

1 the first major renewables energy generating project
2 with the Ard na Crusha hydropower station and it was
3 built in 11 months. So that shows you what can be done
4 when you want to do it back in 1927. Let us see what
5 Padraig might reveal this morning about the ESB's 17:42
6 latest plans in the area as he presents his paper:
7 energy an Irish and international prospective", Padraig
8 McManus. Thank you.

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10 **MR. MCMANUS:** Thank you very much, Brian. 17:42
11 I am always delighted to
12 share the platform with my boss. I am delighted that
13 he is continuing on. I think he has been a fantastic
14 Minister. It is always nice to have an opportunity to
15 say that about your boss, isn't it? But the 17:43
16 relationship I think between the ESB and Minister has
17 been very good. When he became Minister, you know,
18 people across Europe said to me it must be difficult
19 for a utility to have a green Minister, well quite the
20 opposite. You might not always agree with what he says 17:44
21 but he never leaves you in any doubt as to what his
22 views are. So, I think I am delighted that he is
23 continuing as Minister.

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25 Brendan Halligan is a good friend and I would just like 17:45
26 to have the opportunity to clear up something. Brendan
27 Halligan was not deported from Portugal in 1969.
28 However, an intermediary advised him that if he hadn't
29 decided to move on within 48 hours he might have a

1 little difficulty. However, just to say that the man
2 who invited Brendan to go to Portugal at that time and
3 I am sure you have all read the Irish times on
4 Saturday, so you know what I am talking about, was none
5 other than Mario Suarez who later became Prime Minister 17:46
6 and President of Portugal. So, quite a distinguished
7 event in Brendan's life and I decided to clear up the
8 record because I am sure that he wouldn't do it
9 himself.

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11 Another man who has been a fantastic addition to the 17:48
12 whole energy sector and the enthusiasm that he shows
13 for it never wains and it is great to be working with
14 Brendan and great to see you here. I hope you enjoyed
15 your time then and many other times in Portugal after 17:48
16 that, Brendan.

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18 I am going to try and give you some kind of an idea as
19 to what the energy sector looks like and where your
20 business fits into that but to give you some kind of 17:49
21 idea as to where we see the energy sector going and
22 what it is going to be like over the next 10 to 20
23 years. As we all know we had a number of disadvantages
24 here in Ireland. It is a small country, the size of
25 Manchester. We don't have economies of scale, we 17:50
26 cannot build enormous power stations. We have no
27 natural resources apart from the one that you were
28 particularly interested in but in terms of fossil fuel
29 we don't have resources and we are at the end of the

1 food chain. You know we pay the highest transportation
2 charges of anyone in Europe. So they are the
3 disadvantages we have and what are the advantages we
4 have. The advantages are that we have at possibility
5 to be sustainable and I think this is something that 18:05
6 has now been accepted. The fact that
7 CO 2 has become more and more expensive and the
8 inevitability is that fuel, fossil fuel once the
9 recession ends and it will end, it might take a little
10 longer this time because it is world wide as opposed to 18:09
11 one particular location, but when that happens there is
12 only one place for fuel to go and that is up. The
13 combination of fuel rising, CO2 costs rising, makes the
14 opportunity for the renewable sector to be really
15 really positive and that is where Ireland has an 18:10
16 opportunity.

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18 But in that context, what I want to try and demonstrate
19 to you, the changes that are going to take place that
20 we have already accepted in the ESB and that we are 18:10
21 working towards delivering. We have the issue of
22 climate change and we have the issue of security of
23 supply to deal with. Traditionally what we would have
24 had was fossil fuel generation, large central grid and
25 a passive end user. Where that is going to change to 18:12
26 and which we are driving at and I would like to give
27 you some information on is sustainable generation, a
28 mixture, smart networks and an interactive end user.
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1 I think the whole issue of the smart network, smart
2 grid is going to give us that opportunity to be able to
3 achieve that. The mix that we are going to have in the
4 future is a certain amount of gas and it doesn't really
5 matter when you believe oil and gas will run out. In 18:13
6 our sector you have got to plan for that and you know
7 whether it is 10, 20 or 50 years you know we have got
8 to plan in the energy sector for that inevitability.
9 So, where the generation is going to be in the future
10 in Ireland is going to be a certain amount of gas, coal 18:15
11 and renewables. That is the mix that we are going to
12 have.

13
14 we have invested heavily in money point which is going
15 to allow that cessation on the flew gas and 18:16
16 sulfurization project we put in to run until the 2020's
17 and we see that you know the clean coal technology is
18 going to develop over that time. I firmly belief it is
19 going to develop because there is so much coal in the
20 world and in much different parts of the world that 18:17
21 that is going to happen, but that leaves a huge tranche
22 of renewables available to us.

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24 If we look at what is happening. Ireland produces
25 about 70 tonnes of CO 2 a year. 22 percent of that is 18:18
26 in the emissions trading scheme where the electricity
27 sector is and we will achieve the targets in that
28 sector. We have committed here in Ireland and the
29 utilities around Europe have committed to reform in

1 that sector. The other side is the sort of emissions
2 which must be managed domestically and you can see
3 transport, agriculture and others play a much bigger
4 role in that sector.

5
6 The issue for us I believe is can we move a big portion
7 of that sector into the emission for trade sector.
8 Electricity is the cleanest source at the point of use.
9 There is no cleaner source of electricity at the point
10 of use. If we can achieve our targets in terms of 18:20
11 producing electricity without emitting CO2 and grow a 18:21
12 big portion of renewables in Ireland then we can get
13 there.

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15 This is what we are looking at from the ESB's 18:21
16 perspective, I know the Minister has different targets,
17 but 30 percent of renewables by 2020, to keep abreast
18 and to make if we can small investments in the clean
19 coal technology and to look to be part of the that
20 industry. We are certainly not, you know, big enough 18:22
21 or strong enough in the ESB to take on one of the
22 demonstration projects but that doesn't mean we can't
23 have a part to play in it. The development of the
24 smart net works and smart grid an area that we have
25 taken a considerable lead in and we have been working 18:23
26 in association with search institutions and with Nova
27 Utilities in California who are very advanced in this
28 area, to make sure that we can deliver the
29 infrastructure around that.

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We have done a lot of work in the last number of years to bring the grid in Ireland up to standard. We had fallen a long way back by the turn of this decade but the investment that we have made has made the network that we have very very suitable now to the development of smart networks with the amount of remote control that we have put in place.

18:26

Energy services is another area that we are working in and, you know, we are looking at getting that interactive piece done and I think that is going to be one of the critical things that will help us to develop in the whole area of demand side management. And, you know, being part of a much wider grid I think is also an inevitability that is going to happen.

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This is a slide that I have shown many times and this is the commitment that the ESB has made to producing electricity in Ireland without emitting CO2 by 2035 and because 2035 along way off, even though it is 15 years ahead of where Europe has said it will be, we have put in intermediate points. By 2012, we will have reduced the CO2 emissions from the ESB by 30 percent and we are target to deliver that. By 2020 by 50 percent and by 2035 we will get to net zero.

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There is one thing that has come home recently to us in relation to the balance of climate change and security

1 of supply and priceability. I think that was the issue
2 last year when fuel went to \$147. At that time, you
3 know, wind developers -- there could be some of them
4 sitting here -- were coming to us asking to be
5 released from their long-term contracts and as you will 18:32
6 know we have a lot of long-term contracts with wind
7 developers but they were asking to be released from
8 those contracts because wind was then making more money
9 and they were making less by being locked into the
10 contracts. We were quite prepared to do that. Now, it 18:33
11 didn't actually happen, I think banks maybe intervened
12 in that, but you can see that it has already happened
13 and as oil and gas becomes more expensive and as CO2
14 becomes an issue that people have to deal with, we must
15 get our little plug in here, I believe we are the only 18:34
16 utility in Europe that has actually paid back the
17 credits we got, the CO2 credits we got but as that
18 happens you can see that that is where the renewables
19 is going to play a key role, not only in terms of
20 having a sustainable source of electricity here but 18:35
21 also in terms of priceability.

22
23 Just to give you some idea of what is happening on the
24 wind development side. This is the programme of wind
25 on onshore connections that is planned. Now, if you 18:35
26 look at the rate at which it is increasing and the
27 number of projects that are out there. Now, obviously
28 you know we are not saying that every one of these
29 projects is going to get built but you can see what is

1 connected, what is in progress and what is in gate
2 three and even on that you can see the amount of wind
3 development that is going to take onshore. If you look
4 at sort of to be connected post the gate three and look
5 at what is in the queue you can see that there is a 18:38
6 huge development potential for renewables in Ireland
7 and I suppose we will come back to that question and
8 where your industry fits into all of that.

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10 Just to give you an idea of what is going to happen in 18:39
11 terms of the development of the networks. You know,
12 people talk in terms of smart metering as being the
13 issue and you get a smart meter and it is solved and
14 that everything is sorted from then. There is a huge
15 amount of work to be done. New network design, network 18:39
16 automation, a lot of which we have done in part of the
17 renewal of the network over the last 5 to 7 years and
18 new transmission control systems as well.

19 Distributed generation is something that we are
20 planning for in the future and renewable generation to 14:28
21 the levels that we are talking about, if you look at
22 the previous five, even for the onshore and then demand
23 site management in terms of how the customer can manage
24 that whole space. These are things that are going
25 ahead. we have absolutely committed. We have the full 14:28
26 support of the Minister to actually drive on with these
27 projects. There is another issue in relation to it I
28 think which is really, really significant in terms of
29 the wind sector as well, that is the development of

1 electric vehicles.

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3 we believe that it is going to happen. Any time the
4 whole electric vehicle business was killed before it
5 was killed by the motor industry, it is not going to 14:29
6 happen this time. You can see that the US Government
7 virtually owns the motor sector in the US at the moment
8 and since the good guy got into power his absolute
9 commitment is to drive that sector towards electric and
10 plug-in hybrids. I think it is definitely going to 14:30
11 happen this time and we are absolutely committed to
12 being part of that and have worked with the Minister in
13 relation to driving this forward.

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15 I have the opportunity in a few weeks' time to present 14:30
16 a paper to the Commission in Europe on behalf of the
17 European electric industry, Eurelectric, where we are
18 looking for standards to be put in place as to how the
19 electric vehicle business develops, in other words in
20 time we standardise the connections, show that 14:32
21 everybody can play in the same field, that we don't get
22 into a situation where there are proprietary systems,
23 not only in relation to the connections and charging
24 points but in relation to the whole IT systems that
25 pack up that so that any vehicle manufacturer or any 14:39
26 electricity supplier can play in that system. I think
27 that it is going to be a major step forward if we can
28 push and get that done. Across Europe if you have a
29 standard IT system in terms of who you buy your

1 electricity for charging from and a standard system for
2 connection as well, and that is happening in two weeks'
3 time and I am delighted to have been asked to make that
4 presentation to the Commission.

5
6 Just a couple of things in relation to ESB, two slides
7 I am going to show you. This is what the ESB's
8 contribution to the Irish economy is: Just in terms of
9 purchases from Irish suppliers you can see that our
10 annual purchase from Irish suppliers is over €1.1
11 billion. In overall terms the ESB's contribution to
12 the Irish economy is €2.5 billion.

13
14 The stillness package we announced, which we are going
15 to monitor on an annual basis, where we had committed
16 to creating 3,700 jobs in the Irish economy, and as a
17 big company in the sector in the Irish economy we
18 believe that we had a commitment to do this, but most
19 of this is going to be in the whole area of developing
20 the smart grid, the smart metering, electric vehicles
21 and in the whole area of support for customers in being
22 able to become the interactive customers that we need
23 them to be in the future, as well as supporting the
24 development of apprentice training.

25
26 In 2020 this is what you are going to see, we believe
27 the regional market will have extended not only to
28 Ireland and the United Kingdom but to France. A lot of
29 the investment that we are making in the future in the

1 sort of traditional sector is in the United Kingdom
2 because we believe that it is an inevitability that we
3 are going to have a much larger market, which we will
4 just come back to finally in terms of your own
5 business.

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7 We are driving to a world class domestic infrastructure
8 in terms of being able to match the demands and the
9 development in the whole area of intelligent networks
10 and developing the demand site management and the
11 electric vehicle infrastructure. We are trying as much
12 as we can to develop systems that will allow the
13 heating and transport sectors to get back in through
14 electricity into the energy trading system. We will
15 monitor the whole clean coal technology.

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17 Where does that all come to in terms of your industry?
18 Well, you know, I believe that you can see from the
19 plans that have been put in place and from the
20 commitment that we have made and the financial
21 commitments that we have made to developing the
22 electricity sector in the way in which I have outlined
23 it here this morning that is going to happen. We have
24 made a commitment of 22 billion over the next 15 years
25 to make this happen. In today's world can we continue
26 to do that? What I have said is that it is the
27 absolute right strategy for Ireland, we have to be
28 prudent, money is scarce and because it is scarce it is
29 expensive in the first few years. Over the 15 year

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1 period this is the right strategy for Ireland to
2 pursue.

3
4 You can see from the level of renewables that are being
5 developed onshore that you could almost fill the Irish 14:59
6 sector with that. I think that comes back to the
7 Minister's point, that in terms of the offshore wind
8 sector you not only have to look at the development of
9 the sector, the big demand increase that will come over
10 the next ten to 15 years in terms of electric vehicles, 14:59
11 and I firmly believe that that is going to happen, but
12 also the possibility for export. You have to look at
13 your industry in the context of the European
14 experiment. You have to look at the super grid
15 development and the fact that renewables in Ireland is 15:00
16 going to be an export product and I think a solution
17 that encompasses what is happening in terms of the
18 development in Europe is where your industry is going
19 to be and I think where you should be directing it.
20 Thank you very much. 15:03

21 **CHAIRMAN:** Thank you very much
22 Padraig. Our third speaker
23 in this session, Brendan Halligan. You never know
24 where Brendan is going to pop up, he has had a long and
25 distinguished career and has worn many, many different 15:05
26 hats. I think I was only a young gossier when I would
27 have first come across Brendan in one of his many
28 guises, both as a member of the Labour Party and a
29 former member of the Seanad and Dáil Éireann and a