

Unite response to the Public Accounts Committee Inquiry - Update on the rollout of smart meters.



1. Introduction

- 1.1. This submission is made by Unite, the UK's largest trade union with over one million members across all sectors of the economy, including manufacturing, financial services, transport, food and agriculture, construction, energy and utilities, information technology, service industries, health, local government and the not for profit sector. Unite also organises in the community, enabling those who are not in employment to be part of our union.
- 1.2. Of particular relevance to this submission, Unite represents almost 41,000 engineers and technicians in the Energy and Utilities sector carrying out every task from the most menial to the most highly skilled engineers and scientists in the country.
- 1.3. The challenges of climate change and adaptation to a new carbon free era mean that a the country is facing a looming energy crisis if we have any hope of reaching net zero and ensuring the continued supply of energy. The loss of generational capacity from nuclear generation the delays in progressing with replacements and with renewables and hydrogen generation mean that in just a few years we may struggle to keep our lights on. Natural gas makes up at times over 65% of all power generation and this has to be replaced in less than 30 years with zero greenhouse gas (GHG) power supplies not just for the current demands but additional demands for electrical power coming from the transport sector and manufacturing as they stop producing these gasses.
- 1.4. It has been said that the greenest form of power is the Watt (or Therm) that you do not use. For this reason the government in 2011 the first smart meters were ordered and installed. The task of overseeing the roll out has now fallen onto the Department for Energy and Net Zero (DESNZ) but it would appear from Unites perspective the department has very little idea of the challenge of how to provide a workable solution.

2. Background

- 2.1. The government tasked the electrical supply companies with the mission of installing electrical and gas usage measuring technology that moved the corporate and homeowner /tenant's energy meters from the back of a cupboard to the desk and kitchen work in real time. This gave the bill payer with an idea when best to utilise low cost tariffs as well as showing them how to save money and reduce their carbon footprint. By reducing the demand the hope was that this would offset the additional burdens caused by the move away from fossil fuels. However, in the opinion of Unite, this roll out has not been without its issues, mainly because it was left to the big six suppliers to come up with the solution to the problem.
- 2.2. In particular the rollout has progression to date has been delayed by a series of errors from the start:-
 - The government left it to the industry to design the smart meters, so of course they designed it so it worked only for them. If the customer left the contract and sort a lower price tariff the meter would stop working. This only gave the consumer with the first impression of a smart meter as a pair of shackles that restricted commercial freedoms.
 - The roll out did not move in a methodical way from street to street but instead gave customers the choice to install one or not. This meant that engineers were forced to spend most of their day driving from customer to customer, over large areas rather than installing meters in regional teams.

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- The meters communicate via mobile phone signals which the engineers could not test the quality of, beforehand so they could only spend the time installing both gas and electrical meters before discovering they could not get them to communicate. At this point the engineer would need to spend another few hours removing the meters and replacing them with the ones they had just removed, as they would work.
- Because smart meters rely on mobile phones it was cheaper to have a smart meter that works on the 2G and 3G network that the telecoms companies are now going to phase out. This means that any progress that had been made in installing these meters will now have to be re done by manufacturing a more expensive 4G or possible 5G smart meter or one that communicates down an old telephone line or as a digital pulse down the electrical supply lines to the property, picked up at the substation for relay via phone line to the supplier. If the area is connected to the internet by a fibre optic internet connection these meters would only need a very small amount of band width which would eliminate the need for a reliance on the mobile phone network, that we know are currently working on an even faster 6G format.
- The unrealistic demands are made of installers, meant that, if they had a dud meter or one which was in a mobile phone dead zone, there was no way to initialise so it could communicate to the office. In these circumstances the engineer had to let the office know they would not be making the next customer on the list. This meant that customers who had taken time out of work to be home for the engineer found that they had wasted their day and had to reschedule. If this happened too often, the customer became annoyed not at the company but the engineer when they arrived or could cancel the installation.
- Once installed the complexity of the display and no one design meant it was not easy to find out how to work the new meter display on the desks. Despite the multiple lay out options for customers they often still needed to dig through their meter cupboards to read meters and send this in to the supplier, when the remote display was on the table. On the original gas and electrical meters it was a simple task to read the meter as the display was there on the meter so sending in a reading was child's play. Today if the customer is dyslexic or can't find the manual to discover which buttons to press, in which order and how many times, the meter becomes harder to read than before meaning fewer meter readings are phoned back to the supplier.
- The recent news that the energy company can change the meter from contract to a high energy tariff prepayment meters remotely has not sold customers on the idea of having one of these meters installed either. Many families are suffering due to pay rates falling behind inflation widening the gap between rich and poor, causing many more to be in fuel poverty. The knowledge that the meters can be swapped over has therefore deterred many from choosing this option.
- Smaller energy companies have, until relatively recently, had no obligation to supply smart meters and so they could offer lower cost electricity and gas than their competitors. They were also able to hedge the purchase of energy which either made them a lot of money or as happened caused them to fold as they promised their customers a low price tariff without the funds to actually purchase the energy when the prices started to climb as a result of the invasion of Ukraine. These smaller providers therefore took a large market share meaning these customers could not obtain a smart meter if they wanted one, when they wanted one and when the energy price crisis hit more could have been spent on advertising revenue to inform customers that they could save money by having a meter.
- Additionally, the number of apprentices available and new smart meter engineers employed have diminished especially during the pandemic. Those engineers who entered properties during lock down to install meters took all the precautions they could but it was inevitable that some contracted COVID and without realising it were spreading it, in the early days of the disease. The fear factor alone will have been the reason some moved on or were happy to take redundancy when it was offered.

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- As there is a growing demand for charging points for electric vehicles (EV's) and heat pumps smart meter engineers are being given the training to install these devices too, all be it for less than the construction industry rate for the job. With homes being rewired to have three phase supplies as power consumption demands increase, due to the growth in EV home charging, air source heat pumps, etc. The existing domestic meters may need to be replaced yet again. Consequently although the statistics may suggest that over half of the meters have been installed the real truth is that we may need to start from scratch. Whilst acquiring these additional skills has provided career progression for the engineer, so they have the ability to transition after the job is done, it has served to slow the progress of new installs as engineers are out on other duties.
- With some companies dispensing with the services of smart meter engineers at the height of the COVID-19 pandemic, the task to deliver the remainder of the programme, was made all the harder.
- Today we now have a wide array of smart meters in homes and businesses, not all of which conform to a single standard, meaning if one goes wrong, the engineer sent to fix them will need to know what can go wrong with that design or he has to install yet another pair of meters.

- 2.3. The actions of energy companies to obtain court orders to enable forced entry to fit prepayment meters has not helped matters and the final nail has been the recent increase in energy company profiteering and massive increases in energy prices that have caused the workers of energy companies to be attacked by members of the public, especially in recent months, which has of course hampered any attempts to install meters, despite the obvious advantages of these meters when it comes to reducing bills.
- 2.4. Unite is sure that DESNZ has not effectively ensured the programme's potential benefits are explained to the consumer, or commercial customer. Although the roll out may have been tracked, the roll out has defiantly not been delivered. This is not the fault of the small teams of the remaining engineers that are tasked with installing these devices but the systems and company policies they have to work with. Where one company will have its engineers install a connection box so the tails (leads to the fuse box) can be wired into a building with substandard wiring to allow the factory owner to rewire without the need to call out an engineer to install the meter, another will simply tell the engineer to walk away until the rewiring has been done. Similarly, where one company has trained its engineers in the safe handling and disposal of asbestos (commonly found behind gas meters) again others are told to leave it until the asbestos has been removed by the property owner.
- 2.5. At best an engineer can install four or at most five smart meters in a day, because of all the zig zagging driving. Fatigue can therefore easily hit especially where companies push for six installs in a day. Unite does not believe this it is safe to try for six installs as mistakes will and are being made, especially by freshly qualified engineers. If you have cross polarisation of the supply to the property it can lead to electrocutions and gas leaks can of course lead to the loss of life and explosions, so none of these mistakes is a frivolous matter.
- 2.6. The first 50% of properties converted to smart meters have been the easy to treat properties. The hardest ones are yet to come, as they are the properties where the wiring may not up to standard, have asbestos, have customers reluctant to have a smart meter and businesses who cannot survive without power and a gas supply for a few hours while the meters are connected.
- 2.7. Unite believes that if it was more financially beneficial to have a working smart meter in a business and or home than is currently the case, over and above the knowledge of what is being used, then the populous may become more interested in smart meters. Up until now, however, the roll out of smart meters has done nothing to help the image and appeal of these devices.

3. Summary

- 3.1. Unite does not believe that the last 12 years, have been wasted if the aim was to totally dissuade the consumer into investing the time to obtain a smart meter. Unite believes that despite the efforts of the engineers to install the equipment as fast and as accurately as possible there were a lot of mistakes made.
- 3.2. The process started so well with the big providers offering roles to often unskilled meter readers, who may have even been working for agencies, who would lose their jobs, as energy companies could read the meter remotely. This provided a clear example of a Just Transition in action that Unite would like to see that example replicated elsewhere.
- 3.3. Unite feels, however, that as the idea of leaving it to the commercial energy sector to roll out smart meters was a disaster. Unite believes it may be better to go back to the drawing board and start again with a new meter that will communicate down a hard phone or internet line to properties rather than relying on mobile phone signals that do not cover the entire country. Perhaps it may be possible to adapt existing meters to work on a very limited range 3G signal to such a hard-line, especially when O2 stop providing that service in 2033. If mobile phone providers have the intention to provide a faster digital signal format every few years a new way of getting smart meters to communicate needs to be found, especially when it comes to connecting remote locations, such as homes and businesses in the Highlands and islands of Scotland and within valleys the midst of the Welsh mountains.
- 3.4. Unite also believes that smart meters need to have a simple display so that the bill payer can see exactly what they have used on the display or perhaps via smart technology like an Alexa, Siri or Google devices. Perhaps this could then advise or turn on smart devices like washing machines.
- 3.5. Unite also believes that the roll out of these single design meters has to be uniform to ensure that the training is standardised, there is a day one familiarity with the equipment if an engineer wishes to start working for a new employer and there needs to be a consistent approach to how things like the discovery of asbestos and substandard or code wiring is dealt with.

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