**Responsible Corporations?**

**DIESELGATE**

Support Notes

The purpose of these support notes is to provide a basis for activity & discussion, more background and suggestions for further viewing. Please select, add to/edit the material as required.

**OTHER RELEVANT FILMS & CLIPS:**

We have a number of other films that show different aspects of this theme (use ‘search’ to find):

**Responsible Corporations?** A series of films examining the conduct of large corporations, including the tobacco, pharmaceutical and high tech industries (search on ‘Responsible Corporations’)

**Synopsis**

**Key Topics**

* Corporate Ethics
* The Car Industry
* Cars and Pollution
* Diesel Technology

‘Dieselgate’ is the scandal that made world headlines when, in the USA in 2015, Volkswagen were discovered to have installed defeat devices in the pollution control software of their diesel cars. Although the cars conformed to emission standards in laboratory tests, on the road, in actual driving conditions, emissions were ‘off the chart’. VW were forced to buy back vehicles from American customers – resulting in ‘VW graveyards’ of new cars across the US. Compensation and fines in excess of $20 billion.

But the scandal has far more important ramifications *outside* the USA, where less than 2% of vehicles are diesel-powered. Diesel is a form of technology originating in Europe, where there are millions of cars – and the implications for air pollution are far more serious. Diesel was always seen as a ‘dirty’ fuel – until the introduction of emission control systems that were supposed to make it clean. The revelation that often these systems don’t work properly (and that the car makers knew this all along) raises the spectre of thousands of premature deaths due to excessive nitrous oxide in the air (NOx), especially in cities. As one campaigner says: ‘People don’t see the victims, but they’re there.’

And the fault, it seems, is not just with Volkswagen. French manufacturers PSA Group (owners of the Peugeot and Citroën brands) and Renault are also accused of taking advantage of legal loopholes to get round emission standards. Not only that, it seems that European governments – in the grip of the car lobby – have colluded in this, apparently knowing the problem with diesel since 2011.

Dieselgate has resulted in a dramatic downturn in the fortunes of this technology, which looks like being phased out altogether. Even more it’s a sobering case study in the way corporations will cynically look to use any trick – at the expense of its customers and public health – to maintain profits and market share.

**Discussion or assignment topics**

1. Despite the Dieselgate scandal VW sales generally have held up well in Europe. Discuss and analyse what that says about a) how much consumers care about corporate ethics and b) the environment, including their own health. Why were legislators so quick to act in the USA and so slow in Europe?

[consider, In Europe: impact on jobs, car lobby etc]

2. Consider how much Dieselgate is tied up with US politics and economic protectionism. Consider the political aspect in Europe where, despite the fact that the potential damage is far greater to public health, governments have tended to play the matter down. Why would the German and French governments in particular tend to play the matter down?

**Companion Notes**

**Dieselgate In Summary**

‘Dieselgate’ is the phrase used to stand for the deceit that took place in the US regarding emissions of nitrous oxide from Volkswagen vehicles in the US between 2006 and 2015. In an attempt to sell their diesel cars as ultra-environmentally friendly, VW installed ‘defeat devices’ in the software of their cars which meant that, although exhaust emissions met emission standards in test laboratories, in fact on the road they were *up to 40 times over the legal limit*. VW were punished in the US by fines and compensations to customers amounting to upwards of $20 billion. And one of its executives received a prison sentence.

**Europe A Different Story**

But the fall out has been much less for them in Europe, despite that the same ‘cheat device’ was installed in VW cars. Not only that – it’s suspected that other European car makers, including French car makers PSA and Renault, have been doing the same thing or similar – if not outright law breaking, then exploiting loopholes in the legislation that effectively deceive the public.

Health experts claim this has led to thousands of premature deaths owing to complications brought on by highly toxic nitrous oxide – and will continue to do so until diesel is phased out.

‘Dieselgate’ is a case study in how corporate ethics (and public health) can take a poor second place in the scramble for profits and market share. It’s a sobering reminder of how organisations, who present themselves in such glowing terms to the outside world, can be shot through with corruption that goes to the very top.

**What Is Diesel?**

Diesel fuel (named after the inventor who first used it in 1890s, Rodolf Diesel) can be made from a number of sources, but most common is crude oil. It’s less refined, and more expensive, than petroleum (aka gasoline) but is more energy efficient (giving about an extra 8mpg over petrol powered cars). In the early 2000s, diesel – having been for years regarded as the dirtier form of energy – began to be extolled as environmentally friendly, chiefly because the sulphur content was reduced at refineries and because of the introduction of new technologies in cars (‘particulate traps’) which were supposed to clean up the emissions. This resulted in heavy promotion of supposedly ‘clean’ diesel cars which led to a spike in sales.

**U-Turn**

But by 2015, especially because of Dieselgate, there was a complete U-turn. The in-car technology that was supposed to neutralise the emissions of harmful gases (nitrogen oxide, NOx) was discredited. But despite these revelations, there was a strong suspicion that European governments, under pressure from the ‘diesel lobby’ were holding back from any harsh punishments such as happened in the US. Instead, a phased withdrawal of diesel was proposed (eg in UK it was to be banned in new cars by 2040).

**The Film**

*[these notes now follow the film]*

By 2017 across the USA there were 37 vast parking sites that were the ‘graveyard’ for hundreds of thousands of new or nearly-new Volkswagen (VW) diesel cars. At one stage up to 300,000 cars were there – all bought back from their owners by VW because of the ‘Dieselgate’ scandal. All told, the scandal has cost VW at least $20 billion in fines and compensation payments.

But there have been other costs – in terms of human health: thousands of premature deaths, especially in Europe, due to inhalation of toxic emissions. And VW is not the only car maker involved. French car makers PSA (owners of the Citroën and Peugeot brands) also stand accused of deception on emissions.

But the biggest scandal in automobile history was uncovered in perhaps the least likely place, in the USA, where less than two cars in every 100 are diesel powered.

In 2014 Dan, Marc and Arvind, three mechanical engineers from the University of West Virginia, were doing a routine ‘academic exercise’, trying to show that diesel was *clean*. In fact they discovered the opposite. Although the emissions were within regulatory standards using laboratory tests on roll benches (similar to industry standard tests) road tests (not undertaken by the testing authorities) revealed a very different result. In these tests, NOx emissions were ‘off the chart’ compared to official standards. The Jetta, voted the cleanest diesel car in USA in 2009, was a special focus of interest.

Nitrogen oxide gas (NOx), the focus of their tests, is a real poison that, in high doses, can cause respiratory problems and strokes. Compared to the legal limit, they found emissions up to 25/35 times higher on the Passat and up to 40 times on the Jetta. Dan: ‘We were seeing tailpipe emissions higher than Class A Tractors loaded to 70,000lbs.’

At first the three researchers found it hard to believe the results they were getting. As a joke, Arvind said to Marc: ‘Oh, maybe it’s a defeat device’. But the joke turned out to be real. It *was* a defeat device, designed to activate the pollution control systems in the laboratory but, as soon as it’s on the road, limit the use of the anti-pollution filters.

The results of the engineers’ test were reported to the USA’s Environmental Protection Agency (EPA), who had already received information from other sources. September 2015: VW admitted cheating on emissions. VW CEO Martin Winterkorn resigned. A media storm resulted: Dan even became ‘a Hollywood star’, elected by Time magazine as one of the 100 most influential personalities of the year.

**The Reckoning**

The result of the EPA’s action is that VW has been obliged to offer to buy back all its offending diesel models from its customers, plus offers of compensation – resulting in payments of between $5,000 and $40,000 per customer. This, plus government fines, have resulted in a staggering $20 billion plus bill for VW – plus the cost of storing up to half a million new or nearly-new cars in 37 parking lots all over the US. The cars cannot be used until and unless they meet emission standards – and it’s VW’s problem.

Michael Hausfeld, part of the legal team representing the half a million cheated customers, says he was surprised at the scale of the fines.

‘Absolutely. Volkswagen, like any business, did a risk analysis before they engaged in this defeat and cover up – how much did we make? And how much, if we get caught, would it cost us? Most of the fines in the US that were predicted by Volkswagen’s lawyers would be maybe tens of millions of dollars. So what happened was – what they say – orders of magnitude greater than Volkswagen ever anticipated.’

But VW have not only cheated US customers, they’ve cheated *the entire world* – in total 11.5 million cars with defeat devices have been sold around the world. And VW isn’t the only car maker caught up in the scandal. PSA, makers of Peugeot and Citroën – and Renault – are also in the spotlight.

Back in 2013, PSA were presenting diesel in glowing terms. They had been promoting diesel for decades. Christian Chappelle, director at PSA, speaking in 2013, said that there had been ‘an extremely unfortunate trend in France in recent years – and it’s typically French – to stigmatise diesel.’ He went on: ‘It’s still amazing that in France we can’t praise the prowess of French industry, its researchers, its engineers.’ He flatly denied that diesel carried any health risks. ‘With diesel manufactured as it is today, it’s clean.’

But by 2017 PSA were suspected of having deceived consumers. Their troubles began in the autumn of 2015, a few days after the VW scandal broke. Ségolène Royal, the then Minister for the Environment, launched a ‘transparency operation’ on diesel cars. She created an independent enquiry commission. The experts tested over 70 types of car, both French and foreign brands, to see how much NOx they emitted on the road.

**Fraudulent Strategies**

Charlotte Lepitre, Environmental Health Coordinator of the organisation France Nature Environment, was involved in testing the vehicles for the investigation. The results confirmed that laboratory results did not correspond to emissions in real conditions. The manufacturers exploited loop holes in the legislation. Lepitre: ‘It’s quite incredible to think that before these investigations that this data was not available to the public.’

Although European regulations required of manufacturers to comply with pollution standards under ‘normal conditions of use, throughout the normal life of the vehicles’ in practice, until September 2017, the same regulations only required the authorities to test vehicles in the laboratory – in other words, in conditions *not* like driving on a real road.

Of the 16 Peugeot Citroën cars tested, only one matched the required emissions standard on the road. And there are large differences. For example, the Citroën C4 Picasso emits more than 5 – almost 6 – times more pollution on the road compared to emission standards. The Peugeot 5008: on the road its emissions are ‘off the charts’: 7.4 times the emission standards for nitrogen oxides.

On April 13 2017 a judicial enquiry opened in France, in which PSA, owners of the Peugeot and Citroën brands, were suspected of ‘aggravated deceit’ in respect of its emissions, rendering their goods ‘dangerous to human health’. The investigators said that nearly two million vehicles were involved. As a result, the PSA Group faced a potential fine of five billion euros.

Renault also came out very badly from the tests. None of its diesel models fell inside the emission standards and all contravened the regulations once they were in real traffic conditions. In top five of worst polluters, Renault is in third place. Renault’s best seller, the Espace, has emissions 9.2 times higher than the legal standard, the Captur over 11 times. At the very top of the table is The Talisman, which is 11.6 times higher than the emission standards.

The fraud control investigators accused Renault of implementing ‘in a conscious and voluntary way its fraudulent strategies.’ They accused Renault of programming its pollution control systems so that they are super-efficient in the lab and much less efficient on the road. Nearly 900,000 Renault vehicles were affected?

In an anonymous interview, a Renault employee, who worked in the Renault anti-pollution department, revealed that he and his colleagues knew that, although their cars passed the pollution standards in the laboratory, they strongly suspected they wouldn’t on the road. ‘The only goal is to pass the approval tests. Outside of that wasn’t our concern. I didn’t work for clean diesel! I was working for a system that was able to be clean under very specific conditions. It wasn’t our business to clean up what was happening outside. For us, anti-pollution was really just the testing.’

Q: And not necessarily what people breathe in the street? A: ‘That’s it. We didn’t feel like we were cheating. We were just as bad as the others. We weren’t perfect and we knew it. We weren’t asked to do more.’

**Why Cheat?**

*So how does the pollution control system work?* The gases leaving the engine are full of nitrogen oxides (NOx). These go through the first system of pollution reduction, the EGR valve. Then the gases hit a second filter (the ‘NOx trap’) which is supposed to collect and store the NOx. When the NOx trap is full, it must be emptied – so the gases are regularly purged, transforming the NOx into molecules that are harmless to humans. But to do the purge the NOx trap needs fuel, so the busier the NOx trap, the more fuel the car consumes – and, as a result, is *less powerful*. And that’s a problem for the manufacturer.

Renault engineer: ‘It would have made the car unpleasant to drive – like a tank. The pollution control systems go completely against the performance of the engine.’ But if the NOx trap isn’t purged regularly, it’s no longer effective. – the toxic NOx escapes into the air we breathe.

In the opinion of the French pollution fraud control department: ‘Renault has implemented many technical rules which make it possible to maximise the use of the NOx trap during the approval tests and to drastically limit the use when the customer is driving.’

And, specifically, the Renault’s NOx trap works least well where it’s needed most, in the city, where pollution is highest. The purges work when the engine is relatively stable. If there’s a lot of accelerating or decelerating, the purge is interrupted before the task is completed. The car maker’s strategy is that, as soon as the pedal moves, the purge is stopped before the end. That means, in the city, where there’s lots of changes in speed, the system doesn’t work at all well. To make the NOx trap work would mean endless straight roads.

On January 13 2017 a judicial investigation was opened in France against Renault for deceit. Renault’s CEO went on television to deny cheating. ‘Our cards were on the table! We recognised that some engines were not as efficient as others and fell outside the approval conditions. We made improvements, and that’s what’s important.’ Renault issued a statement saying it was committed to reducing emissions of nitrogen oxides.

But are Renault cars clean today? According to Axel Friedrich, *no*. Friedrich is feared throughout the auto industry because for more than 20 years, as a chemist, he’s been monitoring the pollution from diesel engines for The German Environmental Agency. By using machinery he installs on the cars, he measures levels of NOx. Testing a brand new Renault Kadjar, launched in April 2017, 9 months after the promises of Renault CEO Carlos Ghosn, the readings are off the scale. ‘Unbelievable’ says Friedrich: ‘It means to NOx trap is not working properly.’ He finds it’s nine times more than the standard cars must meet during the laboratory approval tests.

It seems that Renault did not keep its promise to improve their pollution control systems to drastically reduce emissions of nitrogen oxides.

Meanwhile, at the 2017 auto show in Frankfurt, electric cars, with zero emissions, were in the spotlight. Among the major manufacturers it looks like a race for who can be the most green – as if diesel vehicles were already a thing of the past. This included the Renault Symbiose, 100% electric, presented in person by the group’s second in command, Thierry Bolloré.

When an attempt is made ask Renault representatives about the diesel problem, nobody wanted to talk. The Vice President said: ‘I have no opinion on diesel or emissions.’

In a press statement, the company claims: ‘Renault has not violated any rules concerning the approval of vehicles. Renault vehicles are not equipped with software to deceive pollution control devices.’

**The Health Risks**

At the Massachusetts Institute Of Technology (MIT) researchers are trying to ‘count the victims of Dieselgate’ and the chances of developing a fatal disease for people who breathe excessive NOx. They assessed that the health impact of Dieselgate in France as 550 premature deaths per year – out of a total of 4,000 across Europe. By doing a breakdown by manufacturer, just Peugeot and Citroën alone would cause 50 premature deaths in France in 2015 and 140 in Europe as a whole. For Renault it was more alarming: in 2015, 140 premature deaths in France and 670 in Europe overall.

MIT Researcher Guillaume Chossiere: ‘So the problem, as it is quantified in 2015, of course extends over the following years, unless we actively remove all of the cars, which seems unlikely.’ Given these predictions are correct, the overall toll of premature deaths could reach 1000s.

Meanwhile, In France, some of the victims of air pollution are starting to mobilise. They’re suffering from acute respiratory problems, or their children do. Their goal: to make the French state face its responsibilities, especially regarding its attitude to car makers. As victims, they feel they are not respected. Although there’s much talk about the harmful effects of tobacco, alcohol and road accidents, the victims of pollution – who may be in hospital with asthma attacks, they may be dying – are ‘not seen’.

Says one victim: ‘I don’t look sick, but I am. Pollution is making me sick and slowly killing me.’ Just because we can’t see it, she goes on, doesn’t mean people are not affected. Another campaigner has two children who have been sick for years – he wasn’t aware of pollution until they were affected. ‘It’s only when you are living it, you understand how much we are poisoned every day.’

He goes on: ‘For dozens of years, the state said that diesel was healthy, and that it was French technology. It was promoted! And we realise now with the Volkswagen scandal, Renault, Peugeot, that it isn’t.’ Woman campaigner: ‘We were conned, we were lied to, and the state is responsible. Will it take 200,000 to 300,000 deaths a year to get them moving faster?’

The role of European governments in all this has been ambiguous at best. They’ve known about the problems with diesel for a long time. Road tests were carried out three years before Dieselgate and three years before the French investigation. From 2010 to 2014 Slovenian Janez Potočnikwas European Commissioner for the Environment, responsible for monitoring air pollution. He says he learned that diesel cars were exceeding NOx European standards on the road as early as 2010.

He says he thinks European governments were aware of it. ‘And if somebody was not aware of it then simply that’s not an excuse. It’s difficult for me to explain how nobody reacted after my first speech when it was so clear to everybody. Why we were not so attentive to that issue in 2011, 2012 ,2013 like we are today? We are today attentive to that issue not because of air quality but because of the diesel scandal. It would never be so high on the agenda as it is today if it would not the scandal emerge. That’s unfortunate that we react in that way, isn’t it?

Lawyer Michael Hausfeld is now representing VW customers in Europe, where 8.5 million cars are still in circulation. Hausfeld: ‘They are no reasons, legitimately, for European citizens who are exposed to these excess levels of NOx, or for European consumers to be treated any less than their United States counterparts. These cars should not be on the road. There was a clear fraud of immense proportion, which again not only cheated a massive numbers of European consumers but exposed many European citizens to shorten lives, because of their greed to sell more cars.’

Hausfeld goes on: ‘If they paid US consumers $16 billion at 500,000 affected vehicles, 8.5 million is hundreds of times more. So you are looking at a number that would far exceed the ability of almost any company, if they had to pay a comparable amount. Volkswagen to date has done nothing about it other than to stall and lie to the European market. They have succeeded in placating the European consumer.

Of the 8.5 million affected customers, only a handful have decided to complain.

**The Power Of The Diesel Lobby**

Eventually a ‘strange’ decision was arrived at between European governments regarding NOx emissions. In a closed-door vote, the governments of European countries finally adopted the approval of road tests. But they mostly eased the NOx emission limits – actually allowing cars to pollute *more*: until 2021, cars will be allowed to emit precisely 2.1 times more than today. This included French representatives, who voted *for* the right to pollute more.

Ségolène Royal was the environment minister at the time (2014-2017). How does she defend that – especially when she was launching a crusade against diesel at the time? She says this decision by the EU is a ‘bad decision’ and that she opposed it. She says there has been overall progress but that she was against relaxing the limits. When pressed that France voted in favour of the measure, she said it was ‘a trade-off’ that was imposed on her, that was against her advice. ‘The diesel lobby is very powerful in France’.

Since Dieselgate: By 2018, the demand in Europe for diesel cars has dropped dramatically. France, UK and the Netherlands are set to ban sales of new diesel cars from 2040. In UK, diesel car sales dropped by 30%, causing a general slump in the auto industry there. Ironically, the crisis is likely to benefit those car makers who are big enough to survive, for example, Volkswagen…

Despite Dieselgate, the VW Group reported record sales in 2017. Estimates of premature deaths in Europe from NOx emissions range from 5,000 to 38,000 a year.

**Postscript 2018: How Is Dieselgate Playing Out?**

As of May 2018, it’s still unclear if VW will start to offer compensation to customers in Europe.

Greg Archer, of the Brussels-based research group Transport And Environment: ‘Up to now the German regulators haven’t fined them one euro’.

Critics talk of the ‘revolving door’ between politics and industry in Germany which makes government far too close to the car manufacturers. And there are reports that the German auto industry paid experts for over 10 years to play down the effects of diesel. Of course, the car industry is the jewel in the crown of the German economy: it employs over 700,000 people. The government is going to be very reluctant to do anything to harm it – let alone the unions and workers.

But in early 2018 bans on diesel cars were announced in major German cities – it looked as if diesel was really ‘on the way out’. This was reflected in plummeting sales of diesel cars in Germany and the rest of Europe (down by up to 20%).

Archer: ‘Diesel technology had had its day. It’s a 20th century solution which needs to be phased out. Although 1 in 2 new cars sold in Europe is a diesel, it’s just one in 20 in the rest of the world. This is a niche European technology and manufacturers are not going to sell it elsewhere in the world. They will stop investing in it and invest in cleaner, greener solutions.’

Diesel doesn’t *have* to be dirty – the dangerous NOx emissions can be changed to harmless nitrogen and water. Archer: ‘Yes, but the manufacturers who fitted these SCR (Selective Catalytic Reduction) systems aren’t actually doing that. The reality is most diesel cars sold today are still producing well over the legal limits.’

Meanwhile the health damage goes on, including early deaths among adults, and under-developed lungs in children.

London Mayor Sadiq Khan: ‘The air in London is a killer, it makes you sick and it’s illegal’. Mayors of Madrid, Paris, Athens, Mexico city bringing in complete ban on diesel cars by 2025. London: the ‘T’ charge on cars registered before 2006. Plus 2019 ultra low emissions zone in central London.