

DÁIL ÉIREANN

AN COMHCHOISTE UM CHUMARSÁID, GNÍOMHÚ AR SON NA HAERÁIDE AGUS COMHSHAOL

JOINT COMMITTEE ON COMMUNICATIONS, CLIMATE ACTION AND ENVIRONMENT

Dé Máirt, 5 Márta 2019

Tuesday, 5 March 2019

The Joint Committee met at 4 p.m.

MEMBERS PRESENT:

Deputy Timmy Dooley,	Senator Terry Leyden,
Deputy Michael Lowry,	Senator Tim Lombard.
Deputy Eamon Ryan,	
Deputy Bríd Smith,	
Deputy Brian Stanley,	

In attendance: Deputy John Brassil.

DEPUTY HILDEGARDE NAUGHTON IN THE CHAIR.

Business of Joint Committee

Chairman: As we have a quorum we will commence the meeting.

The joint committee went into private session at 4.04 p.m. Sitting suspended at 4.09 p.m. and resumed in public session at 4.13 p.m.

Scrutiny of EU Legislative Proposals

Chairman: The proposal is that COM (2019) 11, COM (2019) 52, COM (2019) 54, COM (2019) 82 do not require further scrutiny? Is that agreed? Agreed.

Microgeneration Support Scheme Bill 2017: Discussion

Chairman: The next item is detailed scrutiny of the Microgeneration Support Scheme Bill 2017. I welcome Mr. Michael Manley, assistant secretary, Mr. Eamonn Confrey, principal officer, and Mr. Paul Ahern, assistant principal officer, Department of Communications, Climate Action and Environment; Mr. Jim Gannon, chief executive officer, CEO, and Mr. Fergus Sharkey, head of the department, business and the public sector, Sustainable Energy Authority of Ireland; Mr. Paul Kenny, CEO, Tipperary Energy Agency; and Ms Kate Ruddock, deputy director, Friends of the Earth Ireland.

By virtue of section 17(2)(l) of the Defamation Act 2009, witnesses are protected by absolute privilege in respect of their evidence to the committee. However, if they are directed by the committee to cease giving evidence on a particular matter and they continue to so do, they are entitled thereafter only to a qualified privilege in respect of their evidence. They are directed that only evidence connected with the subject matter of these proceedings is to be given and they are asked to respect the parliamentary practice to the effect that, where possible, they should not criticise or make charges against any person, persons or entity by name or in such a way as to make him, her or it identifiable. Any submission or opening statement made to the committee will be published on the committee website after this meeting.

Members are reminded of the long-standing parliamentary practice to the effect that they should not comment on, criticise or make charges against a person outside the House or an official either by name or in such a way as to make him or her identifiable. I remind members and witnesses to turn off their mobile phones as they interfere with the sound system.

Witness will be invited to make an opening statement. Each statement should take no more than five minutes. I will indicate when four minutes have elapsed. I invite Mr. Manley to make his opening statement.

Mr. Michael Manley: I thank the committee for having us here to make an input on this Bill. When the Bill was before the House on Second Stage, the Minister for Communications, Climate Action and Environment, Deputy Bruton, made it plain that the Government supports microgeneration. It has been a long-standing position of successive Governments. In 2017, we organised a workshop with a number of stakeholders and subsequently established the Micro Renewable Energy Federation. In 2018, we introduced a pilot scheme. There is, therefore,

a strong commitment to the development of microgeneration as part of a changed role for citizens, consumers and communities within the energy system. The Government has not opposed the Bill so far, recognising this very point and that the support of microgenerators will be needed as part of the implementation of the clean energy package, which has effectively been negotiated. Evidence-based analysis and assessment will be necessary to deliver the citizen and community entitlements at the heart of the recast renewable energy directive.

There is evidence that microgeneration will have minimal direct impact on carbon emissions but, more important, it provides an opportunity for citizens to play a part in the overall energy and climate agenda, the implementation of what needs to be done, and sharing understanding thereon.

The existing pilot scheme will help our understanding of what the likely demand for microgeneration in Ireland will be. A previous scheme, run by Electric Ireland, offered a generation tariff. It opened in 2009 and remained open until around 2013, but it attracted only 700 applications. Including an obligation on electricity retailers to procure 5% of their electricity from microgenerators before first establishing the likely demand for such a scheme may well be premature and may have unintended consequences. The pilot demonstration scheme opened in 2018 for applicants. To date, 3,000 have expressed interest. Working with the Micro Renewable Energy Federation, a code of practice for microgeneration has been developed. This will help to ensure appropriate quality standards in the sector and will, in turn, increase public confidence in new technology.

Microgeneration and the role of the energy prosumer was part of the Government energy policy in the energy White Paper. That was a key document setting out a number of points of departure. I refer to the engagement of energy Ministers with consumer bodies in Europe that have made it plain that consumers are busy people. They have children, parents, lives, work and social lives. The time they can commit to any sector is limited so they need simple, reliable, robust systems.

Another principle we would like to underpin the scheme requires that it be equitable and fair. While supportive of developing the emerging microgeneration sector, there is a need to be careful regarding the consequences for consumers who end up paying higher costs, in effect subsidising those who can afford to participate. There are a range of options for how we pay for microgeneration. They broadly fall into three groups: include the cost in the PSO; allow energy retailers to socialise the costs, averaging across their energy rates; or have the Exchequer intervene. None is simple and all involve additional costs for somebody. Energy suppliers could socialise the additional costs associated with microgeneration through their unit rates, which would have a negative impact on consumers, particularly those who cannot afford to participate. Network operators would also have to address how their lost revenues would be recovered. Following the latest major storm, network repairs cost €30 million. Funding needs to be addressed, therefore.

The actions to develop the climate action plan's microgeneration policy will assess these and other challenges. In respect of excess renewable electricity generated and consumed on site, microgeneration will remain a more expensive source of supporting the supply of renewable energy to the grid.

It is clear that microgeneration is part of the future energy system. It is arriving. It is here. More microgeneration technologies will be developed and built in the future. These must be underpinned by appropriate electricity market design and industry standards, which are cur-

rently being developed. The Bill aims to facilitate this growth, and the Government has made clear that it shares that ambition and will work positively on the amendment Stages to ensue effective and appropriate supports are developed in this area.

I look forward to the discussion and taking any questions that members may have on this topic.

Chairman: I will invite the sponsor of the Bill, Deputy Brian Stanley, to lay out his vision on the Bill. I should have done so at the outset.

Deputy Brian Stanley: I thank our guests from the Department, the Sustainable Energy Authority of Ireland, SEAI, Tipperary Energy Agency and Friends of the Earth for attending. We are promoting the Bill as a means of putting forward alternatives because we want to provide people with a means of switching over from harmful fossil fuels to renewables. In order to address climate change, we cannot just call for an end to fossil fuels; we need solutions to directly replace fossil fuels. We need to put in place alternative energy solutions and microgeneration will form a part of this, as well as being an energy source that lowers energy bills for households, farms, industry and small businesses.

Sinn Féin's Microgeneration Support Scheme Bill 2017 means that suppliers will have to pay the householder for excess electricity supplied to the grid from small-scale renewable energy sources. It will reduce energy bills and add to the State's overall renewable energy production portfolio. Up to now, it is ordinary households and businesses that have paid high energy prices and paid for our switch to renewables. They pay to support large-scale renewable energy through the public service obligation levy on their electricity bills and they pay the current carbon tax. We cannot continue to place all the obligations on householders and small businesses. We need to shift the burden from households, businesses and farmers towards those who profit most from energy, the suppliers.

The future growth in the use of electric vehicles, particularly cars, and heat pumps in homes will lead to electricity consumption increasing dramatically. Allowing ordinary households and businesses produce their own energy means lower energy bills and higher rates of renewable power across the State. We need to switch from fossil fuels and we can do it by getting everybody involved, not just large-scale developers. Small-scale renewable energy has a part to play in the future energy solutions mix and we should not be resisting this practical solution to displacing some of our fossil fuels.

The Bill is straightforward in that it provides for microgeneration, whether from small-scale wind power, solar, combined heat and power using renewable sources, small-scale hydro and other technology that the Minister, under regulation, may deem suitable. We set out that minimum price tariffs need to apply and, again, the Minister will have the discretion to set those, along with the Minister having the power to set minimum contractual terms for a tariff. The Minister will also have other powers.

With regard to the 5% target, the idea is that if we do not set a target, we will not achieve anything. We are setting out that suppliers which have over a certain percentage of the market must supply 5% of their electricity from microgeneration by 2025. While we believe it is a realistic target, we are flexible about this. Some of the bodies represented here, particularly the Department, have raised this issue with us. We are flexible about it but we feel the need to set some kind of a target if we are going to get anywhere. We feel it is a practical step. While we are not saying that it is a silver bullet, we think it is part of the mix and is a contribution to

moving the agenda forward and putting good legislation in place.

Chairman: I call Mr. Gannon from the SEAI.

Mr. Jim Gannon: I thank the Chairman and members. We have submitted our presentation as a form of record and I will just put out some highlights we would like to get across. Micro-generation in Ireland and across Europe is the subject of a number of different definitions, so having a common understanding of what that means is important in the setting out of any Bill like this. The price of microgeneration has come down significantly in recent years but, despite that fact, it is still expensive when setting the euro-per-kilowatt-hour cost against the delivery of renewable electricity by larger generation types. It is widely accepted, however, that there are large societal benefits from getting communities, individuals, businesses and institutions, including schools, involved directly in the low-carbon transition. In addition to this, it is important that the Department highlighted the renewable energy directive, which mandates that self-consumers, or those jointly acting as self-consumers, are entitled to remuneration for electricity they export that would reflect market value.

In Ireland there are a number of catalysts for microgeneration deployment and it is important to bear these in mind. For example, part L of the building regulations sees approximately two thirds of new homes and a number of businesses having solar PV installed on their roofs. The SEAI has supported solar PV through Government-funded retrofit programmes for a number of years. This works through communities and through intermediaries such as Tipperary Energy Agency and others, but also through EXEED with large-scale industry. For example, across 58 sites, 1.8 MW was deployed through those programmes in 2018 alone. There is also the residential solar PV pilot that started at the end of July last year and has already seen interest of 3,000 people and deployment of 500 systems. This looks at the residential sector in regard to PV panels but also battery storage and how that may interact with electric vehicles and other aspects, including heat pumps, as time goes on. There is also the accelerated capital allowance to support businesses and there are TAMS - targeted agricultural modernisation scheme - grants for microgeneration installation in regard to pigs and poultry. It is important to have those measures in mind as we think in the round of how we collectively nudge people towards microgeneration because there are a lot of, not conflicting, but different supporting measures in play at the moment.

We undertook a Behaviour & Attitudes survey last year across Ireland in respect of micro-generation. It found that 7% of people had an intention to invest in microgeneration and the perceived value of the investment was the most important concern they had, with a societal concern second to that. Interestingly, right now, people considering that they were going to invest would prefer a grant or a tax rebate. As we look at a different method of incentivisation, how the market would propose that to someone is quite important. It is a question of how the obligated party provides that value to a customer so they will move from preferring a grant to preferring some other type of incentive effect. This is just an insight into the consumer we have.

There are a number of positive aspects to microgeneration. It addresses the energy citizen and proposes a framework to address economic barriers. A unique role is identified for community projects; community is very important and we are at the heart of that transition, with many others. It is technology agnostic and, again, we feel this is important. The flexibility around a minimum tariff and control of same is quite important to address how the market can shift. There are a number of positives in this regard.

There are a couple of elements to consider in the context of SEAI operating Ireland's en-

ergy efficiency obligation scheme, which obligates the top 18 energy supply companies in the country to engage in energy efficiency. In terms of scale, it saved, in the years 2014 to 2018, over €200 million of avoided import costs and about 750,000 tonnes of CO₂, so the impact and leverage this can have is not insignificant, and is equivalent to about 140,000 homes, 250,000 cars or 300,000 head of dairy cattle.

On foot of that experience, there are a couple of specific things we think would be worth consideration by the committee in its deliberations. That strict definition of what is inside and what is outside the pot of microgeneration is quite important for everyone to understand. Supply chain capability is important. Deputy Stanley mentioned the proposed 5% target and we would see that as being quite large, not in terms of ambition and it is important to have ambition, but in terms of the supply chain being able to respond. If that is just the exported electricity, it would see maybe 1.5 million homes and 300,000 businesses at the current scale of investment deploying this type of technology. Considering the supply chain and the idea of people being able to come up that curve, we look at that target in the context of how we educate the supply chain. This comes from our experience of working with the supply chain on those skills we need and the capacity required. It would be worth considering in a little more detail.

The aspect relating to cost and equitable delivery is important in that obligated suppliers tend to divest that cost and pass it through to consumers, so how that is equitably pushed down the line is quite important. Scaling and phasing is important in that, basically, one can inadvertently induce boom and bust scenarios if one has phases of development. People rush to achieve a minimum target and then, when they achieve it, they drop sticks for a period and the industry can find it hard to flex up or flex down to that.

An important issue for the energy efficiency scheme, but which would also apply to this area, is that we would not inhibit people's ability to switch supplier. That is encoded in the consumer's ability to switch from one electricity supplier to another and it is, in fact, being reinforced in the new energy efficiency directive.

When considering a Bill like this, committee members should take care to ensure that it aligns with the other types of incentive in place for large-scale renewables and microgeneration and that, as a renewable energy directive body comes down the line, it fits within the general tramlines that are set.

We look forward to engaging with queries and supporting the committee as it continues its deliberation.

Chairman: I thank Mr. Gannon. I now call Mr. Kenny of the Tipperary Energy Agency.

Mr. Paul Kenny: I thank the committee for its time. I have prepared a submission that broadly covers the Bill. The energy transition is not about just one technology. Rather, it will take a myriad of forms beyond Government policy. It must happen to every house, every journey, every building and every citizen. In order for the transition to take hold, every one of these little opportunities must be taken. To date, every regulatory decision made and funding programme employed has not been done in a way that engages citizens. We are all aware that, while much has happened, Ireland is clearly the climate laggard of Europe. We have a fraction of what the rest of Europe has in terms of solar PV and other deployments of technology. We have a huge hill to climb. The State needs to take opportunities, one of which is microgeneration. Notwithstanding the fact that it has to happen anyway in the renewable energy package, this opportunity should be taken as soon as possible.

As part of its deliberation on the Bill, the committee will be told by various parties that solar energy will not be sufficient for Ireland, we do not get much sun and we need a great deal of energy in winter. Last June, the UK and Germany hit records for solar energy use, yet we hit records for gas use because there was no wind. We need a mix. Solar energy produces approximately 7% of Germany's electricity, with in or around two solar panels per person. If Ireland was to catch up with Germany, that ratio would effectively provide for 10% to 12% of Ireland's electricity use and could be higher with some storage. In Germany, 73% of this capacity, or 98% of systems, is small scale at less than 100 kW. Germany has a more robust electricity infrastructure, and this microgeneration is predominantly citizen and farmer based.

We in the Tipperary Energy Agency believe that we should allow our citizens to partake in this energy transition and should view homes, farms and SMEs as part of the generation infrastructure. The figure for rooftop solar in the North is approximately 50%, but I could not find the exact details.

Many members of the committee have visited buildings in Tipperary, including a leisure centre and school, that had small solar arrays on large, but otherwise empty, roofs. It would have been more economically advantageous to put a full array on each roof when scaffolding and incurring transaction costs. Why would we not use that generation to subsidise the running of such public facilities?

A number of barriers need to be removed if the Bill is to be effective. Rather than increasing costs, we should remove them before the Bill is enacted. We must ensure mandated power purchase agreements; that each meter, as part of the smart meter roll-out, has its export channel switched on, as it is currently switched off unless one pays €300 to have it switched on; and that our planning permission system needs to be revised. In that context, I have submitted a paper containing some advice that we received from planners in Ireland. It is on the record now. The revision can happen quickly.

Grants for solar PV on domestic buildings would be a good measure. It could also be a payment, but if the market soundings pointed to the grant being a better idea, we would support that. However, export should be paid at at least the wholesale price. We should allow people to generate as much as they can sensibly on a roof within the cost-effective nature of the technology. For commercial enterprises like farms and SMEs, though, we should probably use something like a solar feed-in tariff, with a wholesale price plus an appropriate uplift that makes the investment attractive but not overly costly. The State would only be paying to subsidise the export. Someone installing a large solar farm would have to pay for all of that generation. However, if someone installed 6 kW generation on a house and used three quarters of it, the State would only be paying for the small bit that household exported. We would get much more bang for our buck, as this scheme could be cheaper than the larger arrays.

The reasons the committee will be given for not supporting solar energy in this way will always start with the challenge of spending money on upgrading the grid. Given that we must move from approximately 18% of our energy through electricity to somewhere in the region of 40% to 50%, depending on which model one uses in the electrification of heat and transport, the grid will have to transform. It needs to be digitised and to have the transmission capacity to power cars and heat pumps. We believe that the grid capacity should be in a position to grow gradually to accommodate both. That study has not been done in Ireland, but it is put on the regulators' asset bases across the rest of Europe. We would support that here.

Members will hear a great deal about support schemes being expensive. Due to expensive

German support schemes, though, that will not be the case. We are not Germany. We are not Australia and will not have solar power in the winter. Australia is much closer to the equator than us. Therefore, most of our homes will stay connected to the electricity grid. One of the arguments is that they will disconnect from the grid, but that will not happen in Ireland because we do not get much sun in the four winter months.

We should put citizens first, encourage active prosumers and use the rooftops as an encouragement to unlock the energy transition. Someone spilling electricity onto the grid would view an electric car or heat pump as a good use of that power, but we should still incentivise people a little.

Solar is not a silver bullet for energy. It will only cover a fraction of our total energy use. However, it may be the silver bullet of citizen and societal engagement in the energy transition that the State has heretofore missed. Why would it not be? It was in Germany.

The energy transition is not going to happen without market development supports from organisations like local energy agencies. Any rapid societal transformation requires societal support. The modernisation of agriculture did not happen without large-scale State intervention in training and modernisation. There are local services for the provision of a myriad of State services, from schools and MABS to childcare committees and sports partnerships. Without that societal support, governed and run to achieve a transition, it will be almost impossible to achieve the requisite change at a societal level. I ask this and the parallel committee to consider supporting energy agencies at a local or regional level with a strong public remit.

Chairman: I thank Mr. Kenny. I call Ms Ruddock from Friends of the Earth Ireland.

Ms Kate Ruddock: I thank the committee for inviting me to attend. Friends of the Earth met the current Taoiseach at Electric Picnic a few years ago. He signed our petition to support a fair payment for solar power. At a food truck late at night, our director spoke to him. He considered the petition, smiled and said: “A fair payment seems reasonable. I cannot see anything wrong with that.” Now he is our Taoiseach. This issue is one of fairness. The petition now has almost 21,000 signatures, and I thank the Chair for accepting it today.

Ireland’s record on climate change is not inspiring. Despite agreeing to do so, we have failed to reduce our greenhouse gas emissions in any significant way. Like the Taoiseach, I am not proud of our reputation as the climate laggards of Europe. People are angry about that and scared. This committee is well aware of the terrifying reality of climate change and the injustice that those who have done the least to cause it are suffering, and will continue to suffer, its worst effects. It is painfully unfair.

As scared and angry as people are about climate change, they are also motivated to participate in and embrace solutions that transition our energy system from fossil fuels to renewable energy. This is where our communities come into it. Ireland excels at the community level. We have a rich history of community spirit, for example, organisations like the GAA and Tidy Towns. Supported by the Sustainable Energy Authority of Ireland, SEAI, a network of more than 200 sustainable energy communities are working around the country developing plans to decarbonise their towns and villages, create jobs locally and build local resilience. When it comes to renewable energy generation, though, they have been severely constrained and restricted in their efforts. They cannot do it. This is not because they are lazy or not committed enough or because they have not thought about it hard enough, but because the rules for generating energy do not work for communities and citizens. Rather, they work against them. It is

not only about selling power. As Mr. Kenny articulated, the rules around connecting to the grid and planning permission do not work for small generators. It is too difficult.

We at Friends of the Earth are working to support a network of local power generators with some of the truly inspirational energy co-operatives to build community-based virtual power plants. This is a system where communities and individuals invest in renewable energy generation, the power is sold into the grid and other members of the communities can buy it back.

We are also supporting those communities to install solar panels on the schools in their locality. With initial support from a philanthropic trust, we have applied for match funding through the SEAI grants programme to put solar panels on schools. Schools are beacons of the community. They are centres of education and they host the people who in our country will be most affected by climate change.

Students were invited to come up with ideas on what they would do on the energy transition. We were overwhelmed by the number and quality of applicants and, to help pick the winners, held an online public vote which in one week received 20,000 hits. Not surprisingly, students in Ireland want to play their part in the solution. Under normal circumstances, however, it does not make sense for a school to investment in microgeneration because schools are not open 50% of the days in the year. However, energy bills come out of capitation budgets and every euro not spent on energy bills is a euro for the students. If income could be generated from the roof, there would be more money directly for the schools.

Unfortunately, for the likes of these projects to be replicated and scaled up, a business case is necessary. That is the reality. For people and groups to take the decision to support a sustainable energy development, the power that they generate needs to be measured, to be counted and to be valued. Not paying ordinary citizens and communities for renewable energy is akin to supermarkets only paying corporate farmers and forcing small farmers to eat all they produce or give it away for free.

Microgeneration may not offer the megawatts of renewable power that will put us on track to our Paris Agreement obligations and it may be marginally more expensive - we will certainly need continued investment in major energy infrastructure and large-scale renewable development - but if we do not offer people the opportunity to fairly benefit from this energy transition, to see, touch and feel these technologies locally, their fears and opposition, however rational or irrational, will derail any best laid plans. Currently, our energy subsidies are paid to professional developers, large utilities and semi-State organisations with a charge on all consumers' bills. The forthcoming renewable electricity support scheme will include further subsidies and includes a separate subsidy for community led projects which are bigger than microgeneration, but, notably, not at first. That is not fair either. While any subsidy regime can have distributional impacts, we see no logic for demanding that bill payers only subsidise professional developers, and why rooftop generators or community generators are different to these other actors. They should be able to benefit the same as the big guys.

The benefits could be huge. A recent study by European think tank, CE Delft, estimated that almost half of EU citizens could be producing almost half the EU's energy by 2050. From a national point of view, as far back as 2014, the National Economic and Social Council, NESC, recommended building social support to enable continued wind-energy development and strongly supported community and citizen participation to realise local benefit. The White Paper on Energy recommends paying market generators. The Citizens' Assembly similarly included paying microgeneration. It is going to happen. As has already been outlined, it is only

a matter of time. The EU has granted new rights for consumers to produce, store, consume and sell renewable energy. The only choice we now have, and the committee has, is whether we get dragged, kicking and screaming into it by Europe at a later date or we welcome it now and do it ourselves. In doing so, we would build the democratic, fair and renewable energy system we need. Climate change is not waiting. We need to completely transform our energy system. Let us give some power to the people to do it. We are supporting this Bill.

Chairman: I thank Ms Ruddock and all the witnesses for coming before us today. Before I go to the members, I have one question on the engagement process and, of course, the importance of microgeneration, which will form a crucial part of that transition to a low-carbon economy. Could any of the witnesses who want to come on this address how best to engage with, perhaps not those who are involved in the local community project but the not-in-my-back-yard objections that come in, especially to wind turbines? Could they give examples of the best form of communicating with the local community? Solar panels on one's roof are probably easier and maybe more publicly accepted. I ask them, in the case of wind generators, about overcoming the obstacles in community engagement and buy-in. I think we all are on board in relation to having community ownership and shares, being able to tap into the grid, and getting a payment or feed-in tariff. However, the negatives are something of which we need to be aware as a committee. For any legislation to be successful, the roll-out and communication of it will be key. It would be useful to hear of any obstacles the witnesses would be aware of that we need to be able to flag as a committee in order to get this over the line. Do any of the witnesses want to come in on that? Mr. Kenny may want to come in first, and then I will go to the committee.

Mr. Paul Kenny: Much research has been done in this space. There are many papers and I am sure the Department has seen a lot of them. The high-level design of the renewal electricity support scheme is very good. My only complaint is urgency. Let us get it done. The Department could do with some resources to deliver that scheme quicker.

What has been seen in other parts of Europe has been that it should be equitable and fair. The big issue we have had is that someone will go stick a turbine beside a person's house and make lots of money and the resident will make no money. People will listen to it if there is equity and fairness. There will be a fertile ground to listen to whether they are good or bad whereas if there is no fairness, all they will listen to is the negative impact. We see that people who live very close to the turbines they own themselves are quite happy to listen to the noise, as that swoosh is money going into their bank account. We should learn from Denmark in that regard, and the Department has. The renewable electricity support scheme, RESS, is very supportive of that.

The only other point I would make in terms of the communication is that when it comes to some of the issues people will raise in terms of the negative stuff around noise and shadow flicker, there should be clear guidelines, good support and good evidence-based science from an official point of view. The HSE stating this does not affect people's health is very important to undermine the contrary parts of society. My only other advocacy is to say let us be clear on the message.

Chairman: I thank Mr. Kenny. That is good.

Mr. Jim Gannon: I would make a quick point. It is important that we do not conflate microgeneration with large-scale generation, especially from a societal perspective. People experiencing small-scale generation that is their own will tie them in to that transition and they will understand that the need for a flat screen television, a tablet, and a phone, and an electric

vehicle, demands wires. It demands generation. However, if we bring those two together, it would not be healthy for a microgeneration scheme. That ownership and that community or individual benefit is far more important.

It is different in that, through the new Part L of the building regulations, two thirds of new homes have these on their roofs anyway. This type of Bill, or this type of intervention, should it come through the renewable energy directive, RED, is a new mechanism to bring this to be or to increase volume but it is not a new technology. It is normal, and what we are changing is the equitable sharing of value from the technology. It is really important that this is just normal. Let us not treat it like an alien, new or strange technology where there is fear. This is already part of what we do. Let us just make sure that as we increase volume, there is an equitable transition. Conflating this with large-scale generation would cause more problems than not. Mr. Kenny has articulated quite clearly that the new RESS addresses community involvement quite well.

Chairman: I will bring in Deputy Dooley and then Deputy Bríd Smith.

Deputy Timmy Dooley: I have one comment and one question. I support what Mr. Gannon and Mr. Kenny have said. It is the same issue around electric vehicles and getting somebody to make that transition to move into a space where he or she sees himself or herself now as part of the protection of the environment and one is effectively appointing an ambassador. As Ms Ruddock and others have said, it will not change the pace of the overall requirement to generate electricity, which has to come from the large-scale developments, but if one can get somebody involved within his or her home or the curtilage of his or her site, that person becomes an ambassador for climate change in so many other ways because one gets that person thinking. There is much research to show that when people make the transition to an electric vehicle, they change so many other aspects of their lives, whether it is even just the disposal of their waste, which is a separate energy piece. This is some very good research that shows that people's entire habits and behaviour are being changed, which is really what we want. It also assists in the wider community because while it might not be suitable for me, if it is suitable for my neighbour, it is discussed. We know that one of the greatest ways of effecting any public change is getting people talking about it and this does so.

I received some queries recently about a belief that there is an issue in some legislative form that is preventing access to the grid from wind and potentially solar at the same site. Are the witnesses aware of any impediments that might prevent a solar or wind farm accessing the grid at the same point? Is there some issue around co-location? Have the witnesses heard anything about that? Is there anything they are aware of that would prevent that?

Mr. Eamonn Confrey: I will have a go at that question. I can check this out to be definite but we do not currently facilitate what are called hybrid connections or co-location. It is something that is topical because it would allow through the same point of connection one would have in this instance, for example, a wind-type turbine beside a solar array, but my understanding is that from a regulatory perspective, that is not permitted at the moment. It is something we are certainly considering. There are many issues around climate generally and this is one of the topics that comes up.

Deputy Timmy Dooley: Is that as much to do with the fact that there is no State-supported scheme for solar?

Mr. Eamonn Confrey: No, not particularly. It is just the principle of allowing hybrid connections or co-location in this instance.

Deputy Timmy Dooley: Is it that they cannot connect at the same node?

Mr. Eamonn Confrey: Exactly. The members should forgive me that I do not know the precise technical details, but it is certainly something that has come up. I am happy to take it away and get a fuller answer for the Deputy.

Deputy Timmy Dooley: Maybe Mr. Confrey could come back to me with a note on it.

Chairman: I call Deputy Bríd Smith. If anybody wants to come in about other issues raised by Deputy Dooley, I will let them in in a moment.

Deputy Bríd Smith: I did not hear Mr. Manley's presentation, but reading the document, the first thing that jumped out at me was that it is stated that while the evidence is that micro-generation will have minimal direct impact on reduced carbon emissions or on our renewable targets, it is an opportunity for citizens to play their part. This statement does not provide any encouragement regarding the changeover from the massive production of power we see through carbon emissions to where we need to get to, which is what Ms Ruddock and the people from Tipperary described, namely, people buying into the microgeneration of electricity and seeing it as being part of life and something from which their communities and families can gain. According to Mr. Manley's logic, the only reason there would be a problem is that it undermines the idea that the State always encourages and supports the large generators rather than the community and individually based generators of supply.

It links in with the question put to Mr. Manley by the Chairman about why NIMBYism around this exists. The reason there is NIMBYism around the generation of electricity in somebody's background is obvious. It is because it involves massive noisy towers standing over somebody's home when it is evident that there is no facility to encourage localised and community-based production. Mr. Manley's submission really says it. Surely the idea that a reduction in demand from the grid because of micro-energy would result in higher prices for everybody else is a product of throwing the electricity market wide open. We did not have had that problem when we just had the ESB, but now that the market is open to all this vicious competition, that is the reason a reduction in the demand from the grid would mean that everybody else has to pay more because the Department is concerned about the profits of the large generators. If the State is keen on reducing our CO₂ emissions and hitting our targets, it would not take this position. It would take a different position and say this is exciting and possible and will give communities in the Aran Islands access to the grid instead of shutting it down.

When we moved an amendment to the Energy Act two years ago to permit communities like those on the Aran Islands to gain access to the grid, we were told we could not have that. Ms Ruddock mentioned schools and the production of solar power. Students in a wonderful school in Sutton carried out a brilliant project proving how they could generate enough power to fuel their school and make money if they could get access to the grid. This is precisely the sort of model about which Ms Ruddock spoke, but they still meet a blank wall. I think this flies in the face of any genuine sincerity about reaching our targets on CO₂ emissions and being able to keep our house in order on that level. That is a lot of criticism but the Department's position is a contradiction and I would like Mr. Manley to explain it. It is worth listening to groups like Friends of the Earth and Tipperary Energy Agency and its experience of delivering micro-energy rather than thinking it must all be about the large powerhouses.

Mr. Michael Manley: There is some misunderstanding here. Most of what the witnesses from Friends of the Earth and Tipperary Energy Agency have said is a cause of no great dispute.

There is no good argument against it. The theme I was trying to deliver on this note is that the Minister has made plain, and the Department is obviously *ad idem*, that there is a shared ambition to increase community, citizen and microgeneration on the system. We think it is a very important part of the future and that people must have that ownership of it.

There are two aspects regarding the impact of it. Electricity is in the emissions trading scheme, ETS, sector. Our focus is often on our targets in the non-ETS sector. Where we make changes in the electricity system, they do not tend to benefit hugely in terms of meeting our non-ETS targets, which are very much focused around transport, heating and agriculture. A target of 5% in a sector that is a small part of total carbon emissions is unlikely to have a dramatic impact on our carbon targets. That was the point I was making. I apologise if I made it clumsily but that was the message that was very much there.

We are strongly of the view that citizens must be part of the future. This is a theme coming from Europe, but it has also been embraced in Ireland for some considerable time. Meetings on the Green Paper were held throughout 2014 and 2015. There was consultation on the renewable electricity support, RES, scheme. We published, probably for the first time by any Department, a very detailed economic analysis and a community analysis of the RES scheme. I do not think anybody has ever published that kind of detailed granular data before - right down to different technologies.

Mr. Gannon reflected on schools. There is a real challenge in the alignment. Schools' peak demand is in November, December and January while peak solar is in June, July and August. There is a real mismatch in how that is handled. There will also be commercial generators, some small and some large. The question arises as to how we manage the market mix. We must transpose the vast majority of the clean energy package and the directives in there by 2021. We must put communities at the centre of the market. Looking at the Bill, our question is whether it is the best and most cost-effective way of doing this.

Regarding the grid, it is not so much about the level of demand. It looks as if we are going to see growth in energy. In particular, if we electrify heat and transport, this will drive its own piece. It is how we share it. If I choose to put in solar and biomass and use very little of the grid, I will need it periodically and will only pay a contribution to the grid for the bit I need, but I will benefit from it all the time, so how do we manage that? How do we design a pricing scheme that is fair to all of us, not just those who might live in areas where they cannot afford to be involved? I hope that covers the points that were made.

Deputy Michael Lowry: I am basing my question on my knowledge of what is happening in my county of Tipperary. The Department is very exercised and committed. We have had publications, seminars, White Papers and the Minister speaking every other day about the necessity of environmentally friendly projects. I cannot understand why it is taking so long for the Department to establish a feed-in tariff for these projects, particularly solar energy. In Tipperary, there are six projects for which land has been purchased, leasing agreements have been made with farmers and planning applications have been lodged. Permission has been granted by the councils and there have been appeals to An Bord Pleanála, yet there has been no action. As late as last week, I brought a deputation to the Minister asking why it is taking so long to establish feed-in tariffs. The ambition needs to be matched with action. If people are investing in these projects, they need to know whether they are commercially viable before they continue to invest, and they need to know the exact business plan. The business plan is based not only on the output but also on the tariff. At what stage are the witnesses? When can we expect finalisation?

I am familiar with the work of Tipperary Energy Agency. I publicly compliment and congratulate it. It effectively started as a pilot project. It has been involved in some fantastic environmental projects around Tipperary. It has generated considerable awareness. It is quite obvious that if one has a package and creates awareness, people will buy in.

The starting point concerns what we can control and influence, such as local authorities and their housing stock. There has been a good retrofitting scheme in Tipperary but the problem is that the budget for it has been expended. People did avail of it, however, and they were delighted to retrofit lighting and heating.

More pressure needs to be put on local authorities regarding planning, which must be conditioned in regard to how one heats one's home, and the use of domestic solar panels on the roof. The major point from an energy perspective concerns the installation of heat pumps in homes. This makes a difference and will conserve energy. It makes a major difference to the carbon footprint.

Could Mr. Kenny outline the current remit of Tipperary Energy Agency? How far does it extend? Has there been any discussion or formulation of policy on extending it?

Mr. Paul Kenny: As a social enterprise, Tipperary Energy Agency provides services to people who come to us, or we answer tenders from various State bodies, including SEAI and other large public sector and semi-State organisations. Our energy agency operates in and from Tipperary but not just for Tipperary. With regard to expansion, we have made a submission to the other committee on supporting local energy agencies. Right now, the energy agency is in receipt of programme funding from the European Investment Bank. The programme, called ELENA, is funding technical assistance at local level, and this is allowing us to deliver many of the projects. Without it, the challenge would be that the cost of providing expert services in homes, schools and elsewhere would not necessarily be fundable in terms of energy savings because fossil fuel prices are quite low by comparison with the costs of upgrades. Without the support from the EIB, our scale of activity would be significantly lower. The funding is coming from the Government through SEAI for many of the things we do. They are very supportive of us but a lot of work is required to prepare the investments. Without a conscious effort at national level to provide support at local level, it will be challenging to achieve the societal shift because homeowners and contractors must be educated at a micro level. That is not fundable with a small portion of the funding through the current programmes. It is a challenge. There were 16 energy agencies in Ireland; two provide services to the public now. The low number is because of a lack of support. It is similar in other jurisdictions in Europe where there was not capacity support from state level for the local energy agencies.

The region of Upper Austria has approximately 1.4 million people. It is a little bigger than Munster. The regional energy agency there has achieved a 43% reduction in carbon emissions from buildings in a decade. We could do the same.

Mr. Michael Manley: Deputy Lowry asked two challenging questions. With regard to microgeneration and support therefor, we have launched a pilot scheme. It is providing the grants. It is running into next year. The objective is to harvest the data on costs, the technologies, how the technologies work, housing insulation, and how to build and develop the supply chain. The Deputy is more focused on the renewable electricity support, RES, scheme. The relevant guidelines in this regard are the European Commission's guidelines of 2014. These change things profoundly. Up to this, we provided the feed-in tariff for wind and other technologies under REFIT 1, REFIT 2 and REFIT 3 and the earlier AER measure. The new RES scheme will

be an auction-based system. The high-level design paper for it was published in July last year. We have been engaged with the European Commission going through the pre-state aid approval process, which is a formal consultation process. Colleagues have been in Brussels working through it. We are not yet in a position where we can make the final formal application. We expect to do so in the coming months. God willing, or the Commission willing, and once we get state aid approval, we will open the scheme and allow bidding. The phasing is set out over the next period of decades. The idea is to create auctions that are big enough to be competitive but not so big that everyone gets a piece of the pie. I hope that will be happening later this year. If the members want some more detail, my colleagues will happily give it.

Deputy Timmy Dooley: Is there clarity on the auctions? Will it be a matter of the most economically advantageous? Will there be separate auctions for nascent technologies? Will the difference between offshore and onshore wind energy generation be considered? If we go for the lowest common denominator, we are just dealing with onshore wind. Is there any mechanism that will ensure an array or spread of technologies? How do the delegates hope to get around that?

Mr. Michael Manley: There will be. There will be a carve-out for community. The intention is that the community would have a space within the auctions. The second aspect is that there will be a designed levered in there. We have to be careful because the model required by the Commission is an auction, which is effectively technology neutral, but we are trying to design in provisions and negotiate with the Commission on the use of levers that would mean we could give the kind of support the Deputy is talking about and yet preserve the integrity of the overall auction process. That is part of the reason it is taking so long.

Deputy Eamon Ryan: I apologise for being late as I had the usual clashing meetings.

The SEAI renewables report yesterday was timely and interesting in showing that the State is so far away from its targets. One figure that stood out among many is that the level of solar PD in our country is almost one fifteenth of that in Northern Ireland. There have been controversies over various energy schemes in the North. Its refit scheme might have been expensive but Northern Ireland is not exactly a solar powerhouse. That it has 15 times our volume of solar power shows how we pretty much have nothing. We are growing from nothing. This speaks to the urgency. I do not know exactly the extent of the fines the State will have to pay for missing its renewable energy targets; they depend on how much other countries exceed their targets. Has the Department an estimate as to what the State may pay in fines per percentage point. When will they kick in?

I apologise if my next question on auctions for larger-scale projects has been asked. If so, the Chairman should please stop me. I am aware there are various complexities. Getting European clearance is not easy. Given that the State is facing large and significant fines, the delay in the auction process means it will risk missing a range of wind plants that have planning and grid connection. Surely it could be arranged to have the auction system in place early this year. That is not a small decision; it will mean missing the renewables electricity target as well as being a mile short on renewable heat and renewable transport. We have been working on this for a long time. Is there any way the auction process could be speeded up?

Mr. Michael Manley: On the issue of fines, it helps to step back. The 2009 renewable energy directive is a positive instrument. It is not drafted in the same way as a road traffic law whereby people who exceed a certain speed have a penalty and a fine to pay. It contains almost 30 articles, one of which creates a process whereby we could have a support scheme. This is

clearly in state aid territory. It creates an opportunity to have joint schemes with other countries and the opportunity to use statistical transfers as a way of getting across. There is no reference to fines in the directive. It was very much written as a positive instrument and a guide to cajole, lead and drive forward the renewable energy portfolio.

In terms of where we are at, the figures published yesterday from the SEAI had just over 10% renewables at the end of 2017, with a target of 16% for 2020. We are exercised by this and we could not be any other way. The projections we have suggest the outturn in 2020 will be somewhere between 12.25% and 14.2%, if I am correct. It is in that band. This gives an indication of by how much we will miss the 16% target. The mechanism we will then be required to use is statistical transfers. As of 2016, 17 countries were behind and 11 countries were ahead with a surplus. These countries have a surplus to sell. There is no developed market yet. The only trade to happen was between Luxembourg and Latvia. In that instance, the trade was at €30 million per percentage point. This gives the order of what the multiplied figures would be if we hit 14.2% and we are able to buy at exactly those prices.

Fines could arise in one process. In early 2021, the State will report the outturn in 2020. The final report will be in 2022. The European Commission could take a view that it had not achieved the target and would seek to bring it before the European Court of Justice and it would be up to the court to seek to impose a remedy. There are issues to understand in this. We were at 3.1% renewables when the directive was written. We were given a target of 16%. Despite the fact that in the period from 2007 to 2013 we went through a dramatic financial adjustment, we will come in somewhere between 80% and 90% of target. It is very different in the case of carbon with regard to targets. There is no provision for fines in the directive. The mechanism most likely to be availed of will be statistical transfers. Reporting to the Commission will be in the first quarters of 2021 and 2022.

Deputy Eamon Ryan: Mr. Manley is correct regarding the fines. As I understand it, we will have to make up the balance. Rather than it being a fine, we will trade our way up.

Mr. Michael Manley: Yes.

Deputy Eamon Ryan: It will be the same fine in that we will have to pay for it. The Latvian deal at €30 million a tonne is unlikely. Marie Donnelly estimated it could cost €200 million a tonne at a previous committee meeting. If 17 countries are behind and 11 in surplus, the market is likely to be much tighter than the Latvian deal.

Mr. Michael Manley: That was at the end of 2016 and obviously it is a market. To be quite honest, we are seeking to get more information and more understanding of where other countries are at on the overall equation. The Deputy is correct that the Department published figures in 2013 and 2014 that were higher based on estimates at that stage. It is uncertain but there is a range.

Deputy Eamon Ryan: It could be €300 million or €400 million a year. When Mr. Kenny came before the committee almost a year ago, he made the point that 67% of new build housing in Ireland provides for fossil fuel heating systems. Given where we will have to go on the climate change targets we will have to meet, in all likelihood we will pay to take them out in the coming decades. Why would we not immediately state, as the Dutch and Swedes have done, that we will have no more fossil fuels in domestic houses? Heat pump technology can bridge the gap. That would promote solar photovoltaic heating, heat pumps and renewable alternatives at no cost to the Exchequer with great clarity, simplicity and speed. Why is this not

introduced this by law immediately?

Mr. Michael Manley: There are a couple of issues. The support schemes offered by the SEAI and funded by the Department no longer support fossil fuel central heating systems. More important, Part L of the building regulations effectively requires buildings to be brought up to a BER rating of A3, which is a high level of energy efficiency. Some developers are developing a combination of solar panels and gas. The buildings are so efficient that the energy use is minuscule. I ask the Deputy to bear with me because I take his point on why we do not go to the next step and it is a fair question. The revisions of Part L will require new buildings to be upgraded to a BER rating of A2, at which stage the current level of heat pump installation, which is high, will automatically step into that space.

Deputy Eamon Ryan: Every month that goes by, fossil fuel heating systems are being put into two thirds of new housing. We know the alternatives work. If it could be done by statutory instrument rather than having to go through legislation, the Minister should do it today.

Mr. Michael Manley: The bigger concern is the existing dwelling stock. Dwellings at a BER rating of A2 or A3 are highly efficient and use little energy. the greatest challenge is remediating the existing stock.

Deputy Eamon Ryan: The Friends of the Irish Environment have taken a case to the European courts on the regulations supporting the burning of biomass as a renewable. There is major controversy about this. In the US, there is outrage at the exportation of large areas of clear fell and natural forest for power generation by companies such as Drax. This is an environmental crime. Added to this judgment, the State is looking to put an end to support for renewable biomass power generation where biomass would be combined with peat, which is another inexcusable measure in an environmental context. Is the Department considering any change to the renewables directive in terms of support for biomass given the controversy? As an adjunct to this, is the Department considering a further increase in the percentage of biofuels as a blending in option? This is the main reason the State has been meeting its transport target. There are similar significant environmental concerns, even with the protections in European legislation, regarding the sustainability of the land use effects of biodiesel, particularly palm oil plantations in Indonesia. Is the Department still very much counting on us using biomass? This could range from large power stations down to smaller domestic applications. What is their role in meeting our targets? Will there be a further increase in biofuel blending and biodiesel?

Mr. Michael Manley: Next year's increase in biofuel blending for transport to 11% has been announced and flagged. At that stage, we will have reached the blend wall, that is, the capacity of existing engines to manage the blend in of the biofuel. Beyond this, we are looking at different biofuels that would have to be either a drop-in biofuel that could totally replace the fuel or to be blended with it without the issues that arise. We are at an impasse on this. We largely share supply chains for fuels with the UK and it is in the same place as us on this. We will have to keep in touch to see where it will go and whether it can go further.

On biomass, the renewable energy directive introduces new and much more stringent requirements for its sustainability as a fuel source. The current REFIT 3 scheme has provided support to the three plants on a co-firing basis. Two are seeking planning consent at and they are in process so I do not want to say anything on that.

The Deputy's other question related to the future of Moneypoint, which has not yet been decided.

Chairman: I will bring in Deputy Stanley who is the sponsor of the Bill.

Deputy Brian Stanley: The point has been raised in the past that the issue of a money message may arise with this Bill. A refusal to issue a money message would be a cynical way to put the brakes on the legislation. Any fair reading of the Bill will show that the issue of a money message does not arise.

Reference was made to self-consumption. This Bill would not end self-consumption. As other speakers said, energy can still be retained because the Bill addresses the issue of surplus energy. The feed-in tariff is a big issue. Householders, small businesses or farmers will not invest in something unless there is some guarantee and certainty around the return on investment.

On efficiency, managing the grid and the technology, I am not an engineer but some of the research we have done shows that up to 15% of electricity leaks from the grid. The closer electricity is generated to where it is used, the less is used. Some of the representatives of industry we met in the past couple of years have told us this. I highlight this point because it is important note that the level of leakage reduces when electricity is generated close to where it is used.

I agree with the point made about small-scale and large-scale energy generation. The Bill makes provision for small community projects, home generation and farms. As I have pointed out previously, many of the larger cattle sheds being erected are south facing and there is no reason they should not be fitted with large solar panels. I have seen cattle sheds in Deputy Lowry's constituency of Tipperary with lovely south-facing roofs that would catch a large amount of energy. It is about harnessing that energy, not only using solar panels but also through small-scale wind and hydro generation. There is considerable agreement on the citizen and community element. Savings will be achieved through reduced greenhouse gas emissions, the development of micro-generation and having other sources of power. Nearly 25 years ago, when some of us started talking about waste reduction and recycling we were told Irish people would never do that. Those who made that argument were wrong. We can make further progress on the waste front. There is an appetite for change in terms of energy generation.

The Minister, the Department and others who deal with this issue argue that we must be careful in how we proceed. I am not saying this in a totally negative way but they are being over-cautious. Civil servants are cautious by nature and sometimes they must be for good reason. This has all been done before. Germany has been highlighted and other states are doing this. They have pushed the boat out on this issue. Ireland has introduced all sorts of madcap schemes in other areas of industry and made huge investments that did not work out. This proposal is very modest. When we are a bit bold and ambitious we can be very good in bringing about change. Mr. Paul Kenny from the Tipperary Energy Agency is here. We have had contact with that agency, which has done major research and brought considerable expertise to the whole area. No one who visited the company - Deputies from political parties and Independents, officials and journalists with whom I spoke afterwards - was anything but impressed with the examples of what that agency has achieved in Tipperary within the strictures and confines of how the system currently operates.

Some of us want to change and reduce our greenhouse gas emissions and the import bill for expensive fossil fuels, which will become more expensive. With Brexit imminent and America shaping up for trade wars, supply will become more precarious. As an island, we cannot cut ourselves off from the world but we can do much more with regard to generating our own sources of power. The Tipperary Energy Agency has shown how this can be done. There is growing awareness among the public, particularly young people and schoolchildren, of the

need for change to reduce greenhouse gas emissions. People who have travelled to other countries see living examples of this happening and it is time that we caught up.

In the main, the presentations were positive around the need to do all of this. I am flexible about amending and improving the Bill. I realise it is on Second Stage but we need to accelerate the process and move the Bill on. I thank the witnesses for being here.

Chairman: Ms Ruddock wishes to come in before I move on to the representatives from the Department.

Ms Kate Ruddock: I will be very brief. I wish to note the timing and remind everyone present of fairness and the potential for public outrage if we delay and wait until the EU forces us to bring in micro-generation and the sale of micro-generated energy. There has been some discussion of the renewal electricity support scheme, which is very good. I strongly welcome the scheme but I agree that it should be implemented faster and that the Department needs many more staff. I am concerned that we would have the renewable electricity support scheme but nobody in the public arena will know the names of the different subsidy schemes. There may be professional onshore wind developers getting a subsidy and people will see that smaller micro-generators and community projects are not receiving the same level of subsidy, or they may not even be entitled to get it. The Department is trying to bring forward a community-led project in the first auction but the smaller generators are not included in the first auction. They are for down the line in the future. There are shovel-ready community owned projects ready to go. If we could arrange the timing in such a way that people could see they are able to participate in this transition, this will progress much faster and in a much fairer way. The Minister has spoken a great deal about needing to bring people with us on the climate change challenge that we have to overcome. Taking these small steps at this time would be very valuable.

Chairman: Ms Ruddock made some very good points.

Mr. Michael Manley: I should acknowledge to Deputy Stanley that after 42 years in the Civil Service, I have become cautious. If I ever appeared to be bold before the Committee for Public Accounts, it was not very nice. Caution does arise over time.

With regard to the Bill, the key message is, as we say at home, is “I am not agin it.” The question is how we make all of the elements work within the objective. I am aware it has been suggested that we may be dragged kicking and screaming by the EU into this. That is not actually the case. Ireland was very supportive of the clean energy package. The previous Minister, Deputy Denis Naughten, was very supportive and co-signed letters of ambition in areas such as energy efficiency when some other Ministers were a little more hesitant.

This is not an issue of big versus small. We will need utility scale generation. Hospitals cannot survive on a small collection of generators. They need big, reliable and very secure generation. Equally, we are very much of the view that citizens and communities have different roles, whether generating for personal use with solar panels or whether working with neighbours. The question is how we design the balance on this. We must have the directive on renewable energy sources, RES, transposed by June 2021. We have a huge amount of work to do in consulting people to find out their views.

One of the hallmarks of one of the more recent interventions by the Department - and it has been acknowledged in the contributions on the renewable energy sources or RES directive - has been around asking people what works. In the past two years, behavioural economics students

in the Sustainable Energy Authority of Ireland, SEAI, have been looking at issues such as drivers and motivators, what people listen to and whether a grant is better than a fee payment. This is one of the occasions when I have been more in agreement with all of the contributors around this table than on many previous occasions. We know this dialogue does not end today and will keep running.

Chairman: On that note, we will all move to the Joint Committee on Climate Action within the next hour or so in order to follow up on these very issues.

I thank all of our guests for coming before us. It is proposed that the committee publish the opening statements and submissions received on its website. Is that agreed? Agreed.

The joint committee adjourned at 5.30 p.m. until 3 p.m. on Tuesday, 2 April 2019.