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What are our responses to the key energy questions?  
How do we reduce carbon intensity of our generation?  
We think we have to reduce that by 50% by 2020. We set  
ourselves a target. Just to give you the figures  
globally. The grams of CO<sub>2</sub> per kilowatt hour are just  
over 500. Just over 500 grams of CO<sub>2</sub> per kilowatt  
hour. By 2050, globally, it has to be below 50. By  
2030, in Europe, it has to be below 50. That's the  
scale of the challenge. We start with a 50% reduction  
by 2020.

15:34

15:35

How do we tackle the dilemma of energy security? The  
fact is that an oil field will deplete at 6-10% a year  
once it's off plateau. It's just geology. The fact is  
that the world will struggle to produce anything more  
than 90 million barrels of oil a day. We got to 85  
million and look at what the price did. We will  
struggle. So from my point of view, wind is the new  
fuel. That's why we vest in renewables. It is both  
carbon and fuel. How do you get energy security? You  
get that through diversity. You get that through  
geographic diversity, as well as diversity of supplies.  
That's why we are looking at a pan European business.

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We said offshore is the key part of the solution.  
There are actually only three technologies that appear  
to be feasible for producing zero carbon electricity at  
scale; nuclear, carbon capture in storage and

1 renewables. I found Christian's figures very  
2 interesting in ten years 27.1 gigawatts of renewables.  
3 In one year 27.1 gigawatts of wind. And in the history  
4 of time, about 271 megawatts of carbon capture in  
5 storage, which is a figure you didn't mention. So at 15:38  
6 this stage, for a utility, the technology that we can  
7 invest in is renewables, at scale. Because we have to  
8 look at our comparative advantage as a company, as do  
9 countries and our comparative advantage is in  
10 renewables, it's not in nuclear or CCS. That is true 15:39  
11 for many other utilities.

12  
13 But the scale of the challenge is enormous. Our  
14 investment programme is nearly two and a half times  
15 larger than it was in the previous five years. You can 15:39  
16 see the share of renewables has gone up from just under  
17 20% to just under half. If I showed you the graph for  
18 2014-19 you would see a similar growing investment  
19 programme. All utilities are facing enormous  
20 investment challenges and the question will be, can 15:40  
21 they fund them and where do they choose to spend that  
22 money? If I look at offshore wind as a technology, we  
23 are investing all over Europe. This is probably the  
24 most impressive map of any European wind developer in  
25 terms of the number of turbines stuck in the sea 15:40  
26 somewhere and we aim to put another couple in there  
27 when we hear the results of the Crown Estate's Round 3  
28 bids. That business is located in Dublin. So it is an  
29 export business already, but an export business needs a

1 thriving domestic business to grow and to survive. At  
2 the moment we do not see that thriving domestic  
3 business in offshore wind here in Ireland. We see it  
4 elsewhere.

5  
6 If I look at this chart, you look at these are the  
7 plans that effectively they are the same numbers that  
8 you have seen from Christian's report. But you see  
9 sizable ambition, particularly in the UK, a real focus.

10 What could Ireland's number be? The person producing  
11 this, like me, put 1,000 megawatts. What could it be?  
12 Well let's just take that challenge that Minister Ryan  
13 gave us this morning of a zero emissions Irish energy  
14 system. Let's just focus on the domestic market. What

15 does that mean? Let's take 2030 because I think that's  
16 the sort of timescale that a country like Ireland needs  
17 to attack. That's an 8 gigawatt renewable system, I  
18 think. It is also a system that has some carbon

19 capture in storage. It has pump storage to balance the  
20 wind. It has electric vehicles. Almost everybody in  
21 this room by 2030 will be driving some form of electric  
22 vehicle. It has increased interconnectors. Most of  
23 your homes will have heat pumps on them and you will

24 also have smart demand. We will have gone beyond smart  
25 metres and smart grid and your appliances will self  
26 schedule. That will be the system. A net zero  
27 emission electric system by 2030 will have an 8  
28 gigawatt renewable energy detector. When I look at the  
29 Irish market I can see 4 gigawatts onshore. Where's

1 the other 4 coming from? It will be offshore. Whether  
2 that's marine, wave and tidal or wind, the technologies  
3 will fight it out. I actually suspect it will be three  
4 to three and a half of wind and half to one of wave  
5 tidal. That's the scale of the domestic market  
6 challenge to meet the zero emission electric system.  
7 It shouldn't be 1 gigawatt by 2020, it should be 4 by  
8 2030. That is a sizable ambition and a sizable market.

15:45

9  
10 The problem is, you just ain't going to get there.  
11 This is what I see sitting as a developer today. I  
12 see, in the UK, a real focus on delivering multiple  
13 gigawatts. You see numbers of 10, 12, 25, 33 gigawatts  
14 by 2020. You see the Crown Estate, acting as a land  
15 Lord, it is the landlord of the seabed. It wants to  
16 maximise its ground rent. It is issuing a licence for  
17 Round 3. Their target was Q409. That will be met.  
18 Those licences have specific development targets in  
19 them that developers will have to meet. They are  
20 talking about gearing up supply chain. They are  
21 talking about engaging with turbine manufacturers.  
22 They are streets ahead of where you are. So where as a  
23 developer, do I put my effort? Where I see a country  
24 focusing on it. Unfortunately, you are not just behind  
25 the UK. You are behind the Netherlands. You are  
26 behind Germany and you are behind most of Scandinavia.  
27 That's where you are. I just don't see any urgency  
28 here.

15:46

15:46

15:47

15:47

1 If I take an example of two projects. Our Greater  
2 Gabbard project off of the Suffolk Coast will go from  
3 initial award of licence to fully operational in nine  
4 years. If I compare that with Arklow Bank, which was  
5 installed in 2003, at that time it was about 5% of the 15:49  
6 world's installed offshore wind energy. At the rate of  
7 progress nothing else will happen there until beyond  
8 2020, by which time it will be less than 0.1% of the  
9 installed capacity of wind. I don't see that changing  
10 in Ireland unless things significantly happen and 15:50  
11 developers will lose interest here and they will go  
12 elsewhere. It will be a missed opportunity for  
13 Ireland.

14  
15 There was significant economic benefit, and I'm not 15:50  
16 going to go through all the numbers here because you  
17 have heard them, but just to give you an example. At  
18 our Greater Gabbard project will be employing, either  
19 us or our turbine suppliers will be employing 150  
20 people, highly skilled people in Lowerstoft in Suffolk, 15:51  
21 to service that one project. None of that work is  
22 coming to Ireland. If you look at the wind farm, you  
23 have got a number of different stages. You have got  
24 component manufacture. Then you have got fabrication  
25 of the major bits. You have got assembly and you have 15:52  
26 got our M facilities. All of that economic benefit  
27 will not come here unless there is a thriving domestic  
28 market. You need to decide which bits of that value  
29 chain you want. You will not be able to get it all.

1 You are too late for some of it, but you can get some  
2 of it. Do you want your universities to specialise in  
3 R & E? In which case, what are they going to do? What  
4 ports do you want to get involved? What you have to  
5 remember is that every where else is raising share 15:54  
6 game. This is a fight between Belfast and Bremerhaven.  
7 It is a fight between Dublin and Dundee. I can assure  
8 you that Bremerhaven and Dundee are well ahead of  
9 Belfast and Dublin. They have got people out scouring  
10 the world. They know exactly what they can offer. 15:54  
11 What land they have. What skills they have. They are  
12 attracting inward investment. You don't see anything  
13 going on here.

14  
15 The other interesting point to note on this map is, 15:56  
16 this area here where there will be a lot of wind farms  
17 developed, a lot of marine energy is not well served  
18 with ports. This area, again here, not that well  
19 served in ports. So there is scope to develop an  
20 industry here, but it will be lost to Milford Haven, to 15:57  
21 Barrow, to Hunterston.

22  
23 So there is an opportunity there. What do developers  
24 need? We are actually pretty simple people. We  
25 actually only need three things. We need a timely, 15:58  
26 consenting progress and that was covered this morning  
27 about the problems that Ireland has. You are not  
28 unique. Every country struggles with consenting  
29 progress. You have just got to be better than other

1 people. And you are not. Support planning and  
2 delivery of supporting good infrastructure. The study  
3 is welcome, but we need to see things being done in  
4 parallel. we cannot afford things being done in  
5 sequence. Things need to be done in parallel. we 15:59  
6 should be starting to work out environmental impact  
7 assessments of grid landing points. Because we know  
8 what needs to be done. And the refit needs to be  
9 competitive. Because capital is mobile. I can choose  
10 to put my offshore money in the UK under the rock 15:59  
11 régime. I can go to the Netherlands under their  
12 auction régime. I have got the German refit régime and  
13 I have got the Irish refit régime. That's probably the  
14 order in which I would invest. It's the same for  
15 onshore. I can choose between the Irish refit scheme, 16:00  
16 the UK rock scheme, Portugal, Sweden, Italy. In  
17 onshore, Ireland scores pretty well. Probably second.  
18 But in offshore, you're not at the races. It is quite  
19 simple. If you want a thriving offshore wind industry,  
20 you have got to solve each of those three problems. At 16:00  
21 the moment I don't see that happening.

22  
23 We want to build Arklow Banks. Arklow Banks is  
24 consented at 200 bases. It could be 700 megawatts.  
25 Our preferred option would be to service that for the 16:01  
26 Irish market. However, I suspect that a more likely  
27 solution is that we can use what we call "plan B" that  
28 gives us the ability to export some of that capacity to  
29 the UK. That's a first step in a celtic grid. we need

1 a celtic grid. We need to link North Ireland, South  
2 Ireland, Scotland and Wales. Let's use offshore wind  
3 as the hub. Let's not let Denmark, Germany and Sweden,  
4 or whichever other country it was that you were talking  
5 about, Christian, do this. We can do this here in the 16:02  
6 Irish Sea. We already have the wind farms consented.  
7 Let's use those as the link to form the first leg in  
8 the Celtic grid. It would give a strong signal, both  
9 to a domestic market and export potential. Because I  
10 think we have heard a lot about export potential today 16:03  
11 but I think the first thing I would want to say, and  
12 I'm not really going to use the map but it is something  
13 to capture your attention. 40% target for electricity  
14 from renewables by 2020 is not enough domestically.  
15 Ireland has competitive advantage in wind, wave and 16:04  
16 tidal. And zero emissions of electricity by 2030 is  
17 achievable, needed and the target. You will achieve  
18 that by exploiting your competitive advantage. I  
19 think, as I said earlier, that gives you around 4  
20 gigawatts of offshore energy. But you can do even 16:04  
21 more.

22  
23 The UK Round 3 licences, which are illustrated on that  
24 map, in some cases, up here, you are talking about 150  
25 kilometres offshore and in 50 metres of water. Ireland 16:05  
26 has developable resources 20 kilometres of offshore and  
27 in 20 metres of water. In looking at it as an export  
28 market, you can produce at lower cost than other  
29 markets are looking to develop. But you are behind, as

1 I said earlier, the UK, Scandinavia, Scotland, Holland.  
2 You have to set a goal. You have to be clear about  
3 what your goal is. I think you can serve a market of  
4 10 gigawatts by 2030. That would be around 40% for the  
5 domestic market:60% export. That will only be 6 or 7% 16:05  
6 of the installed capacity in the world. That's the  
7 sort of aspiration that you can do but you have to set  
8 the goal. You have to do things in parallel.

9  
10 It is quite interesting being on the panel today, 16:06  
11 because I have never been on a panel with a Latvian  
12 based in Brussels, a Dane also based in Brussels, a  
13 Dutch guy based in Ireland and I'm an English man and I  
14 live in Scotland. Quite a European cross-section. We  
15 obviously have one thing in common; which is energy and 16:07  
16 renewables but we do have something else in common. We  
17 have something else in common, which is Guinness.  
18 Guinness, of course, is a classic Irish product. As  
19 these cans demonstrate it is 250 years old and, yes,  
20 Guinness serves 40% of the Irish draft beer market. 16:07  
21 But Guinness didn't stop there. Guinness is exported  
22 to over 150 countries around the world and it is  
23 probably the brand that is most well-known that has  
24 come from here. The Guinness that we will drink,  
25 whether it is in Brussels or Latvia or in Dublin or 16:08  
26 Edinburgh is brewed here and exported. Over half the  
27 output from Dublin's brewery is exported. Nigeria  
28 drinks more Guinness than Ireland. It is a truly  
29 global product.

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In my closing remarks, we heard Brendan said this morning that wind is the new grass. My closing remark is wind is also the new Guinness because, remember, wind is good for you! Thank you.

16:09

**END OF PRESENTATION BY MR. IAN MARCHANT**

**COMMISSIONER PEIBALGS:** Thank you very much, Ian. Thank you for that reality check and also, your very original ending there. There is another Guinness saying that goes good things come to those who wait. I hope you are not too hungry, but we are still going to go through the question and answer session. So without any further delay I would like to open the floor for the questions. Once again, please state your name and your affiliation.

16:09

16:10

**MR. GEARY:** David Geary from Almera again. Thanks to the speakers for their presentations. I just have a quick comment in relation to the connection of Ireland to the rest of the European market. I had noticed in your map of connections that there was several connections included to Ireland. As the meeting may know, Almera is developing a number of those connections from Ireland to wales and one from Ireland to France. While the Ireland to France one was included in the map, I think the two from Ireland to wales were not. The

16:18

16:19