forward requires energy companies - including the new wider energy ecosystem that is developing - to work in partnership with businesses and the finance sector to make the transition attractive, easy and affordable for customers.

Ultimately we want the work of this Taskforce and this report to be a catalyst for inspiring conversations and thinking around a customer-centric transition. We have provided a snapshot, not all of the answers. It is now over to you.