Northern Ireland
Assembly

COMMITTEE FOR ENTERPRISE, TRADE AND INVESTMENT

OFFICIAL REPORT (Hansard)

Biogas Alliance

17 June 2010

NORTHERN IRELAND ASSEMBLY

COMMITTEE FOR ENTERPRISE, TRADE AND INVESTMENT

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Members present for all or part of the proceedings:
Mr Alban Maginness (Chairperson)
Mr Paul Butler (Deputy Chairperson)
Mr Gregory Campbell
Mr Leslie Cree
Dr Alasdair McDonnell
Mr Daithí McKay
Mr Stephen Moutray
Mr Sean Neeson

Witnesses:
Mr Victor Christie)
Mr Robert Brennan) Biogas Alliance
Mr Reuben McFarland)
Mr John McLenaghan)

The Chairperson (Mr A Maginness):

We now move to an oral briefing from Biogas Alliance. I advise the Committee that the relevant papers, including various documents from Biogas Alliance, are in members' packs. The Committee Clerk has provided a briefing paper with a summary of contents. The witnesses who will brief the Committee today on behalf of Biogas Alliance are Victor Christie, Robert Brennan, Reuben McFarland and John McLenaghan. Gentlemen, you are very welcome to the Committee.

We received the papers from your group and had an opportunity to read them, so we know the outline, at least, and some of the detail of your position. You may wish to make an opening statement, after which we will move to members' questions.

Mr Robert Brennan (Biogas Alliance):

Good morning, ladies and gentlemen. I am conscious that the Committee has received some briefings on the issue, but I just not sure how much members have been told. We want to get across two main points today. We are not here to beat up on people. Rather, we are here to highlight the opportunity that is being missed.

The local chairman of the Royal Institution of Chartered Surveyors said:

"NI (Northern Ireland) has an 18 million tonnes reserve (annually) of good quality biomass (otherwise described as biodegradable waste) that when digested in the absence of air (Anaerobic Digestion) in a biogas plant can yield in excess of 30% of its vehicle fuel demand, or 16% of its heat and power consumption. As yet this ubiquitous resource is virtually unexploited."

We concur that that resource is totally unexploited, and to get the biogas industry up and running here, it will need a bit of a kick-start.

Biomass has the ability to be good for NI plc. At the moment, energy flow in Northern Ireland is worth about £1 billion annually. However, because our power production and the grid system are not vested locally but in the Middle East, all that profit flows out of here. Every time a local renewable company makes a megawatt of electricity, it generates about £1 million of revenue that stays here. However, ninety-something per cent of revenue is flowing out of here. For financial reasons, we want to begin to turn that around.

I will now deal with security. We are at the end of the pipeline. A few weeks ago, I was in Scotland doing some research work for the Scottish Government, because they have recognised the opportunity that renewables offer. One of the first slides that came up showed the gas fields that are all over Europe in plentiful supply. We then saw a similar picture that projected what the situation is likely to be 10 years from now when the only gas field left will be in Russia. The question was asked: what are we doing about our energy security? Therefore, for security reasons, but particularly for financial reasons, we must tap into the tremendous opportunities that biomass offers.

The Chairperson:

Thank you very much. Does anyone else wish to make any opening remarks?

Mr John McLenaghan (Biogas Alliance):

As Robert explained, the opportunity for Northern Ireland plc is immense. We see an opportunity for farms to use, as Robert mentioned, the existing waste streams that are available. However, that does not take account of the other waste streams that come from agriculture. For example, manure that is produced on farms is ideal for the biomass process, and it is being used all over the rest of Europe for that purpose.

We have a number of legislative issues with the agricultural production systems in Northern Ireland. We have a fairly intensive agricultural system. Unlike other parts of Europe, we do not have large areas of arable spread lands that do not have livestock enterprises on them, which limits our disposal methods for lots of that manure. We have issues with methane being 23 times more dangerous to the ozone layer than CO2. Very soon, we will have issues with how to mitigate our methane production.

The water framework directive will affect our phosphorous use, and the nitrates directive is already in operation. Those pieces of legislation will cause — and are causing — real damage. Recently, we heard how Northern Ireland farming and food production has been one of the mainstays of our economy over the past few recessionary years. That is good, but my concern, from a wider agricultural perspective, is about pieces of legislation that will start to pull that back. That does not have to happen, because what we produce creates the potential for waste, which could be a valuable resource if used with the right technology. Anaerobic digestion (AD) is one such technology.

To that we can add our great natural advantage in growing grass in our wet and humid climate. We do that better than anywhere else in Europe, do it as well as anywhere else in the world and it is what we do best. We still have reasonably good temperatures through the growing months. We have a long growing season and good grass-growing potential. Those conditions are being underutilised on our farms. We can combine the use of existing waste streams with that potential

grass production, which could really kick-start our agricultural economy and allow it to meet future legislative requirements.

From looking at policy across Europe, we have recognised that, to kick-start renewable energy, there is a need to subsidise it. Unfortunately, the level of subsidy that is available in Northern Ireland is not sufficient. The will is there from industry, including the farming industry, but, unfortunately, nothing will happen until we get the policy right.

Victor was in Europe recently, and he might be able to tell you a little bit about what he found there.

Mr Victor Christie (Biogas Alliance):

Last week, I was in Brussels to talk to representatives from the European Energy Commission. They were stunned to hear that we do not have AD in Northern Ireland. In Europe, about 40% of renewables come from AD. Our potential is the envy of the world, but we are at the bottom of the league for what we have achieved. The representatives told me that they would be in favour of an AD industry here. With the right incentives, 400 or 500 jobs could be created in the first four or five months.

Unfortunately, the Department of Enterprise, Trade and Investment (DETI) has not co-operated at all. I have had no meetings with DETI representatives. The problem is that they do not understand the technology and how it could benefit us. The commission representatives in Brussels told me that it has no objections to measures being put in place to kick-start the industry here. Everybody knows what AONB stands for, but if we get the wrong policies, it could also stand for area of outstanding natural bankruptcy rather than area of outstanding natural beauty.

Ireland could be an engine house for the UK, which will have severe energy shortages within the next two or three years. We should be putting the foot to the floor to exploit what we have. At the minute, 98% of the energy companies that operate in Northern Ireland are controlled from outside the Province. Those companies are making massive profits here.

We have had three consultancy periods with DETI. Apparently, there is going to be another one. The Department has to get it right this time, because our farmers do not want anymore

dithering. They could be building biogas plants right now, but, unfortunately, once again, we are sitting waiting for DETI to make up its mind. I was told that a decision would be made at the beginning of July; now it is going to be the end of July. Farmers will not be able to build anything this year, and it is extremely frustrating to say the least. We have given the Department all the evidence that it needs, and if we are sitting at the bottom of the league in respect of support in Europe, we need the best renewables obligation certificates (ROCs) available, with other countries, such Germany and Italy having five ROCs. We need to be level with them so that we can start to catch up.

I have the House of Commons Energy Committee's recommendations from 1991, which state that regulators should be given a specific duty toward combined heat and power (CHP) sources. However, we have had four regulators, we have had 19 years, and nothing has been done. It is time that something is done.

The Chairperson:

Mr McFarland, do you want to say anything? You do not have to.

Mr Reuben McFarland:

I will say a little. From a farming background, we became interested in anaerobic digestion. We went out and visited plants in Europe and were very impressed.

The Chairperson:

Where did you go?

Mr R McFarland:

We went to Austria and Germany, and we were very impressed with the whole system and the way that was run and the link-ups that it had with communities.

The Chairperson:

I am sorry to interrupt you, but were those individual farms or were they a collection of farms?

Mr R McFarland:

They were a collection of farms. Each farmer brings in his extra produce, and they get paid for it. It works on a community basis.

The Chairperson:

So, the farmers feed into one central digester, and they come from a couple of miles around?

Mr R McFarland:

Yes. They come from the immediate neighbourhood. Some have bigger farms, with two farmers running one anaerobic digestion plant. However, it just depends on the size of the farms around the area.

The Chairperson:

I want to get this right. Would you need a digester in a central area, so that people could come from different farms with different produce, and they could share the benefits of the production?

Mr R McFarland:

That is right. Also, they have a heating circuit around the local community that heats the local homes.

The Chairperson:

Is the heat also used to generate electricity?

Mr R McFarland:

In some cases, but using heat to generate more electricity is not that efficient. It is used more for heating homes or local schools, for example. Therefore, 50% of the electricity produced for homes was from the combined heat and power plant.

We came home from those trips more than two years ago. We submitted plans, but we keep meeting one hurdle after another. At the moment, the problem is with Northern Ireland Electricity (NIE) and the connection. In Germany, there is a fixed price for connection, and connection takes six weeks. We have been waiting for more than three months, and we have not

received a reply from NIE. However, it has said that it will be a further nine or 10 months before we are connected.

The Chairperson:

Has NIE agreed a price with you?

Mr R McFarland:

Not yet. Until we have that, we cannot go to the banks. There are no guarantees. To sell our electric, we need a start-up date to be able to negotiate with them, and then we can go to the banks. Therefore, we are at a loose end. There are no real guarantees at the moment around what price we will get for the electric. In the future, we hope to create more jobs by growing vegetables or fruit, for example, using the heat in tunnels. However, it takes so long to get from A to B to C to D, and it is very frustrating at times.

The Chairperson:

Who is the main obstacle? Is it NIE?

Mr R McFarland:

At the moment NIE is holding it up, as it is taking a long time. Understandably, it has received a lot of applications for wind turbines because of the four ROCs that are allocated for that. NIE is probably experiencing a logjam from that. It is taking so long to get the whole thing off the ground. We would have loved to have been up and running this year, but that is impossible now.

Mr McLenaghan:

The Chairperson asked what the biggest, single obstacle is, and I have to say that the grid connection is certainly a massive issue. Like Reuben, I have had planning approval for my biomass plant for two years, but the biggest single obstacle that I have met is trying to get finance for it. The difficulty with finance comes from the fact that there is no consistency in DETI policy. As we know, the banks are naturally cautious. They want certainties. They do not want me telling them that although this is what we plan to do at the minute, the consultation exercise might change things. That is where I see the biggest difficulty. We cannot do anything without help from the banks. These projects are capital intensive. They can work on individual or

collective farms, depending on the particular set-ups, but they require finance. As I say, the biggest problem with finance comes from not having a consistent policy. As Victor said, we have had three consultations on AD in the past six months.

The Chairperson:

At the moment, the limit is two ROCs, but you want that to be increased to at least four or five ROCS.

Mr McLenaghan:

We need to be on a par with Europe. In Europe, the price is roughly 20p. However, two ROCs here come in at around 11p.

The Chairperson:

If you went along to a bank and said that you had two ROCs, would it say that that is not a good enough return to finance a project?

Mr Brennan:

It is actually worse than that, because a feed-in tariff, which is a guaranteed sum, has been introduced in England, Wales and the rest of the UK. That tariff is much more bankable than the ROC system, because a ROC is a tradable instrument that can go up as well as down in value. Indeed, the value that DETI put on ROCs earlier this year is considerably higher than they are trading for in the marketplace. Therefore, given that only about 25% or 30% of the value of a ROC is bankable, we are, right now, at a disadvantage to the rest of the UK.

The Chairperson:

Is that because we do not have a feed-in tariff?

Mr Brennan:

Yes.

The Chairperson:

The Minister has explained that she tried to amend the legislation that went through the House of

Lords, but it was too late.

Mr Brennan:

We are happy with that. We are simply saying that that is the reality in the marketplace. Therefore, the funding that could flow to Northern Ireland projects is instead going to projects in England and Wales. In fact, the financial institutions in England and Wales are saying that the feed-in tariff in the rest of the UK is too low. We now have the opportunity — we do not need to piggyback on the tails of somebody else — to take the bull by the horns, set a precedent and get our industry up and running. We can also learn from all the mistakes that were made on the Continent.

The Chairperson:

Does your organisation prefer ROCs or feed-in tariffs? Is there a consensus, or are there different views about the best way to incentivise the market?

Mr McLenaghan:

Robert summed it up fairly well. From a bankability point of view, the banks prefer the feed-in tariff because of the certainty that comes from a tariff and because it is linked to an inflationary increase each year for 20 years. Banks love that.

The Chairperson:

The feed-in tariff will, therefore, give the banks a guaranteed, inflation-proof return for 20 years.

Mr McLenaghan:

Yes. The banks like that. Therefore, whether or not we have a personal preference for a ROC system or a feed-in tariff is largely irrelevant because, probably, the only thing that the banks will go with is the feed-in tariff.

As the Chairperson explained, we do not have the primary legislation to set up a feed-in tariff. However, we need to be certain, because they have been asking us about this, that we can persuade the banks that we can make our projects work if either a feed-in tariff is introduced or the ROC system is maintained but re-branded, and that any existing projects will automatically

move into the new system and not get left behind, which has happened in other renewable industries. That is another critical factor for the banks. A very bad precedent was set in that area, and it created uncertainties.

Mr McLenaghan:

I might be prepared to take a bit of a risk in getting the projects up and running on two ROCs, in the knowledge and belief that either the subsidy will improve in the future or a feed-in tariff will be introduced. However, we cannot do that if we feel that we are going to be left stuck at the level that we go in at, rather than having the same as new people who come in.

Mr Butler:

Thank you very much for your presentation. You talk about renewable energy primarily coming from wind, and your vision is for biogas plants all over the country connected with the farming industry. What set-up costs are involved?

Mr Christie:

A biogas plant costs between £4,000 and £5,000 per kilowatt to install and £1,000 per kilowatt to run. However, it is labour intensive and it will create jobs. Also, biogas plants do away with diseases such as brucellosis.

Mr Butler:

I understand that, but you are asking DETI or the Government to invest in it and to put in financial incentives.

Mr Brennan:

We need to be clear about it.

Mr Butler:

What is the actual cost of it all?

Mr Brennan:

There is a hardware cost to build the asset.

Mr Butler:

I do not see that in here.

Mr Brennan:

I do not know what information you have, but the same arguments were labelled for wind 15 or 16 years ago. I am from B9 Energy, and the banks would not lend us money to build the first wind farm, so we got involved in a joint venture with a large English company to build the first one. Now we can build wind farms anywhere and can compete head on. There are a lot of other benefits associated with anaerobic digesters, which you could almost describe as social benefits. There is protection of the waterways and reduced smell, but those things are not accountable on balance sheets. To achieve that, we have to put in a certain level of capital per kilowatt hour.

At the moment, land and wind has been maxed out. All the best sites are done. There will be a few individual ones, but it will not significantly impact the renewables output. Northern Ireland Electricity does not want any more wind because it is intermittent. The beauty of biogas is that it is 24/7 or you can turn it on or off at peak power. Therefore, a lot of other attributes are not being accounted for. Wind power generation has been with us for a long time: it is very stable, understood and clear. We have to repeat that learning curve with biogas.

Mr Butler:

That does not really tell me what it is going to cost.

Mr Brennan:

The Government do not pay for ROCs. The industry pays for them.

Mr Butler:

I understand that. We went to Europe and looked at geothermal energy, which is very much work in progress at the minute. We still depend very much on gas and oil. What I am trying to get at is that it takes investment from the Government, so there will obviously be a cost to the consumer.

Mr Brennan:

Could I point out that fossil fuel has *[Inaudible]* in five years.

Mr Butler:

You have still not told me what it will cost in financial incentives.

Mr Christie:

I have a quote here from an article on feed-in tariffs. It is to do with Germany. In the four years since their introduction in Germany, the tariffs have created 300,000 jobs and they have driven down unit costs per kilowatt. Far from being a waste of money, they have become the most powerful engine of German economic regeneration. Instead of having energy bills that pay for the import of non-renewable fossil fuels, Germany is paying its citizens to produce, install and maintain their own renewable energy systems. Therefore, it is self-financing. It will not cost anything if you do it right. It is completely self-financing. Germany has saved €5 billion from not having to import oil, and that money has been used to kick start and run all the renewable energy plants. They have 5,000 anaerobic digesters or biogas systems. In a lifetime, they will create €50 billion for the local economy.

Mr Butler:

I am not disputing the financial side.

Mr R McFarland:

For example, a 350 kilowatt plant would cost around £1·5 to £1·6 million, and that would run around 200 homes.

Mr Butler:

Would that require a subsidy?

Mr McLenaghan:

All that cost is paid for by the developer or the farmer. In the example that Reuben was talking about, the farmer invests that £1·5 million and the return comes from selling a product. The main product that he sells is electricity, and he also sells the ROC, which is the way it is set up. For

every unit of electricity he sells, he also sells two ROCs. That is the subsidy element. There is no subsidy for the installation of the equipment and there is no cost to Government at all, because it is paid for by the electrical industry.

As Victor said, the experience in Germany is that it is a benefit to the economy, because it saves on imported energy. We are now in an even worse situation than Germany because we have to import virtually all our energy. There is no cost to the Government as such. We are not saying that we should put a pot of £50 million into the biogas industry for Northern Ireland. We are saying that the policy should be comparable with that for other renewables in Northern Ireland — the main one being wind — and comparable with other parts of Europe.

Mr Christie:

In relation to gas, probably the most expensive renewable facility is at Strangford Lough, which has cost £30 million for just one megawatt. If we spent £30 million here, we would have 50 megawatts of power from anaerobic digestion. One question that the European Energy Commission asked me was what our plan B was. If there is an energy crisis and we do not get gas from the UK, what are we going to do? The answer is that we do not have a plan B. We do not even have a plan A. We have wasted so much time. OK, I know that there was no devolved Government, but we should have been having this conversation a dozen years ago. We are falling further and further behind. We have now had a third consultation, and within six months, we have arrived at all the answers, and it will cost nothing if it is done right. The Germans say that they have saved €9·4 billion in fossil fuel, which left a huge profit. It is profitable to go down that route.

The Chairperson:

I want to bring somebody else in. I think we have to move on.

Mr Neeson:

I share your frustrations. I know about the Fivemiletown project, for example, and I know the position of Rose Energy. I think there is a misconception about what this is all about. After recess, the Committee will embark on a study into renewables in Northern Ireland, and you will obviously have a valuable contribution to make. What is the end product? Am I right in saying

that, in the Republic, there will be a major project on using biogas for fuel for cars? It is not just a question of producing electricity and gas. There are other potential products.

Mr Christie:

There are councils in Spain that run all their council vehicles on biogas made from sewage. We have no ambition. There seem to be closed minds. I was at an event in the Waterfront Hall last year with 400 delegates, including a lot of people from Europe, but there were no high-ranking officials from DETI. I was at another event down South where there was a similar situation. There does not seem to be any interest from the people who matter. I have a photograph of a biogas plant beside a hotel in Germany, which supplies the heat to the hotel. The hotel would rather have a biogas plant beside it than have to rely on pipelined gas from Russia. It is as simple as that.

Mr McLenaghan:

You are quite right, Mr Neeson. It is not just electricity. I said that the main product is electricity, but biogas is, potentially, a stepping stone to many other technologies. It is recognised as a stepping stone towards hydrogen technology. As methane (NH4) is the main part of biogas, its main constituent is hydrogen. Work is already being done on splitting that down to hydrogen and using it for fuel cell technology. It is frustrating for some of us who have been working on the issue. I have been working on biogas for around six years.

Over that time, I have seen how other parts of Europe have developed it and how they have gone from using the initial point of biogas production, whether it has been from waste or agricultural produce, to fuel cell technology and using the digestate and the fibre content to make plastic wood for furniture and similar uses. Biogas can also be a substitute for chemically made fertiliser. So many other things can come from biogas, but, unfortunately, we have to try to focus on getting the industry started.

Reuben mentioned how he could utilise the heat. Those uses will all flow from biogas. Vehicle fuel is a great example, because biogas is the most efficient means of producing an alternative renewable vehicle fuel. It is much more efficient than growing oil seed or any of the other products that are being used. We want to be part of that, but, unfortunately, we are not even

at the starting gate.

Dr McDonnell:

I am sorry that I missed the beginning of your presentation. I am delighted by what I have heard and agree totally with what you have said. On another Committee 10 years ago, Sean Neeson and I looked at the issue. Why has it taken you guys so long to start harassing us? That is my only question.

It is crystal clear that the use of biogas has to happen. A lot of emphasis was put on wind, which was no bad thing. We need you to come to us with the skeleton of a business plan. You mentioned that it costs between £1·5 million and £1·6 million to produce 350 kilowatts, so we are beginning to get some of it. We need those simple facts.

You have told us about finance and about good connections, which are things that we should be able act on. However, I am trying to get my head around how many housed cattle it takes to feed a plant that costs £1·5 million or £1·6 million?

Mr Christie:

One kilowatt would be produced for each acre.

Mr R McFarland:

There is not an awful lot of gas from slurry. There is 10 times more gas from grass silage than there is from slurry.

Mr McLenaghan:

The cow is a very efficient digester. She is very good at her job.

Mr Cree:

She produces her own methane.

Mr R McFarland:

Yes, she does. It takes approximately one acre of grass to produce one kilowatt of electricity all

year round.

Dr McDonnell:

You were talking about the safety of slurry. If you had some quotas on slurry —

Mr R McFarland:

You would put the slurry into it as well.

Mr Brennan:

The issue is not so much about one cow. It is about the sheer tonnage of biomass that we have in Northern Ireland, which is a reflection of the good quality grassland that we have. The biomass from housed livestock here, of which 80% are cattle, is measured at 10 million tons per annum.

Dr McDonnell:

With all due respect, you are not going to be getting a lot of grass in December.

Mr McLenaghan:

You would use the silage. When we talk about grass, we really mean silage. We are harvesting grass at this time of year, putting it through the fermentation process and using it throughout the year.

Dr McDonnell:

Surely you lose some of the methane by doing that.

Mr McLenaghan:

No. There is some evidence to suggest that well-fermented and well-made silage of the right quality has a better gas yield than grass would have, because the fermentation process has started.

The Chairperson:

Would you have enough silage to feed cattle and to produce gas?

Mr McLenaghan:

We cannot hide from the fact that there is a debate on renewable energy. We cannot run away from that.

In Germany, the operation started off being agriculture based, with maybe 30% or 40% of the input being slurry, and gradually moved away from that to push towards 100% of the inputs being energy crops. In that case, the German farmers were growing maize silage. What we are now seeing is that they are taking that back a bit again because they are realising that the system works better with a certain amount of slurry in it, so that should cut that ratio back. That is partly because every time the slurry is put in, it repopulates the bacteria needed for the process. There are lessons that we could learn as we develop the industry about, perhaps, incentivising that. That is now happening in Germany, where people are given a top up on their feed-in tariff if they use a certain percentage of animal manure.

The Chairperson:

As opposed to silage?

Mr McLenaghan:

No, as opposed to 100% energy crops. In most cases in Northern Ireland, it would be a mixture of the two, because that has been shown to work best. We have quite a lot of surplus grass. I am a farmer, and I cannot graze my grass quickly enough because it is growing so well. If I had a biogas plant, I would be making extra silage, which I do not need for my livestock and which I cannot use.

Dr McDonnell:

Is it economically more effective to do that than it is to feed cattle?

Mr Brennan:

An acre of grass going in to an anaerobic digestion plant is fairly close to what a cow would deliver. Obviously, the price of milk varies considerably. I think that it was 17p a litre last year, and around 20p at the moment. People from the dairy industry have approached us and said that they are getting a bit fed up with working 24/7 to keep everybody else running around in nice

cars, and that they would like to take it a bit easier and, perhaps, just put the grass into an energy plant. The simple reason is that they would not have to work 24/7 to earn something similar. The problem is that the banks are not willing to support that investment because the income from power via the ROCs or feed-in tariffs is relatively low.

Dr McDonnell:

Can you not use the gas instead of the electricity?

Mr Brennan:

Yes, you could. Methane gas is the same as gas that comes in from the North Sea. It comes from the same source — organic material that broke down in the North Sea a long time ago. We can do it very fast now. That gas could be utilised in, for example, engines. That is quite common around the Mediterranean area — Italy and Spain have lots of gas vehicles — and increasingly in Scandinavia, but there is a cost in infrastructure to convert vehicles to run on that gas fuel instead of a liquid fuel. We proposed that to some local authorities three years ago and, although they were very interested, they wanted to know who was going to pay for the capital cost of converting vehicles. It is a chicken-and-egg situation. The gas has many uses. Power is the one that we have focused on because, at the moment, that is the only one that is bankable.

Dr McDonnell:

Sean and I were in Denmark 10 years ago, when we looked at a plant, the main output of which was gas to the local village or town consisting of 300 or 400 houses. That plant only converted the surplus electricity, because the gas was twice as profitable.

Mr McLenaghan:

It depends on the economics. One of the infrastructures that we have in Northern Ireland is the good gas pipeline across the Province. One of the things that we envisage in the future is that a farm or factory could have a biogas plant built adjacent to the pipeline and that could directly feed the pipeline. The advantages of that are that it takes away some of the infrastructure costs for the farmer, he does not have the combined heat and power unit on the farm, and the gas can be pumped to a larger combined heat and power unit where there may be more opportunity to utilise the heat energy from it. That is a brilliant model, and we would love to see it developing, but we

do not —

Dr McDonnell:

You have not reached first base.

Mr McLenaghan:

That is exactly it.

Mr Brennan:

That model is just not bankable in this country.

Mr Christie:

I have a statement from one of the guys behind me that contains some figures that members might be interested in. Buying gas from grass is an opportunity to create cohesion in our economy by bringing together the energy, agricultural, structural engineering, research, education and tourism sectors. If 5% of Northern Ireland's grass were used for biogas, it would create enough renewable electricity for 120,000 homes, 400 gigawatts of renewable heat, £30 million per year to farmers for providing food stock, £80 million to the construction industry, a new local market for the engineering sector worth £80 million, up to 1,000 new jobs in the operational phase alone, infrastructure development and integration with wind, wave and waste renewables to achieve energy independence and export potential. That is just 5% of our gas.

Each region must have a plan B in place by the end of this month. Countries that want to invest in a region will look for the plan B on the website. If there is no plan B, there will be no investment, but they will choose a country that is thinking way ahead. There is an Organization of the Petroleum Exporting Countries (OPEC) table that contains the countries that have underdeveloped renewables and are in the worst trouble, and they include the UK and Ireland. Countries that are in the safe zone include Finland, Sweden, Australia, Canada and Norway. There are all very advanced in renewables, and that is the way that we should be thinking.

Mr Campbell:

I want to try to get more information on the cost. I am getting conflicting messages, and I want to

be clear in my own mind. I am not playing devil's advocate, but I see in Mr Christie's paper, and in answer to some other questions, that facilities for biogas are nine times more expensive to install than those for wind. In view of those facts, it is baffling to the European Energy Commission, as well as to us, how DETI announced in March that it can only award 50% of the value that it gave to wind. You explained some of that.

Mr Christie:

I am talking about second-hand wind turbines. A one megawatt wind turbine will cost about £1 million, and a 350 kilowatt biogas plant will probably cost a bit more, but it will produce a little less energy. There are running costs involved and there is labour, and the thing has to be fed using the exact same principle as you would when you feed a cow.

In Germany, dairy farmers are reducing their herd numbers because they have two checks, whereas dairy farmers here have only one check. Dairy farmers here must continue to expand because their profit margins are always shrinking. That causes more costs to be incurred because they have to put up more sheds and more slurry tanks, and that is not sustainable. In Germany, it was found that biogas makes the size of a farm shrink, so there is less pollution and everybody has a better way of life.

Mr Campbell:

In the course of some of your answers, we have heard that you see anaerobic digesters as being self-financing.

Mr Brennan:

I would like to clarify a point. The ROC mechanism is funded through fossil fuel power stations. It is a fine on producers of fossil fuels, but the feed-in tariff (FIT) system costs the Government. I just want to be clear on that point.

Mr Campbell:

What is the comparable cost? If there are significant benefits — and from what I have read and from what I have understood previously, there are significant benefits from anaerobic digesters — and if there is an argument that says that, in the longer run, it will be not only beneficial in respect

of side effects but at negligible cost, why on earth would the Department not proceed? We are going to have conversations with the Department, but it will not say what the Biogas Alliance is saying. Therefore, I want to hear the facts, and I want to hear the comparable costs to get the benefits, so that, if we go down that route, we will know what the benefits are and what it will cost. If that is complementary to A, B, C, D and E, that is fine, but I would prefer to get all those things out there. If there is a significant additional cost, and we take account of the benefits, the end product will surely bear some comparison to the initial cost. What will the end product be for power?

Mr Brennan:

Do you mean the quantity of power or the end value of power?

Mr Campbell:

Value.

Mr Brennan:

I am not quite sure what you want to quantify. Our total power demand in Northern Ireland during the winter is about 1,800 megawatts. At the moment, we are not producing one megawatt with biogas, and if we accelerate the development, I do not think that we will get 10 biogas facilities through the planning process in the next two years. That is another issue that has not even been on the table today. The scale of what they can deliver is massive, but practical barriers will probably keep the lid on biogas at something like 10-15 megawatts within the next three to five years.

Mr Campbell:

If there is negligible additional cost to the public purse and there are additional benefits, why do you think the Department will not proceed?

Mr McLenaghan:

We think it has not had the vision; it is as simple as that.

Mr Brennan:

We think it has just not recognised the opportunity or the scale of that opportunity.

Mr Campbell:

It seems from what you said that it does not need to, but that it just needs to give approval.

Mr Christie:

I spoke to guys in DETI who are in charge of issuing ROCs and they told me that they did not know anything about biogas. The man knew nothing about biogas, yet there he was, sitting in a chair, wanting to decide what ROCs we should get. I think that it is mad.

Mr Brennan:

When the support for renewables was issued earlier in the year, anaerobic digestion was not even on the list. That is a damning indictment.

Mr McLenaghan:

Your point is very good, Mr Campbell, and I could not agree with you more. Why have we not been doing this? In the last consultation process, which started last October, submissions were made on anaerobic digestion, and we expected that we would get increased support for anaerobic digestion at least to bring it into line with the feed-in tariff in England. That did not happen. We do not know why it did not happen — you would need to ask DETI why it did not happen — but we can only surmise that it was because of the Department's lack of vision. All the information was given to the Department. It subsequently asked us for the information again. We gave the information again and still nothing happened. We submitted the most recent information before the end of May and, once again, we are waiting for the Department to come back to us on that.

We would love it if there were no need for the subsidy in the system, meaning that we could go ahead with our plans, but, unfortunately, once a subsidy is created in a market, it has to be consistent across the marketplace. At the moment, we do not have that consistency. We have double the support for one technology in Northern Ireland — wind. If compared with Europe, we have around 50% of the support levels that exist in Germany. That is our problem. If we had consistency in policy, we could start digging. It is as simple as that.

Mr Cree:

I am sitting here thinking about how I could develop a business plan from what I have heard this morning. You obviously have the enthusiasm and exasperation to do something, but there are still questions that need to be answered. For example, it seems to me, from what you have said, that most of the revenue will come from the generation of electricity. Is that a fair comment?

Mr Brennan:

May I qualify that? I am from B9, and we are the party that will, hopefully, be responsible for the construction of the first large commercial anaerobic digestion plant in Dungannon. That will be a 50,000 tonne a year waste treatment facility, with no slurries or feed crops, all derived entirely from income from gate fees of commercial waste, some of which is being exported out of Northern Ireland because there are no facilities here to treat it. It has taken us four years to get to this stage of that business model. It will simply replicate dozens of facilities in Denmark and Scandinavia, and there is a timescale.

That is a commercial point. That is not even crops, so there is no argument about food or energy. I think that that is a bit of a non-entity anyway. My father reminded me that, when he was brought home from school during the war to work on the farm because they had to grow more crops, one acre in every five was used for energy crops to feed the horses. Today we are nowhere near that. I think that we can get lost a little bit there. That project at Dungannon is only bankable because of the gate fees, but that totally removes the entire agricultural opportunity, because they do not have the gate fees. They have to rely on the value of the power and those grid connections.

Mr Cree:

It is going to get to that stage. I will deal with electricity first. There are major problems with electricity. The grid cannot take it unless somebody spends £1 million. The price of electricity is regulated, and the profit is regulated. There is a difficulty there. There is also the connection charge and the geographical issue of where you happen to be on the grid. All those issues need to be addressed.

You mentioned the question of other waste streams, which is key to the whole thing. Given the geographical situation, particularly on farms, where are you going to get rid of your waste heat? There are no housing schemes near most farms.

Mr R McFarland:

Did you see the photograph that I sent round the Committee?

Mr Cree:

It shows a farm near houses.

Mr R McFarland:

That image was just across the road from the hotel.

Mr Cree:

You need a big load to take the waste heat.

Mr McLenaghan:

One of the challenges is to utilise the heat effectively. Remember, about 20% of the heat goes back into the process, which relies on heat. That comes from the CHP system. One of the challenges is to better use the heat. We are involved in actively trying to work projects, so we are going through all those challenges. You are right about the business model. It has been hard to stack up. If we can utilise our heat, we can make the model stack up better.

The difficulty with utilising heat is that it requires extra investment. We are looking at using the heat for grain drying or, as Reuben mentioned, horticulture or vegetable production. Those are all options. The difficulty that we have when we go to start those projects — we are not at base one yet — is that we have to get the banks to lend us the money. The only thing that the banks see money in is the sale of the electricity.

We want to use the heat. Do you know a farmer who likes to have something that, although it is of value to him, he cannot get that value? If we have the heat, I cannot wait until the day when I have my plant up and running and am looking for the best use for excess heat, because I have a

string of things that I am going to start doing with it. So, the uses for the heat will follow, but we are still trying to get the bank to support those ventures.

Mr Cree:

It is vital that all those uses are part of the business model and contribute to the revenue stream. The gas is arguably the most important aspect. Someone mentioned connecting the gas to a transmission grid. There is not a snowball's chance of that happening. You need to have compressors and a high volume for that. For car use, compressors are also needed, which is one reason why natural gas has not really been accepted seriously as an alternative fuel for vehicles. There is potential, but you have to quantify it, and it comes at a cost. That all goes back to my question about the business model. You need to get all that into the mix.

Mr Christie:

You have to understand that it costs money to produce slurry: you have to grow the grass and feed it to the cow. Biogas would provide a second income for a farmer. Farmers are hard pressed.

In Denmark, 40% of farms have biogas plants. Now the target is for 80% of farms to have them. In Germany, there are 5,000 AD plants. If the operators of those plants were not making money, they would not be in the business. We have to take one step at a time.

Reuben mentioned the connection charges, which have doubled in three months. NIE has several hundred farmers applying to erect wind turbines and it decided to double the connection charge to put some of them off. The fossil fuel energy companies determine policy, and they do not want to see a farmer who is paying them £20,000 a year for electricity being self-sufficient or exporting electricity. So, there is a conflict of interest.

The Chairperson:

I am not so sure that that is true. They have to reach a certain target, and the electricity companies have to be involved in that and are penalised —

Mr Christie:

I understand that, but biogas makes farms much more viable.

The Chairperson:

Your message is coming across loud and clear. It is the detail that the Committee is concerned about. We have to iron that out. Mr Cree raises a very valid point: you are producing biogas, which is largely being used to produce electricity. The gas is not going to be used as gas. That is the point that Mr Cree is making.

Mr Christie:

It goes through a gas engine.

The Chairperson:

I understand that, but he is asking whether there is any way of using the gas?

Mr Christie:

It can be piped.

The Chairperson:

Does it need compressors to pump it into the network?

Mr Christie:

It does not necessarily go into the network, but it can be piped to a building or hotel. We are not allowed to get what the UK is getting, but if we get over the first hurdle and get the same as the rest of Europe, which should have happened long ago, we would sort out all the other problems. We would have a viable business, but DETI seems to be very worried in case a farmer might make a profit.

Mr Brennan:

I will come back to Mr Cree's observations because they were very accurate. They were a very sound business model, and we have already built that model. We track everything against barrel of oil price, and some of the things that were on that model are now feasible, but they were not feasible two years ago. We guarantee you that some of the things on that model that are not

feasible today will be feasible within the next five years.

As a renewable energy company, we are genuinely concerned that people forget that the price of electricity has gone up. In fact, it has doubled in five years. We believe that it will double again in five years' time, and we are not prepared for that.

I spoke earlier about security. We are dependent on third parties for our power when we could be generating that power here, substituting those third parties and retaining the income here. The business option is phenomenal. I cannot think of another industry that can retain more value and money in NI plc than producing more renewables with local companies.

The Chairperson:

It has been a fascinating presentation and a very good debate. Obviously there are a lot of issues that we need to address as a Committee, but I hope that, in a small way, this has heightened the issue and brought it publicly to the attention of everyone in the Assembly and in the Department. After the summer, the Committee will begin an inquiry into renewable energy, and I hope that you can make a contribution to that. It has been a good session. Thank you very much for coming along. We wish you well.