NEWSLETTER

GLOBAL FUEL ECONOMY INITIATIVE

ISSUE 13 | AUGUST 2016 | SUMMARY OF GFEI GLOBAL TRAINING & NETWORKING MEETING, 9-10 JUNE 2016, PARIS

DAY 1

Welcome: Eric Masanet, International Energy Agency (IEA)

Eric Masanet, head of the Energy Demand Technology Unit at the IEA, welcomed the participants from over 50 countries to Paris for the Global Fuel Economy Initiative's global training and networking event, including many who were attending as part of the IEA's Energy Efficiency in Emerging Economies (E4) training week. He highlighted the "critical importance of fuel economy improvements for addressing the sustainability challenges that we face in all world regions", saying this "demonstrates the broad network and influence of the GFEI for convening experts, and promoting action around the world."

Introduction: Sheila Watson, FIA Foundation

Sheila Watson, Executive Secretary of the Global Fuel Economy Initiative, and Deputy Director of the FIA Foundation set out the emerging vehicle emissions challenge, with global vehicle numbers set to double or treble in the coming decades, and with most of that increase in developing countries saying 'Countries face an urgent challenge to reduce carbon dioxide emissions to meet the 1.5 degrees ambition that governments set at COP21 in Paris. Improving fuel economy can address this and has multiple benefits, including financial savings, reduced dependence on oil, lower carbon dioxide emissions, and improved air quality.'

She also outlined how GFEI is building global momentum for improved vehicle efficiency, including as a key part of the Lima-Paris Action Agenda which is driving action on climate change ahead of the UNFCCC conference in Marrakech in November 2016. 40 countries committed to action on fuel economy at COP21, as part of GFEI's '100 for 50 by 50' campaign.

100 FOR 50BY50
SAFE CLIMATE AND CLEAN AIR AT COP22

GFEI is also working with the G20 through the transport task group, which is hosted by China this year. In addition, the energy efficiency goal 7.3 of the Sustainable Development Goals (SDGs) will be vital in framing a lot of activity in the coming years, which GFEI will support with Sustainable Energy for All (SE4All).

Fuel Economy in a global context: Mark Radka, UNEP

Mark Radka, the head of the UN Environment Programme's Energy, Climate, and Technology Branch highlighted the twin imperatives of clean and efficient vehicles to address air quality and climate change. Major reductions in emissions are necessary in the transport sector to achieve this, both 'improving' the efficiency of vehicles but also 'avoid' and 'shift' transport measures to reduce unnecessary travel.

He stressed the importance of work is at the national level, such as persuading government ministers and national stakeholders of the importance of pushing through measures on sustainable mobility, sharing experiences and networking to learn from other countries' experiences.

STATE OF WORLD OF FUEL ECONOMY

Introduction to fuel economy: Lew Fulton, UC Davis

Lew Fulton, co-Director of the STEPS centre at the University of California at Davis, introduced the key concepts relating to fuel economy, explaining the different types of vehicle emissions, and their impacts on climate change and health. Some emissions, such as NOx and carbon monoxide primarily have health impacts, while others such as methane and particles of black carbon also impact on climate change. GFEI is primarily focused on CO2 emissions, which affect the climate, but are not harmful to health.

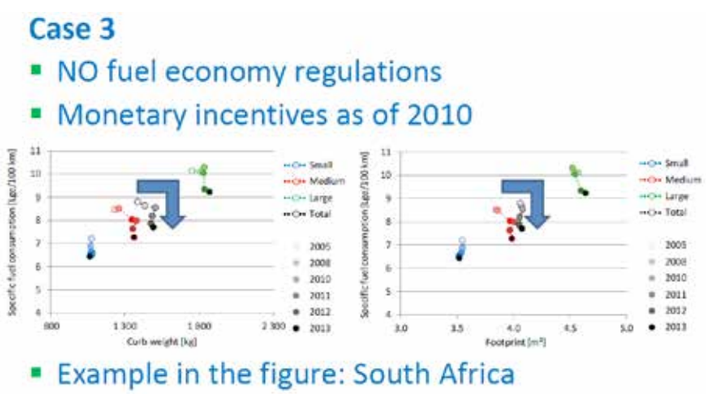
Fuel economy can be improved by technical changes to vehicles, such as better tyres, improved aerodynamics, and can policy also involve encouraging consumers to shift to using more efficient vehicles than less efficient ones. The way that people drive makes a difference, so eco-driving can have an impact, while traffic congestion can also reduce efficiency if vehicles are stuck in traffic. Comprehensive strategies are needed to improve access to transportation and ensure that countries develop low-carbon pathways.

Detailed country by country analysis: Pierpaolo Cazzola, IEA

Pierpaolo Cazzola shared the IEA's latest analysis of average fuel economy trends, which was published in May 2016 as GFEI Working Paper 12. The IEA has undertaken benchmarking analysis for GFEI since 2010, using data from 2005 onwards. The latest analysis is based on data from countries covering 80% of the global market. It shows that progress on improving fuel economy has been faster in OECD countries than non-OECD countries. However, this improvement is still not sufficient to achieve the GFEI target of a 50% improvement in average fuel economy by 2030 for new vehicles. The latest analysis has been updated to normalise data to a different driving cycle – the WLTC test cycle, which is why the fuel economy values are higher than has been presented in previous reports.

The new IEA analysis looks in detail to understand why there are significant differences between OECD markets, with some such as the US having far higher average fuel economy than others such as France. The new element of the latest analysis has been to investigate the factors that affect these differences. It shows that some countries which have fuel economy policies show a trend towards improving fuel economy over time, whereas others do not. For example, there is a visible improvement in fuel economy in South Africa after the introduction of fiscal incentives for more efficient vehicles in 2010.

Ambitious policy frameworks can make a significant improvement in improving vehicle fuel economy, particularly vehicle taxation schemes. The report provides more detail for a country by different factors, such as vehicle footprint (the area between the 4 wheels), and the trend of average fuel economy over time for different average vehicle sizes.



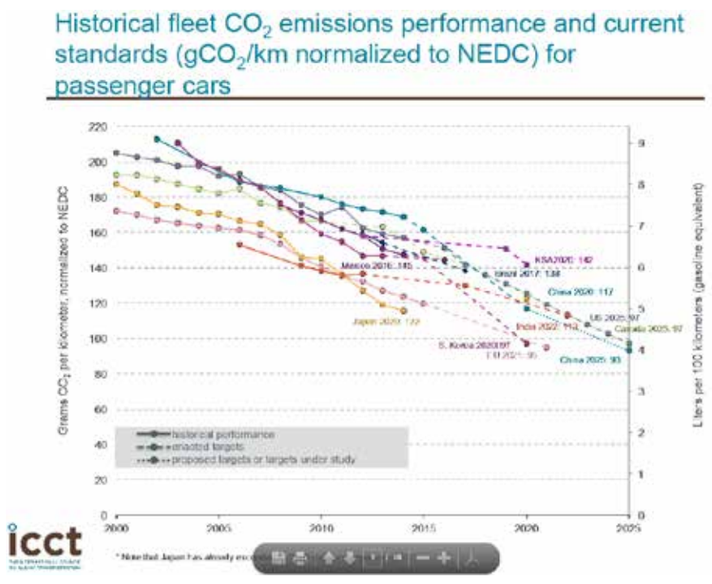
Policy and technology trends: Drew Kodjak, ICCT

Drew Kodjak, Executive Director of the International Council on Clean Transportation (ICCT), presented ICCT's analysis of the ten countries that have introduced fuel economy standards (not including tax policies), their experiences to date, and the lessons for the future from these trends. He stated that the evidence shows that "these policies are working and are projected to have a profound impact. They are extremely effective".

ICCT's analysis focuses on the projected improvements over the next decade that will come from recently enacted policies. This shows a trend of average fuel economy converging over time as countries such as the US which currently have average high fuel economy transition towards more ambitious standards.

The US standards would lead to a 49% improvement by 2025 – in line with GFEI's target of a 50% improvement by 2030 (although GFEI's target is a global average, and may require some countries, such as the US to achieve more). Currently only four countries (China, US, Japan, Canada) have introduced fuel economy policies for heavy-duty vehicles, and this is an area that GFEI is beginning to provide a focus on.

Region	New light-duty vehicles				New heavy-duty vehicles			
	Percent of global LDV sales, 2014	Baseline Model Year	Implementation Period	Reduction in average CO_2 rate (grams/vehicle-km)	Percent of global HDV sales, 2014	Baseline Model Year	Implementation Period	Reduction in average CO_2 rate (grams/vehicle-km)
China	27%	2010	2016-2020	36%	31%	2012	2014-2015	11%
EU + EFTA	20%	2010	2020-2021	32%				
US	17%	2010	2017-2025	49%	11%	2011	2014-2018	14%
Japan	6%	2010	2020	16%	5%	2006	2015	12%
Brazil	4%	2012	2013-2017	13%				
India	3%	2010	2018-2022	18%				
Canada	2%	2010	2017-2025	47%	1%	2011	2014-2018	14%
South Korea	2%	2010	2020	39%				
Mexico	1%	2010	2014-2016	18%				
Saudi Arabia	1%	2012	2016-2020	19%				



Questions

The question and discussion time included a clarification about off-cycle credits (elements such as air conditioning that policy makers want to incentivise, but aren't part of formal fuel economy tests), the optimum speed for fuel economy (probably between 50-90km/h), and how GFEI can support countries regionally (GFEI supports a number or regional approaches, including the fuels and vehicles committee of ASEAN).

DAY 1

FUEL ECONOMY COSTS AND BENEFITS

Stephen Perkins and Wei-Shiuen Ng, International Transport Forum

Stephen Perkins, head of Research and Policy Analysis at the OECD's International Transport Forum (ITF), introduced the session on fuel economy costs and benefits. He highlighted how regulatory impact assessments are important parts of the policy process in most major markets, and are also a major part of discussions between vehicle manufacturers and policy makers.

Wei-Shiuen Ng, Transport Analyst at ITF, presented an overview of the different approaches to undertaking a cost-benefit analysis for fuel economy. She outlined different ways to assess these costs and benefits – either based on engineering approaches, which assess the current costs of new technologies, or market-modelling approaches, which simulate costs into the future and examine how they will affect consumer demand and the fleet composition. The impact of different technologies will vary between different contexts – for instance stop-start technology will be most effective in cities with higher levels of congestion. The presentation looked in detail at the different modelling and assessments that have been carried out in different countries to assess costs and benefits and assess the vehicle payback period – the amount of time needed for the fuel savings equal the upfront costs.

Panels and questions

The panel discussion included Drew Kodjak (ICCT) and Gianni Lopez (Centro Mario Molina, Chile). Both emphasised the importance of understanding the issues that politicians are most interested in and providing analysis that addresses these – such as the impact on a country's international competitiveness of vehicle manufacturing, or costs to consumers. It is also important to incorporate both health and air quality impacts into the assessment to ensure that the policy addresses both in the optimal way.

Questions included the best way of dealing with used or old vehicles (focusing on inspection and maintenance is a good first step), and why some of the more detailed cost benefit analysis examples included the impact on road safety (there may be a rebound effect of people driving more if fuel economy improves – however, this can be controlled).

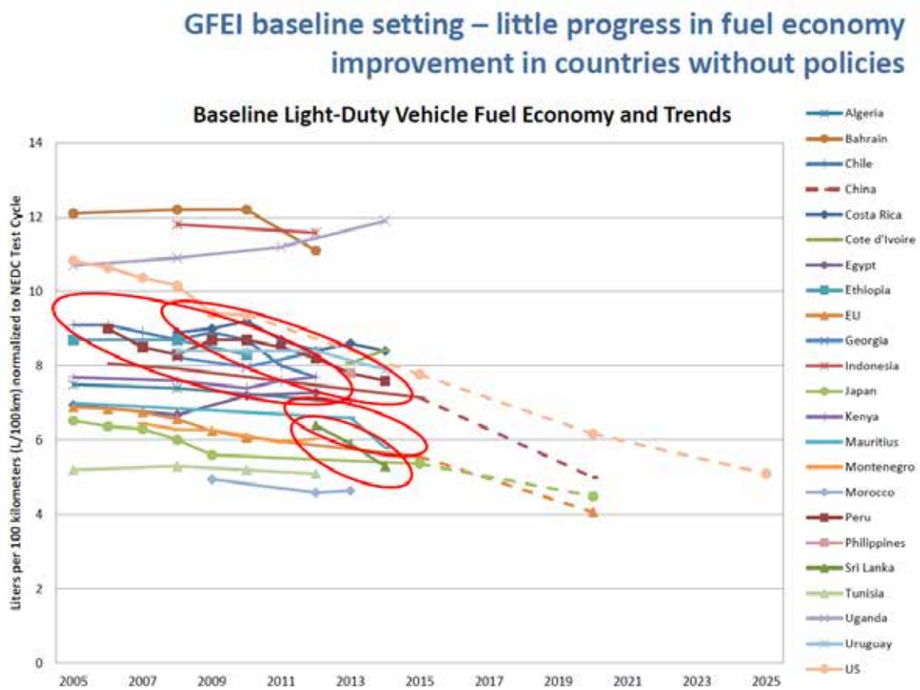
GFEI GLOBAL NETWORK: FUEL ECONOMY IN-COUNTRY WORK

Rob de Jong, UNEP

Rob de Jong, head of the Transport Unit in UNEP, started his presentation with a reminder from the morning session that "where there have been policies introduced, we see an impact". The Global Progress map shows how many countries have introduced a fuel economy policy (shown in green), and countries that are currently developing policies (shown in orange).

GFEI's ambition is to be able to provide support for 100 countries. Currently GFEI is actively involved in around 27 countries – the majority of these are around halfway to developing policies. Since COP21, GFEI has been able to add another 40 countries. There are further countries who have expressed an interest in working with GFEI, subject to funding being available.

These countries include many fuel economy success stories, including Chile, which has a vehicle labelling scheme, and a taxation scheme for CO2 emission, and are exploring subsidies for advanced technologies. Mauritius has introduced a feebate scheme, which acted as such a strong incentive for people to buy more efficient vehicles that they needed to adjust the level of the subsidy. Vietnam and Thailand have also introduced fuel economy labelling schemes. Kenya has adopted a system for charging higher tax on older vehicles. In Sri Lanka, around 50% of vehicles imported are hybrid vehicles, due to government incentives. This is causing a dramatic improvement in fuel economy, which can be seen on the graph as a steep slope. Other countries such as Peru are also having significant improvements.



GFEI GLOBAL NETWORK: FUEL ECONOMY IN-COUNTRY WORK

Country examples: Uganda, Indonesia, Macedonia, Peru, CEDARE (Middle East)

A panel of five participants explained their experiences of developing fuel economy policies in their countries:

- **Uganda** has included fuel economy commitments in its INDC for COP21 and is now a significant government commitment, with a cross-government taskforce. It has completed a vehicle baseline and has implemented a new 'Monitoring, Reporting and Verification' scheme to track the progress of vehicles.
- In **Indonesia**, KPBB have been working on fuel economy since 2010/11, and finalised policy proposals for fuel economy in 2012. In 2013, the government issued a new regulation on taxation for luxury goods. Cars with low emissions are excluded from this tax. Cars that are 1300cc or below are categorised as a 'low cost green car'. Government therefore regulates smaller vehicles, but it hasn't yet implemented measures for larger vehicles, or made a direct link to a vehicle's carbon emissions. Indonesia manufactures 1.2 million cars and 7 million motorcycles, so it is an important market – but there are a lot of vested interests among vehicle manufacturers.
- **Macedonia** cannot set vehicle standards as these are set by the EU, but it has opportunities to focus on fiscal incentives to promote fuel economy. The existing taxation scheme provides good revenue for the government, so any tax scheme must maintain this, while the Ministry of the Economy is concerned about the burdens on consumers.
- **Peru** have introduced new Euro 4 vehicles standards for cleaner vehicles. They have established a baseline, which is currently 160g CO2 – and estimate that they could move to 120g CO2 in two years.
- The **Middle East** region contains a mix of countries, with different income levels – but vehicle numbers are growing rapidly. CEDARE are trying to promote the 'polluter pays' principle, and transit orientated development to ensure that the poorest people do not miss out on access to mobility.

FUEL ECONOMY BASELINE SETTING

Fuel Economy Baseline Setting: Alex Korner

Alex Korner set out the process for undertaking a baseline analysis of their country's vehicle fleet. This is a weighted average of the fuel economy of all vehicles registered within a country for the first time. Fuel economy baseline setting is the foundation of GFEI's work. Good data and baseline analysis is important for understanding the impacts of policies. So far 23 countries have undertaken baseline analysis of vehicle fuel economy with the support of GFEI, and requires the following information:

The aim is to collect data on at least 85% of the registered cars in a country, which may be around 50 different models. Where there are gaps in information it is possible to collect and fill these by using information from different national databases which provide information about the vehicles registered. Once this data has been collected, normalisation calculations may be required to convert between different test cycles, and also to take into account differences between diesel and petrol energy values.

Baseline – minimum data requirement

Number of sales in at least one past year by:

- Vehicle make and model (e.g. Toyota Corolla)
- Year of first registration
- Model production year (important for used imports)
- Engine displacement (liters or cubic centimeters)
- Engine power (kW or HP)
- Fuel type (e.g. gasoline, diesel, LPG, CNG, electricity)
- Rated fuel economy (Lge/100km, alternatively CO_2 emission, gCO_2/km) and test cycle basis (NEDC, FTP, JC08)

Discussion: Jamaica, Ivory Coast, and Ukraine

Participants from Jamaica, the Ivory Coast and Ukraine were asked about their experiences of undertaking a baseline analysis.

Each had different experiences – with Jamaica able to access data from the tax administration office for 2005, 2008, 2010, 2012 and 2014 and currently finalising the baseline assessment ahead of a national workshop at the end of June. In contrast, Ivory Coast has had challenges accessing data about model type, and Ukraine has not been able to access information about engine size. However, Ivory Coast has completed a baseline study of new vehicles (although 80% of new registrations are used), and Ukraine is making good progress as reducing fuel imports is a government priority, and has recently been able to access new data.

Questions included whether countries should include second-hand vehicles in a baseline (it should include all newly registered vehicles, whether new or used), and whether a deterioration factor should be applied for used vehicles (GFEI hasn't given standard guidance on this yet).

DAY 2

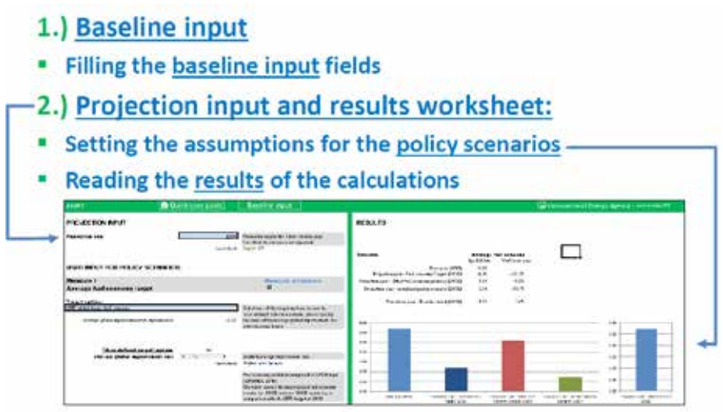
FEPIT PRESENTATION

Pierpaolo Cazzola, IEA

The first session of the day 2 was introduced by Pierpaolo Cazzola of IEA which focused on the FEPIT tool (Fuel Economy Policy Implementation Tool). Alex Koerner outlined the purpose of the FEPIT tool – as a simple tool to quantify the impact of policy measures on vehicle fuel economy.

The model is an Excel file and has a user-friendly interface. As a simple tool it gives an order of magnitude, rather than an exact forecast. It allows assessment on fuel economy regulations, and tax based measures. In the presentation, he discussed the information required to complete the model, which consist of a series of inputs (e.g. average fuel economy, tax rates) which provide results that can inform choices. There is a user guide and methodology which provide more information about the assumptions and elasticities from countries that have already adopted the policies that inform the model. The model allows the user to adjust different elements, such as taxation rates, and explore the possible impacts on vehicle fuel economy, and projects forward as far as 2030. The blue bar indicates the fuel economy of vehicle fleet in the base year, and the red bar shows the impact in future years.

Questions included how to get fuel economy data on newly imported used vehicles (the UK VCA has data for vehicles back to 2000, which could be used), what a 'Litre of gasoline equivalent' means (a way of standardising fuel economy to account for the different energy content of diesel and gasoline fuel), and whether fuel and vehicle standards are included in the model (they are not).



Experiences of using the tool: CEGESTI (Costa Rica) and Clean Air Asia

CEGESTI has used the tool, and found it simple to use, particularly with information from a baseline study. The outputs of the model give a visual indication of impact depending on changes made. They plan to help other countries in the region to establish baseline and then introduce policies.

Clean Air Asia hasn't yet used the model, but have used similar tools, and found them to be useful catalysts for discussions. For countries that are yet to look into specific policies, these tools help start off the discussions.

FUEL ECONOMY FISCAL MEASURES

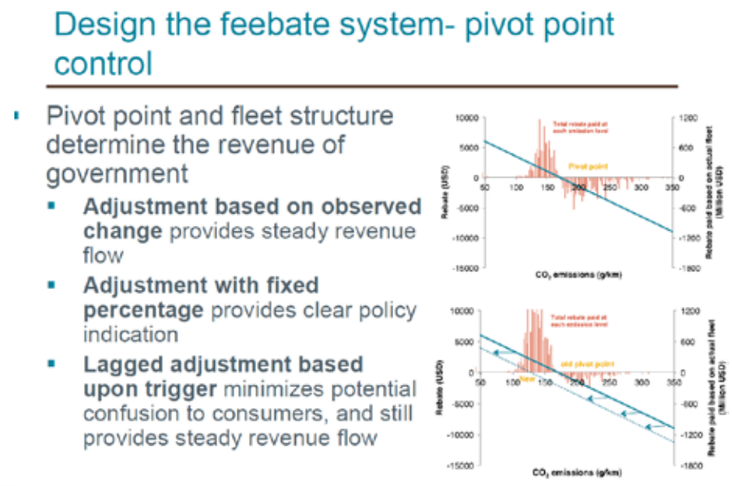
Zifei Yang, ICCT

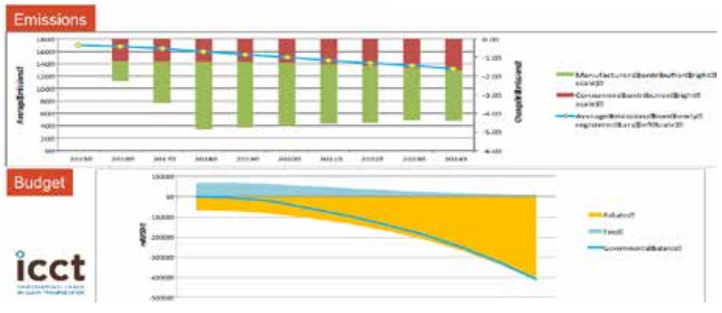
Zifei Yang, researcher at ICCT, set out the different fiscal measures - taxes and other instruments to improve vehicle fuel economy. This includes a feebate system, which is one of the strongest ways to incentivise more efficient vehicles.

A feebate system gives consumers a strong signal for purchasing a more efficient vehicle. However, it may need to be adjusted regularly in order to maintain a balanced budget. It requires less information to undertake than fuel economy standards, and may be seen more positively by consumers than simply a taxation based tool. The feebate tool is an Excel based system which is designed to help policy makers consider the design of a feebate scheme. The main information required is the model, price of vehicle, emissions or fuel consumption, and the registration number of model.

One of the key considerations is how to set the 'pivot point', and how to adjust this in a predictable way to give the market certainty. There are a number of options, including a fixed reduction of pivot point over time – e.g. 1% over time, or a lagged adjustment based on a trigger (such as average fuel economy reaching a certain level). Once you have a feebate system in place, by the end of the year you should have better information, as you collect this as you administer the feebate. The model produces policy summaries which give a prediction of the emission reductions you can expect to achieve, including impact on emissions and government finances.

A feebate is a combination of a tax and subsidy where the most efficient vehicles receive rebates, and the least pay a fee for higher CO2 emissions. This can either be a continuous linear incentive for manufacturers to improve, or else can be non-continuous, with a central range which does not receive a tax or a subsidy, or change according to 'steps'. France's incentive has 'steps' which can lead to vehicle manufacturers only focusing on making improvements near to the boundaries between tax or subsidy bands, which is known as the 'corner effect'.





Questions

Questions included how to make sure that government doesn't lose revenue because of the subsidy (set a cautious pivot point and adjust it regularly, or just focus on a tax-based incentive).

FUEL ECONOMY FISCAL MEASURES

Panel: Mauritius, Kenya and Sri Lanka

Representatives from Mauritius, Kenya and Sri Lanka shared their experiences of fiscal incentives.

- **Mauritius** has had a feebate system since 2011, which is similar to the French system and applies only to motor cars. It is based on a set threshold, which in 2011 was 158g CO2/km. However, this led to a large budget deficit as people shifted to more efficient vehicles, so in November 2013 it was lowered to 150g/km. They are currently reviewing it again, and it may reduce to 140g/km. One of the main operational challenges is that Mauritius imports cars from both Europe (mainly new) and Japan (mainly used), which have different testing procedures and standards. There has been a dispute between the different importers about what is the appropriate level to use, as there are no testing facilities in Mauritius. As a result, the government introduced a compromise which was a new rate for second hand cars. There is also excise duty and VAT at 15% which are applicable to all the cars, and any rebate granted shall not exceed the excise duty on cars.
- **Kenya** doesn't have a feebate system, but has a differentiated tax regime. The majority of the vehicles are used vehicles from Japan, and a few from Europe. Previously Kenya had an 8 year limit on the age of imported used vehicles, but recently introduced a differentiated taxation scheme – for vehicles that are less than 3 years of age, the charge is $1500, between 3 and 8 years, the charge is an additional $500. The aim is to encourage newer vehicles – between 0 and 3 years, to encourage newer, more efficient vehicles. However, there isn't any incentive for fuel economy or engine size, and it has led to an increased demand for re-selling previously used vehicles, rather than importing new ones, which could lead to a greater number of older vehicles in the vehicle fleet. Kenya has now completed a feebate study, and are preparing to submit updated tax proposals to the national Treasury to incentivise fuel economy.

- **Sri Lanka** doesn't manufacture vehicles, so depends on imports. The country introduced tax incentives which led to a large uptake in hybrid vehicles, but political changes and financial concerns have led to several adjustments to the system in recent years. In 2012 government increased taxes for all segments apart from for hybrid cars, which led them to made up over half of imports. In 2014, the old tax system was replaced by an Excise tax, and in 2015 there was political change, which adjusted tax values and removed the incentive for hybrid vehicles. However, last month (May 2016) the tax system was adjusted to favour small vehicles.

The subsequent discussion considered what the best approach for dealing with vehicles tested under different drive cycles is (it is possible to use a standard conversion factor or create a new national one), and how to include electric vehicles in the system (either based on direct emissions or incentivised by supplementary policies).

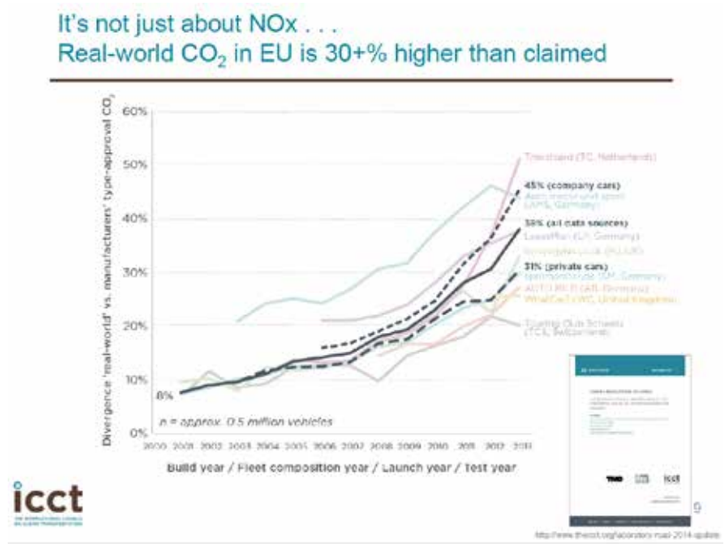
COMPLIANCE AND ENFORCEMENT

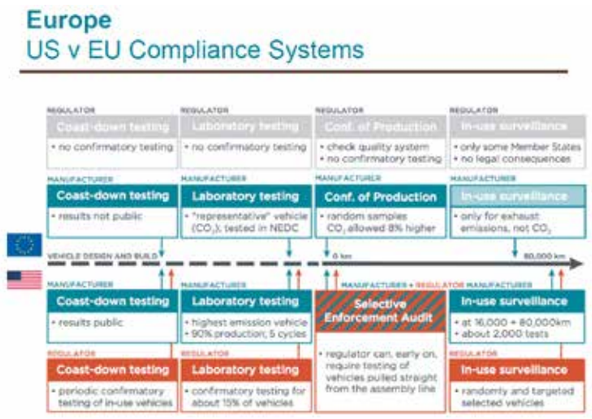
Drew Kodjak, ICCT

Drew Kodjak shared an overview of the events that led to ICCT uncovering the VW defeat device scandal in the US, and highlighted that the lack of government resources to ensure compliance with emissions standards is a major challenge globally. Detailed analysis using remote sensing shows that NOx emissions have fallen for petrol vehicles, but emissions have increased for diesel vehicles despite tighter standards. It is possible for diesel vehicles to have lower emissions, but the costs of the technologies required are higher, and there is therefore an incentive for manufacturers to find ways around it. ICCT have also collected information that tracks real-world driving fuel consumption, which shows that the gap between tested and real world CO2 has increased in Europe since 2008.

The ICCT does a lot of work on compliance. One of the main differences between the US and EU testing systems is that the US does confirmatory testing, to test whether it achieves this in the real world. While the US provides public information on coast-down testing, this is not public in the EU. In addition, testing can be done in any country of the EU and cannot be challenged by other countries. There is no independent certification or regulatory audit in the EU.

In conclusion, real world testing is important to ensure that laboratory figures are accurate. In addition, warranties and the threat of financial penalties are important for giving regulators teeth. They must also be politically independent and have sufficient resources to be able to recruit experts and legal authority.





OTHER ISSUES

Electric Mobility: Marine Gorner, IEA

Marine Gorner, analyst at IEA, presented an overview of the current status of electric vehicle development. This includes full battery electric vehicles, as well as plug-in hybrids, but not non-plug-in hybrids. The research is part of the Electric Vehicle Initiative, which shares knowledge and programmes among 16 member countries. In 2015, 550,000 vehicles were sold – an increase of 70% from the year before. China is now the largest market, having overtaken the US. 90% of electric vehicles were sold in 8 countries. There are now over 1 million electric vehicles in the world, and this has been growing rapidly. 59% of vehicles are full battery electric vehicles. For 2 wheelers, there are now around 2 million electric motorbikes, but these are almost entirely in China.

Public charging is also an important factor in increasing the uptake of electric vehicles, and these have broadly followed the trend in sales. Battery density is increasing and the costs are decreasing, increasing the range of vehicles. Countries with the largest incentives have seen the highest uptake of Electric Vehicles. The Paris Declaration for Electric Vehicles agreed at COP21 aims for 100 million Electric Vehicles. Electric vehicles could make an additional contribution to achieving the GFEI target.

Promoting Electric Vehicles in Country Projects: Rob de Jong, UNEP

Rob de Jong's presentation considered what the increasing trend towards electric vehicles means for developing countries. In the first decade of the 20th Century there was a dramatic change in mobility from horses to motor vehicles, and it is likely that there will be a shift towards electric vehicles in the coming years– although the exact scale and shape of this is still to be determined. The benefits of electric vehicles for the climate depend significantly on the source of the electricity.

Some developing countries have already started to introduce incentives for electric vehicles – for example Thailand and Sri Lanka have incorporated these into their tax systems.

UNEP has recently launched a new Electric Mobility Programme with a focus on middle and low income countries – aiming to introduce electric 2&3 wheelers, buses, national policies for electric cars and sharing experiences regionally.

Questions

Questions included whether there is a risk if developing countries turn to electric vehicles, it will result in higher emissions if their electricity comes from coal (there is a risk of this, but if taken as part of long-term energy transition it could be positive, as well as having additional air quality benefits).

Heavy Duty Vehicles: Drew Kodjak, ICCT

In the final session of the GFEI training and networking event covered heavy duty vehicles – a topic that had been raised a number of times over the course of the meeting.

The main message was that the developed world has created standards for light duty vehicles, because these were the main sections of the fleet. In developing countries, heavy duty vehicles consume over 50% of the fuel, and so are an interesting area to focus. Currently there are only 4 countries that have standards for heavy duty fuel economy, although the EU, India, Mexico, and China are all working on them.

The heavy duty vehicle market is really diverse – but there are only a few sectors that matter – tractor-trailers, buses and delivery trucks are the most important ones. There are now standards that countries can adapt, and introduce. HDVs are important as they are expected to be responsible for approximately 45% of on-road CO2 emissions over the next 35 years.

The potential for improved fuel economy is very high for HDVs – up to 50% potential in some areas. Different technologies will have different benefits in different sectors.

It is very expensive to test heavy duty vehicles on a test bed, but fuel economy improvements can be simulated by modelling. There are considerable improvements that can be introduced and many have a payback period of around 1.5 years – which is a spectacular achievement. ICCT have been undertaking analysis for GFEI to set a goal for HDV improvements, and set out the baseline and the potential for improvements, which will be published in the coming months.

Questions included how to make sure that government doesn't lose revenue because of the subsidy (set a cautious pivot point and adjust it regularly, or just focus on a tax-based incentive).

GFEI Events

29 August – 2 September 2016
BETTER AIR QUALITY (BAQ) CONFERENCE
Busan, South Korea

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20 – 21 September 2016
CCAC WORKING GROUP MEETING
Paris, France

17–20 October 2016
HABITAT III CONFERENCE
Quito, Ecuador

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7 - 18 November
COP22
Marrakech, Morocco

Latest Working Papers

Working Paper 12 investigates the development of fuel consumption and other light-duty vehicle (LDV) characteristics (vehicle dimensions, weight, and technical parameters such as fuel type, engine power and displacement) for new vehicle registrations from 2005 to 2013 for more than 20 countries.

Working Paper 13 explores recent trends in the market penetration of plug-in electric vehicles (PEVs), and the implications for achieving 100 million PEV sales by 2030, the ambition set by the Paris Declaration on Electro-Mobility.

Working Paper 14 (coming soon) estimating the fuel efficiency technology potential of heavy-duty trucks in major markets around the world.

What others say about GFEI

Rachel Kyte, Chief Executive Officer, Sustainable Energy for All (SE4All) initiative
"Steering vehicles towards a low-carbon world supports the SE4All agenda on doubling the improvement rate of energy efficiency. As the global car fleet is predicted to triple by 2050 - with most of the growth in developing countries - maximising fuel efficiency is not an option, but an obligation. The GFEI therefore importantly contributes towards the energy efficiency target of the Sustainable Energy for All Initiative."

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