

Ultra Low-Carbon Emission Vehicles

Andrew Selous (South West Bedfordshire) (Con): I am delighted to serve under your chairmanship this morning, Mrs Riordan, and I am particularly grateful to Mr Speaker for granting me this debate on the Government's policy on ultra low-carbon emission vehicles.

There are four main reasons why the issue is so important and matters for the future of this country. The first reason is about tackling climate change. We know that the Government are committed in law to a 34% reduction in emissions by 2020 and an 80% cut by 2050. Clearly, ultra low-carbon emission vehicles, including electric cars, will be part of the solution to helping to reduce emissions, but we also need to have low-carbon electricity. It is no good just reducing the tailpipe emissions if the electricity that powers ultra low-carbon vehicles is fossil fuel and dirty. That is a given. I do not know whether Professor David MacKay is still advising the Government, but he has made that point very powerfully in his book, "Sustainable Energy—Without the Hot Air," and it is important that we mention it when introducing the debate. As I say, doing something about climate change is the first reason the issue is important, as ultra low-carbon emission vehicles are clearly part of that.

The second reason is that the whole sector has massive potential to create growth, wealth, jobs and employment for this country. Just under 2.5 million of our fellow citizens are looking for work, and ultra low-carbon emission vehicles are part of a massive industry of the future. Shai Agassi of Better Place has spoken of a \$2 trillion-a-year industry. If the United Kingdom can increase its percentage share of that even by a few percentage points, many more jobs across the country will be created for all our constituents. Low-carbon growth and the jobs that come from it are absolutely vital.

The third reason why the issue is important is that ultra low-carbon emission vehicles are a crucial part of the United Kingdom's response to a world with less secure energy supplies. We have only to look around the Middle East at the moment to see that that is very much the case. The fourth reason the matter is vital, which will probably speak most strongly to our constituents, is that it will allow us to do something about the absolutely exorbitant cost of going to a petrol station and putting petrol or diesel in a car. Our constituents—and, indeed, we—are all paying cripplingly high prices to drive around. If we can sort out the generating issues, ultra low-carbon emission vehicles provide the potential for much cheaper motoring. If any of us were looking for a slogan on which to be elected at the next election, "Cheaper motoring" must be high up the list and would resonate strongly with our constituents. I have given four powerful reasons why the issue matters incredibly. Two reasons I would particularly pick out are the wealth and jobs we need to create, and the cost of motoring to our constituents.

To give credit where credit is due, the Government have been active in this area. The Office for Low Emission Vehicles was set up under the previous Government and is a collaborative effort between the Department for Transport, which is the Minister's Department, the Department for Business, Innovation and Skills and the Department of Energy and Climate Change. It has a combined budget of more than £400 million. There is also the Technology Strategy Board, which is a non-departmental public body sponsored by the Department for Business, Innovation and Skills, and the plugged-in places grant, which is designed to provide the necessary infrastructure. I will talk about that grant in a moment. In addition, the industry's own automotive innovation and growth team led to the creation of the Automotive Council UK, which is a joint industry and BIS body.

There clearly has been action and there is cross-Government co-ordination, as there should be because one Department on its own cannot make this happen. That is excellent. I am glad that the

people who need to be talking to each other in Government are doing so. My central question to the Minister, who I suppose is answering on behalf of all the Departments involved, is: are we being ambitious enough for the United Kingdom? I very much want the United Kingdom to be a success story at the heart of this massive and soon to be hugely growing global industry.

Let us consider where we are at the moment. The Department for Transport's figures show that there are only 57,000 vehicles in vehicle excise duty band A, which is the lowest emission category. That figure is, in fact, double the number of vehicles that were in the category in 2009, so the industry is clearly growing fast. However, I remind hon. Members present this morning and those who will read the transcript of the debate that there are 28.4 million cars in the United Kingdom and that 57,000 is therefore a fairly small number.

The Government's Committee on Climate Change has recommended that we should aim to have 1.7 million electric vehicles by 2020. Will the Minister say if that is what the Government are committed to achieving and how the numbers will stack up in increasing the 57,000, which we have in 2011, to the 1.7 million, which the committee says that it wants in 2020? There will need to be very sharp increases over the coming nine years to get that far. The figure of 1.7 million cars is just under 6% of the 28.4 million cars in the United Kingdom at the moment. In the excellent Parliamentary Office of Science and Technology note attached to the debate pack, I was interested to read that Japan has set a target of 20% of next-generation cars by 2020—the same date.

Mr Marcus Jones (Nuneaton) (Con): I congratulate my hon. Friend on securing the debate; he is making a strong and compelling case. The benefits that low-carbon vehicles can have in reducing CO₂ and helping the environment are undoubted, but does he agree that the research and development and manufacture of such vehicles in this country is a real chance for us not just to broaden our manufacturing base once more, but to rebalance the UK economy?

Andrew Selous: My hon. Friend is absolutely right. We are already strong in a number of the areas he mentioned in his question. We start from a good base, but he is absolutely right that the potential is massive. My prime purpose in initiating the debate is to allow us to play our role as parliamentarians in holding the Government to account and to ensure that we do not lose out on the potential for us to fully benefit from what he is talking about.

Neil Carmichael (Stroud) (Con): This is a very important debate for the reason noted by both my hon. Friends: the opportunity the sector offers to manufacturing. However, a problem that needs to be solved is the supply of the skills necessary to develop the technology that we have. In this country, an insufficient number of people have skills in the automotive sector that relate to electronics. That must be put right because that area will make up a larger part of any future vehicle designed to meet very strict low-carbon emissions. We must address the skills issue in the sector.

Andrew Selous: My hon. Friend is absolutely right. If he will bear with me, I intend to touch on exactly the issue of skills that he has, properly, raised. He is not the only one raising that issue. The Institution of Mechanical Engineers and others are very concerned that we are behind where we should be in the number of qualified technicians, the people who understand the new technology and the training of apprentices in this important area. The issue goes back even further than that to the number of physics teachers that we need in our schools; the number we have is far too low. It will be difficult for the Minister when he responds to the debate, because that issue touches on such a wide area of Government policy, but my hon. Friend is absolutely right.

I was making the point that, were the United Kingdom to be as ambitious as Japan—I do not see any reason why we should not be, as the industrial revolution took place in this country, we were the workshop of the world and I believe we can be again—that would lead to a figure of 5.7 million ultra low-carbon emission vehicles on our roads by 2020, rather than the 1.7 million that the Government are aiming for. My question for the Minister, therefore, is: why are we being less ambitious than Japan?

It is true that the United Kingdom has had some notable successes; for example, Sunderland's anticipated production of 60,000 electric vehicles a year, starting in 2013. I would note again, however, that those 60,000 vehicles a year are equivalent to some 2% of the 3 million internal combustion engines that the United Kingdom currently makes every year. That is not to say that we cannot make greater progress with the efficiency of the internal combustion engine—I will say a bit about that towards the end of my remarks—but I think that colleagues will appreciate the scale of the challenge that we face to even get to the Committee on Climate Change's figure of 1.7 million electric vehicles on our roads by 2020.

When we look across the Atlantic ocean, we see that the United States is investing some \$2.4 billion to support the next generation of electric vehicles. We know that in China there is massive investment in new battery technology—I am thinking of companies such as BYD, which stands for "Build Your Dreams". Warren Buffett already has a 10% stake—normally a sure-fire sign of a company that will do well. That is the competition that the United Kingdom is looking at around the world.

Mr Marcus Jones: Does my hon. Friend agree that Ministers from the Department for Transport need to make substantial representations to the Department for Business, Innovation and Skills, regarding where the regional growth fund is spent, in order to try to support our low-carbon industry, particularly in the automotive sector?

Andrew Selous: My hon. Friend is absolutely right. The automotive sector is very important to the United Kingdom not just for the cars we produce, but for the number of engines, the number of smaller engineering companies, the suppliers, and the technology and engineering base that supports that. It is vital to the country's economic future. I indicated earlier that I am reassured that those lines of communication across Government are there, but we need to see delivery from those conversations, as he has rightly pointed out.

I will continue looking at what else is happening around the world a bit longer, because it is important to put what the United Kingdom does in context. As far as I can see, Israel plans to be the most ambitious of all. It intends to rid its entire road transport sector of dependence on oil by 2020. That is massively ambitious if one thinks about where Israel is in the world and its geopolitical relations with some of its neighbours. I think that we can all think of particular reasons why Israel is going down that route, but none the less it is deeply impressive.

Israel is choosing a different model, I think it is fair to say, from that of the United Kingdom. It is looking to sign up to the Better Place concept, which will largely involve changing the engines in cars—engines will be swapped over. The depleted battery is taken out of a car and in under a minute, I understand, a new, fully charged battery supply is put in and one can carry on driving. In less time, therefore, than it currently takes to fill up with petrol at the pump, the car can be on the road again—a fully-charged vehicle that will travel another 100 miles.

It is worth mentioning the context of the debate, because of Israel's scale and ambition. The Minister will probably have good and valid reasons, which I would accept, to say that it is probably not right for the United Kingdom to go down that particular route. For various

infrastructure reasons, it is probably right that we do not. If we are not going down that route, however, how do we in the United Kingdom achieve that level of transformational change? How do the Government envisage United Kingdom companies, some of which were mentioned by my hon. Friends, taking advantage of the £1.3 billion loan scheme for the development of low-carbon technologies that is available from Europe? We need to ensure that we receive our fair share of that money.

When new technology comes to the fore, initially it is clearly expensive and there is low take-up. I think that if we are honest, at the moment electric cars are—perhaps I am slightly parodying—for rich idealists. Frankly, the economics do not quite stack up at the moment. I illustrate that by looking at the on-the-road cost of the new Nissan Leaf, which will be produced in Sunderland. That is an excellent vehicle. I was privileged to see one close to Parliament recently. It is a five-door hatchback—a very nice-looking car. It will be made in Britain, which is fantastic. Its on-the-road price, however, is £30,990. The Government's £5,000 plug-in car grant, which is an excellent initiative that I commend, brings the price down to £25,990 but, for me, that is a very expensive car. I do not know what sort of cars my hon. Friends drive, but to me that would be an awful lot of money. I expect that for many of my constituents that would be much more than they would spend on a car. Frankly, I do not think that they would get the payback from the cheaper costs of motoring after that level of investment. There is, however, a tipping point that comes with the introduction of new technology. When there are the advantages of economies of scale—mass production and so on—prices come down as new technology comes in. More people buy these things, so they are cheaper to produce and so on. Shai Agassi, in a speech that I read recently, anticipates a tipping point around 2015 when the economics start to stack up. If that is the case, things could change very quickly, which is why I raise the issues of scale and whether the United Kingdom will be able to meet the level of demand that I anticipate. If, for all of our constituents, an ultra low-carbon emission vehicle is cheaper than a conventional fossil fuel internal combustion engine, we will all want those vehicles straight away, because we will be fed up with paying the higher costs of motoring. Those issues of scale, and whether the United Kingdom is able to provide that amount of cars and make money from those huge levels of sales, will be a significant issue.

What is the Government's view on the economics of investing in their own fleets across various Departments? Examples might include NHS delivery lorries or Royal Mail vans that go back to the same place every night, where they could be recharged; they might have a set route or series of routes and are excellent cases for conversion into electric vehicles. What progress are the Government making in ensuring that their commercial fleets in particular consist of ultra low-carbon vehicles—whether the electric or the plug-in variety?

Mr Marcus Jones: I thank my hon. Friend for giving way again. He makes an important point about Departments, local authorities and so on investing in electric vehicles. Does he agree that it is extremely important that, where practicable, we procure such vehicles from British manufacturers?

Andrew Selous: I very much agree. I, too, am passionate about home-made British production. We ought to buy British as often as we can. We are all subject to the so-called OJEU rules—named after the Official Journal of the European Union—under which public bodies must go through strict and unbiased procurement procedures. Sometimes, therefore, we have our police driving around in Volvos or other foreign-made cars. When I go to France, Germany or Italy, however, I hardly ever see French, German or Italian police officers in anything other than a car made in their home country—likewise for fire-fighting equipment and so on.

I postulate to the Minister that this country might be a little too rigorous in applying those OJEU rules. We have a fine automotive industry that makes excellent vehicles and, frankly, the police will catch no more criminals by driving around in Volvos and BMWs rather than in fine, British-made cars.

We digress; I will hastily return to the point, before you bring me back to it, Mrs Riordan. However, I am grateful for the intervention of my hon. Friend the Member for Nuneaton.

The Department for Transport asked whether 2011 would be the year in which the electric car takes off. There is certainly increasing interest, which is tremendous, and I commend the Government for the excellent £5,000 subsidy. My view of the economics is that we are not quite at the right point yet, but we will be very soon. Lewis Booth, the chief financial officer of Ford, has asked for how long Governments will be subsidising electric vehicles. If the Minister shed any light on that issue, that would be helpful. In this early phase, private industry needs certainty for the future, particularly in planning.

Philippe Varin, the chief executive of Peugeot, has said that the European Union's research and development support for electric vehicles is too cumbersome and complicated, which is a concern. If we are to compete against Japan, China and America, we in the European Union and this country need to get our act together in research and development funding.

I was delighted to read that the Department for Business, Innovation and Skills Minister, my hon. Friend the Member for Hertford and Stortford (Mr Prisk), said in a departmental press release that the UK was Europe's leading producer of ultra low-carbon vehicles. That made fantastic reading. I have already spoken of the production due to start shortly, or in early 2013, at the Sunderland plant. I hope we can maintain that position.

I am conscious that France, with Peugeot and Renault, is also ambitious in the area of ultra low-carbon vehicle production. The country has a plentiful supply of low-cost nuclear electricity, and it views itself as having a chance to challenge the dominance of the Germans in the European automotive industry. I repeat that everyone here is ambitious for Britain; we were the workshop of the world, and the industrial revolution took place here. I want us to be right at the front and centre, not running behind any other European country in this massive industry of the future.

I move on to the whole issue of charging points. It is all very well having an ultra low-carbon, electric vehicle—whether a hybrid or a pure electric one such as the Nissan Leaf—but if there is nowhere to plug it in when on a longish journey, the problem is that it will grind to a halt.

Again, the Government are active on that issue, and I commend them for that. We recently had the announcement of a £20 million plugged-in places grant to provide more than 4,000 charging points in the midlands, Greater Manchester, the east of England, Scotland and Northern Ireland, building on an earlier scheme in London and Milton Keynes. Yesterday, I checked with my own local authority and found that my constituency of South West Bedfordshire does not include a single charging point. That will change, however, because we are in the east of England and will receive some of the charging points from the plugged-in places grant. Colleagues from areas that I have not mentioned might want to ask the Minister what the plans are for those areas.

Currently, London has 250 charging posts. Transport for London is aiming for 25,000 charging posts by 2015—a level of transformational change that might need to go further, but is a significant increase. Some 90% of the 25,000 posts are intended to be in workplace car parks and 250 will be fast-charge charging points, which are important for longer journeys, when someone does not want to have to stop for eight or six hours to recharge the battery fully. We need to get

the mix of charging points right for the future, so that this technology takes off. In Newcastle, Sunderland and Middlesbrough, near the Sunderland car plant to which I referred, 1,300 charging points are being installed.

Smart-meter, low-cost charging can also greatly reduce energy costs. If cars can be charged when there is much less demand on the national grid, that is much cheaper. That reduction in the energy cost can be important, and it is where smart meters come in. I am interested in whether the Minister will be able to enlighten us further on that aspect of Government policy.

I am concerned about the lack of standardisation of charging points in the European Union. Indeed, why can we not have standard charging points around the whole world? In the past, technologies have battled things out. With the video or the DVD, a common format for one worldwide product was arrived at eventually. That should be the case for charging points, in Europe at least. Many British people will want to drive their electric cars to France or elsewhere in Europe for summer holidays, skiing or whatever, and they need to be able to charge while they are there. The European Union could do something useful and practical for our constituents. What representations is the United Kingdom making to ensure standardised charging throughout Europe?

Earlier, my hon. Friend the Member for Stroud (Neil Carmichael) rightly mentioned training the work force. None of what I have been discussing will happen unless we have the skilled technicians in this country; unless we get it right, we will lose out to other countries that have invested more and have an appropriately trained work force. The Institution of Mechanical Engineers is worried about the lack of apprentices with the skills to work on electric vehicles, particularly in smaller businesses that may not be able to afford to train apprentices. How will that be rectified? It said that about 10,000 additional apprentices are needed in this area of electronic manufacturing to take advantage of and to satisfy the demand that is surely coming.

I am interested in the Government's attitude to hydrogen-powered vehicles. I read carefully the note from the Parliamentary Office of Science and Technology, which states of hydrogen fuel cells:

“This is a low-carbon form of transport if the hydrogen is generated using electricity from low-carbon sources.”

I made that point at the start of the debate, and I want to check whether that is the Government's view. Professor David MacKay, who was a Government adviser—I should be grateful if the Minister told us whether he is still advising them—and who is an eminent professor of physics at Cambridge university, wrote “Sustainable Energy—Without the Hot Air”, to which I referred. His take on hydrogen is that hydrogen vehicles make our energy problem worse rather than better. I do not know whether he is right, but I would be interested to know the Government's view. I know that one large UK motor manufacturer, which I contacted before the debate, was keen to obtain clarity on the Government's view of the future of hydrogen-powered vehicles.

I have driven a hydrogen-powered vehicle round the Cranfield test centre in Bedfordshire. It drove extremely well, as did the Vauxhall Ampera, which I have also driven and which will be on sale in the United Kingdom from next year. I hope that it will be made in Ellesmere Port. I wish that it was being made in my constituency at Luton in Bedfordshire, but it would be fantastic if it was made in the United Kingdom. That, too, drives extremely well, and all the evidence is that when people get into an electric vehicle and discover that it has a nice feel and good acceleration, and is not sluggish, they are enthusiastic and keen to adopt the new technology. We just have to get over some of the financial issues to which I alluded at the start of the debate.

I should like to know the Government's view on the use of biofuels for vehicles. There is concern about the sustainability of biofuels and the fact that we may be inappropriately using land for biofuels when it should be used to produce food. What is the Government's view on that? Likewise, where does liquid petroleum gas fit into the Government's view of the new technology that we have been talking about?

We must pause to consider the improvements that can be made to internal combustion engines. We have 28.4 million cars on our roads, and Britain makes around 3 million car engines every year. They are becoming more efficient and lighter, and the technology is improving. I noted from the Volkswagen website that the Blue Motion Polo—unfortunately, it is not made in this country—emits 91 grams of carbon dioxide per kilometre, compared with 89 grams per kilometre for the Toyota Prius, which I guess may occasionally ferry the Minister around; the Prius comes in at just under, but it is very close. An expertly engineered internal combustion engine produces only 2 grams of carbon dioxide per kilometre more than a hybrid vehicle. We must differentiate between different types of internal combustion engine, because new technology is advancing swiftly.

Mr Marcus Jones: My hon. Friend talks about research and development, and innovative design of combustion engines. Many of my constituents work for Jaguar Land Rover, which is near my constituency. It is doing a fantastic job in changing how it produces its engines and how its vehicles are constructed—to be lighter and more fuel efficient. Does my hon. Friend agree that policy across Government should be to encourage through the taxation system not just the production of vehicles that cost less to run, but their ownership?

Andrew Selous: I thank my hon. Friend for his further intervention. I am glad that he mentioned Jaguar Land Rover, which has not been mentioned so far in the debate. It is doing excellent work on producing an electric hybrid Range Rover, which is fantastic, and it is co-operating fully with the Government on some of the bodies that I mentioned earlier. My vision is that all British-based manufacturers will be at the front and centre of the new technology and will supply the demand that will come down the track surprisingly and frighteningly fast in a few years' time, when we reach the tipping point at which it becomes more economic to drive such vehicles rather than pay the exorbitant and crippling high prices that we have to put up with at petrol stations at the moment.

The United Kingdom has a history of inventing, but then not commercially exploiting, new technologies. I do not want us to repeat mistakes of the past. If we can seize the opportunities that I have outlined, we can protect our environment, provide jobs, increase our energy security and give our constituents a low-cost motoring future. I believe that they would thank us for that.