



Lost in Translation:

How communication and data will
shape the future of solar

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Introduction

Consumers have more access to information about solar than ever before, and the maturing technology market means now is a great time to make the switch. Despite this, many consumers are still wary. A survey by Green Fox Energy found that more than 85% of people lack trust in solar energy installation firms.¹ You don't have to look too far to find someone who feels like they were sold solar based on scare tactics, or someone with a story about the complexities of buying a home with solar panels.



With the often-inconsistent support from government, there's a need for both consumers and industry to lead the energy transition. This is hampered, however, by a lack of knowledge of the current capabilities of solar energy technology and a distrust of the people selling it.

“More than 85% of people lack trust in solar energy installation firms.”

Source: Green Fox Energy

Modelled on consumer confidence indicators, the Energy Consumer Confidence Index (ECCI) looks at how people feel about the stability of energy providers, the value of those providers, a person's ability to access affordable energy, and government support. With energy at the forefront of many people's minds after a volatile period for energy prices, it's not surprising that the UK's score on the ECCI is well below average. The UK scores just 56.9 on the index, with the global average at 62.7.²

While the recent war in Ukraine has had obvious consequences on feelings around our energy security, these figures also represent a lingering attitude from what many call the 'solar coaster'. Between 2010 and 2015, there was huge excitement around solar thanks to lucrative feed-in tariffs and the guaranteed prices for excess power generation. During this time, large solar farms started popping up, and consumers were warming to the idea of generating their own electricity.

When the policies around the feed-in tariff were diluted in 2016, the growth of the solar industry slowed significantly. According to MCS insights, solar photovoltaic (PV) panel installations in 2015 totalled 187,000, but dropped to just 56,000 in 2016.³



Without the feed-in tariff, there was less incentive for homeowners to install solar panels and the industry momentum soon died down. The industry experienced a small boost a few years later when the technology matured and consumers saw the benefits of generating their own electricity, but it wasn't until 2023 that installation figures exceeded pre-2016 levels.¹

Much of this is down to a lack of trust. During the early years of the feed-in tariff, numerous businesses popped up to capitalise on this interest. Pushy sales tactics and over-blown promises leaned on a lack of wider public understanding of the technology and the tariffs. For many, this left a bad taste in the mouth.

A general lack of knowledge about the benefits of solar – as well as this period of declining trust – plays a large role in consumer confidence. As wide-scale solar uptake has huge potential to make electricity more affordable, reduce reliance on energy providers, and protect consumers from price fluctuations, it could be the ideal solution for many homes.

However, the Green Fox Energy survey found that more than 80% of respondents don't fully understand how solar energy works, with 15% saying they understand nothing about it at all. This shows that there's a clear knowledge gap when it comes to the benefits of solar, something that could be harming overall consumer confidence in the wider energy market.

“More than 80% of people don't fully understand how solar works.”

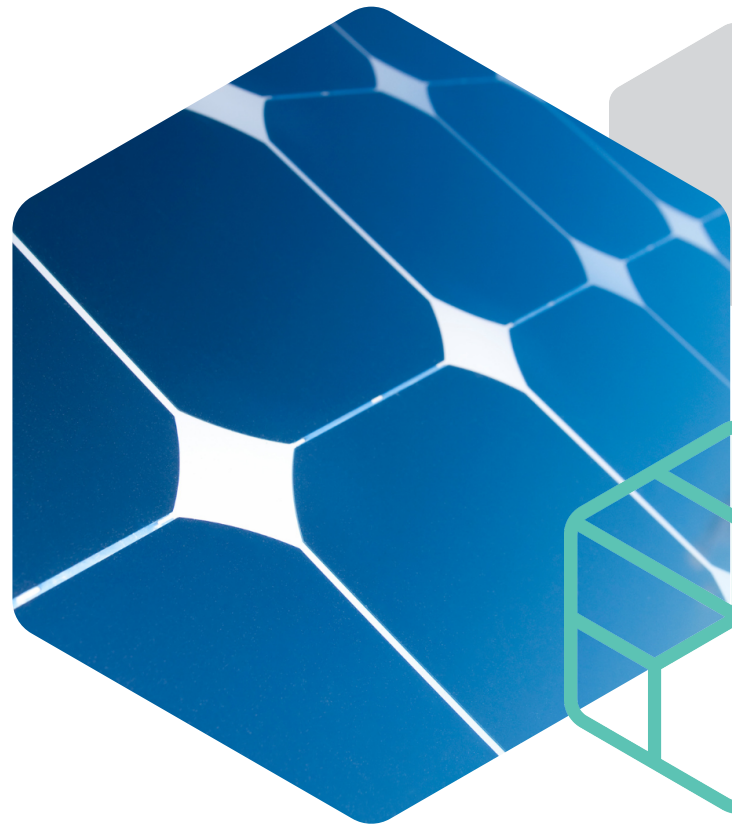
Source: Green Fox Energy

The truth is that solar has the potential to give consumers more energy independence while opening up options for other low-carbon energy solutions. However, without repairing trust and communicating the benefits of solar more clearly, it could be difficult for consumers to make informed decisions. This could lead to missed opportunities for installers and manufacturers.

These opportunities still exist but challenges and considerations remain – with communication at the forefront of the solar solution.

Solar as a gateway to decarbonisation

While solar panels have the potential to transform how a home uses electricity, this technology also acts as a gateway to other low-carbon solutions. For example, there's a strong correlation between people with solar panels and people who own electric vehicles (EVs) as the two work so well together. EV charging points app ZapMap found that EV drivers are seven times more likely to have solar panels than the national average⁴. This shows a strong link between these technologies, with solar often the first stepping stone on the low-carbon energy journey.



“EV drivers are seven times more likely to have solar panels than the national average.”

Source: ZapMap



Much of this is down to awareness and necessity. Most people know that an electric vehicle will drive up electricity bills, even though there might be savings elsewhere (such as not having to spend on petrol or diesel). As a result, many EV drivers actively look for ways to keep costs as low as possible – for example, choosing special electric vehicle energy tariffs to get a lower overnight rate.

A logical step is to then look at solar panels to bring those costs down further, while potentially reducing bills for the entire home. Many people see it as a way of charging their car ‘for free’.

It works the other way too. For people with solar panels who are already saving money on their energy bills, an EV makes a lot of sense. While there are upfront costs involved for both solar panels and an electric car, the ongoing savings soon mount up while also providing a level of energy security that's becoming increasingly appealing.

But what's next?

A household with solar panels and an electric car might look for other ways they can make the most of how they generate electricity. With solar PV already in place, this opens up several options that might have once felt out of reach without solar panels.

The next obvious choice might be a heat pump, as these use electricity to heat the home and can be supported by solar generation. A large consideration for anyone moving from a gas boiler to a heat pump is the difference in energy cost compared to gas. While many households upgrading from an old, inefficient boiler would see savings, it might take some time to pay off the cost of installation. The Energy Savings Trust estimates that a heat pump could save £240 per year based on upgrading from an old G-rated boiler in a three-bedroom home.⁵

What is the spark gap?

The spark gap is the price difference between the per-kWh price of electricity and gas. The larger the gap, the less tempting it is to switch to electric heating through a heat pump.



This is still a compelling reason to install a heat pump, especially if an old boiler needs replacing. For homes with solar, however, the proposition becomes even more attractive.

Sunsave estimates that an air source heat pump costs around £716 per year to run. For people with solar panels, however, this price could drop dramatically to just £297 per year.⁶

This shows that solar could be the much-needed gateway to low-carbon driving and heating. While trust is still low for many consumers, solar has one of the most compelling sets of benefits, and is being viewed less and less as solely of interest for early adopters of new technology. Whether the household wants to save money, improve energy security, or reduce reliance on fossil fuels, solar PV presents a solution.

Accessing free energy through solar panels could unlock a consumer's interest in exploring additional low-carbon technologies. A heat pump or electric car might be the next logical step. Some might even look at battery storage to ensure their heating and hot water needs are covered in the evenings, not just during daylight hours.

Solar plays an important role when it comes to decarbonisation as it gives consumers a route towards other green technology. This presents a huge opportunity for manufacturers and installers when it comes to selling the benefits of solar PV, in highlighting how it can form the foundation of a modernised, future-proofed whole home ecosystem.

Solar energy is key to decarbonisation and is essential if the UK is to achieve net zero by 2025. This presents numerous opportunities for those involved in solar energy – from manufacturers to installers and beyond.

How communication will shape the solar market

The way we talk about solar is outdated. In order to take advantage of new opportunities in the market, this is something that needs to be addressed head-on.

While the solar market has evolved significantly since the feed-in tariff was introduced in 2010, the language used to describe and sell solar PV hasn't changed much in that time. When solar first started to become popular, much of the conversation was around whether or not it was 'worth it' from a financial standpoint.

In 2015, even with subsidies and special tariffs, it took an average of nine years for a 4 kW system to pay for itself in the UK.⁷ In 2023, this has dropped to seven years due to more affordable technology in a more competitive market.⁸ A recent study by Admiral also showed that solar panels can increase property value by up to 25%, further making it a great proposition for homeowners.⁹

The question should no longer be "Is solar worth it?" The financials around solar have very clearly proven that it undoubtedly is. As of spring 2024, DESNZ reported that 88% of the UK population is in support of solar.¹⁰

The whole conversation needs reframing to focus on the challenges consumers are currently facing and how solar has the potential to solve those issues. This provides a clear opportunity for those involved in the business of solar to change the narrative.

Industry experts often lean on environmental concerns as a reason to choose solar power, but for the majority of people cost is the most important consideration. With fluctuating energy prices, more people are looking for energy security while trying to cut down on their bills.

Once again, this comes down to trust. Consumers are still wary of solar because, on paper, it can sound too good to be true. What household doesn't want to save an average of £725 per year on energy?⁵



**Solar panels
can increase
property value
by up to 25%**

Source: Admiral study

The role of green finance

With so many people focused on the initial cost, it's often difficult to sell the benefits of solar. However, with green finance options now available, consumers have more options than ever when it comes to how they pay for their solar panels. The popularity of this is only set to grow as people become more aware of what's available. For many, these options are filling the void left by the government after it retracted the early feed-in tariff.

With green finance in place to help spread the cost of solar and other green energy investments, taking the leap suddenly seems much more manageable. There is a wide range of green finance products available but they, typically, fall into one of three categories.

1

Unsecured green home finance

Instead of linking finance to the property, an unsecured loan allows people to access a smaller amount of money over a shorter time period. This type of financing is only for green home improvements such as solar panels, window replacement, cavity wall insulation, battery storage, and heat pumps.

2

Green mortgages

While these aren't designed to help improve a home's energy efficiency, they do reward homeowners with an energy performance certificate (EPC) of A or B. Typically, they offer a lower rate than a standard mortgage, encouraging people to buy or remortgage homes with solar panels and a heat pump – alongside other energy efficiency measures.

This is a great incentive for homeowners to make some effort to increase the EPC of their property. This not only makes it more sellable in the future but could also reduce remortgage rates – on top of lowering energy bills.

3

Green additional borrowing mortgage

There are mortgages available that take into account the need for additional borrowing for green improvements. You'll need an existing mortgage with the provider, but you'll then be able to borrow additional money against your home that's solely for the purpose of adding solar panels, a heat pump, insulation, or replacement windows. Often, this additional borrowing is at 0% and fixed for two or five years.

These options give homeowners the chance to spread the cost of these improvements while rewarding them for making greener choices. These newer funding models will continue to be a big driver in the journey to net zero.

Supporting technology

The green energy revolution is undoubtedly powered by low-carbon technology. However, it's not just the big tech that's making a difference, and we shouldn't underestimate the power of the supporting stars.

For example, smart thermostats have been proven to increase energy efficiency in the typical home. This is true of homes with gas boilers but the savings really start to come in for homes with heat pumps. Heat Geek estimates an efficiency increase of 10% to 70% when using a smart thermostat with a heat pump.¹¹

An app connected to smart meter data, such as the ivie app, can also improve energy efficiency by giving homeowners more insight into how they use energy and where they might be able to save on their bills.

This supporting technology is the perfect complement to green home improvements. However, these devices can also provide a great starting point for households looking to take a tentative step into energy-saving technologies.



“A smart thermostat could improve heat pump efficiency by 10% to 70%.”

Source: Heat Geek

Reframing solar for the future

Currently, an installer might look at a three-bedroom, semi-detached house and suggest a 4 kW solar PV system. This covers the needs of most homes but also makes the installation process more straightforward because a 3.68 kW max inverter is the largest you can have without district network operator (DNO) permission. This has led installers to recommend this option to the majority of homes, as it will work for most people. For higher-use households, a larger solar PV system will likely be more suitable and subsequently recommended.

However, for the typical home, many installers only focus on the current needs of the household without considering how things might change in the future.

With EVs and heat pumps becoming more popular, there's a chance a property's electricity needs might change dramatically in the coming years, or even months. This is a crucial factor that should be taken into account when planning a solar installation. Communicating this to clients early in their solar journey will be key in ensuring they have the appropriate setup now with options for the future. This will help foster more trust between installers and customers.

For example, to run a heat pump or EV from solar, 5 kW might be more appropriate for a three-bedroom house. Battery storage might also be a worthwhile investment so the solar power collected during the day can also be used at night. This is why it's so important to consider the future of the home when planning a solar installation.

Low consumer trust could still present a challenge, though. Because of this, it could be difficult to get buy-in from homeowners when it comes to installing more panels than they currently need. This is where data comes in.



Rebuilding trust through data

With many homeowners still wary of solar and other green home improvements, it's important to show them the facts. Talking about the big benefits seen by other customers might not cut it – but showing a person what they could save based on information from their own home will make all the difference.

Where does the data come from?

Smart meters offer a wealth of home energy usage information and this should be a starting point for data-led planning for solar. [The ivie app](#) and [the ivie Bud](#) both connect to a home's smart meter to better understand how and where energy is being used. Other sources of data could come from humidity sensors, smart thermostats, and EV charging apps.



The ivie ecosystem



The ivie app

Works with all smart meters and energy suppliers. Users get personal insights, tips and challenges to help them save energy, and earn points by saving energy which they can use to win prizes.



The ivie Bud

The latest smart energy display. Unlocks live energy data in the ivie app, and users can see what their appliances cost to run. Connects easily to a home's smart meter, and can be installed at home without an engineer call-out.

How to use this data

Many installers will base a home's energy consumption on that of similar homes. This means that any three-bedroom house will likely be offered the same options. Even when the planning process involves questions about energy use, insulation, and future plans, this is rarely based on information specific to that household.

There's more to energy use than the number of bedrooms in a property, so data direct from the home enables installers to make more specific recommendations based on real, factual statistics of usage. This could take into account times of peak energy use, the appliances or vehicles that contribute the most, the number of people in the house during the day, insulation levels, plans for the electrification of the property's heating system, and much more.

This gives installers the credibility to recommend a whole-home solution that's also future-proof. Solar might be the cornerstone, but it can be built in a way that suits a home's current needs as well as their plans for a heat pump or electric vehicle. It also takes into account homes with heavy nighttime use, and enables them to benefit from solar panels through the addition of battery storage.

For installers and manufacturers, reframing solar as the first step on a longer journey that's been scoped for the household's needs will help homeowners more fully understand their current capacity, as well as options for additional green home improvements going forward. When consumers see good results from solar, and have been properly briefed of their home's potential additions for the future, this makes them more likely to trust and recommend the technology. On top of this, mapping out the journey can also ensure further sales of heat pumps and other green tech.



The journey to more informed consumers

Consumers who have more insights at their fingertips are more likely to trust new energy technology. One of the benefits of having this information to hand, via an app or in-home display, is a better understanding of how different green home improvements might impact bills.

While overall trust in energy is low in the UK, ivie users are more engaged with the concept of solar energy. The ivie app's appeal to households keen to monitor and help lower their energy usage costs translates to a natural appeal to those interested in solar, EVs and other low carbon technologies.

According to Green Fox's survey, 85% of the general population don't trust solar installation firms. Yet just 6% of surveyed ivie app users claim to distrust the data provided by the ivie app.¹² This shows how much potential there is in appealing to households with their own personalised data, and helping them become more engaged with their own energy information.

This knowledge means they are likely more open to options that could save them money and are less likely to be distrustful when it comes to how solar is sold to them. When consumers are well informed and armed with the relevant data, it becomes much easier to make decisions about green home improvements.



“94% of ivie app users trust the data of their home energy usage.”

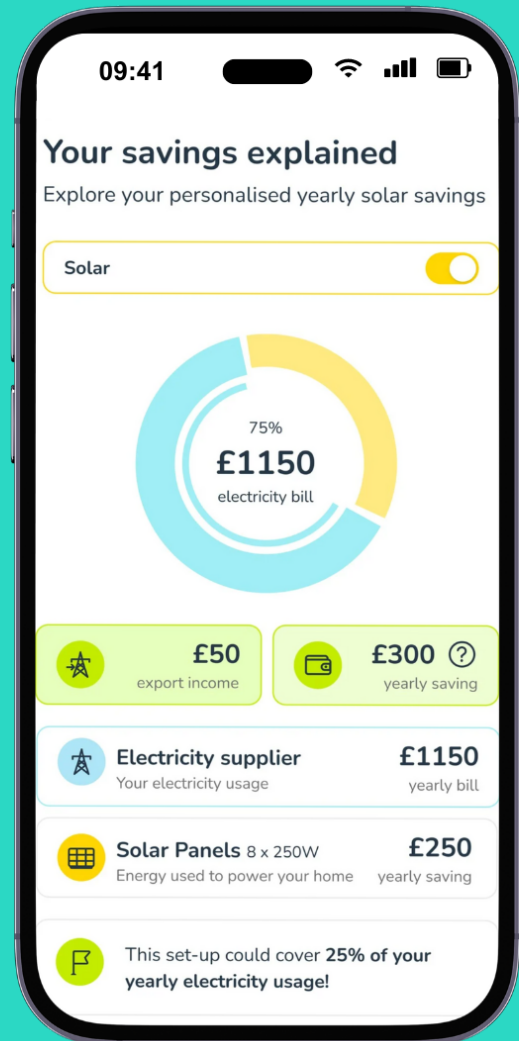
Source: ivie survey 2024

Solar Journeys

ivie utilised this customer feedback when designing its newest app feature, Solar Journeys. Its survey found that there was significant interest in the ability to understand what kind of solar setup was best suited for the user (90% of users without solar), as well as an indication of how long it would take to recoup the costs of solar and storage via energy savings (92% of users without solar).

The result: Solar Journeys. It is a blend of bite-sized education on how solar panels work, along with personalised information on how much homes could save with a solar array installation based on current tariff and energy data.

Using data in this way presents a huge opportunity for installers and other stakeholders within the solar energy value chain. It puts the power back in the hands of the consumer, allowing them to better understand how they use energy, what their needs might be in the future, and how much they could potentially save on their bills.



Save energy for the things you love with ivie

For more information on how ivie is helping to deliver accurate insights and energy usage data to thousands of UK homes, visit [ivie.co.uk](https://www.ivie.co.uk).

Please contact [Deborah Murtha](#) regarding any quotes or further brand information.

References

1. Green Fox Energy - Solar Sentiment Survey

<https://www.greenfoxenergy.co.uk/blog/home-solar-energy-sentiment-survey>

2. ECCI

https://www.ey.com/en_gl/insights/energy-resources/why-waver-ing-consumer-confidence-could-stall-the-energy-transition

3. MCS insights dashboard

<https://datadashboard.mcscertified.com/InstallationInsights>

4. Zap Map

<https://www.zap-map.com/news/electric-cars-gateway-clean-energy>

5. Energy Saving Trust

<https://energysavingtrust.org.uk/advice/in-depth-guide-to-heat-pumps/>

6. Sunsave: How much does it cost to run a heat pump with solar?

<https://www.sunsave.energy/solar-panels-advice/solar-technology/heat-pumps>

7. Solar Linker

<https://www.solarlinker.co.uk/blog/uk-solar-panels-cost-earn-ings-are-they-worth-it-july-2015-i146/>

8. Solar Power Portal

https://www.solarpowerportal.co.uk/how_much_could_a_domestic_solar_installation_save_you_in_2023/

9. Admiral study

<https://www.admiral.com/magazine/guides/money/green-appeal>

10. DESNZ Public Attitudes Tracker

<https://www.gov.uk/government/statistics/desnz-public-attitudes-tracker-spring-2024/desnz-public-attitudes-tracker-renewable-energy-spring-2024-uk>

11. Heat Geek

<https://www.heatgeek.com/must-read-before-choosing-the-best-smart-thermostat/>

12. ivie user online survey, with 1433 respondents, April 2024.