



Global Fuel Economy Initiative

Plan of Action 2012-2015



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FOREWORD

The latest GFEI research suggests that fuel economy in new light duty vehicles around the world improved between 2005 and 2008 from around 8.1 to 7.7 litres of gasoline equivalent per 100km. The GFEI welcomes this progress but it has not been sufficient to achieve our target of a 50% improvement in new LDVs by 2030 and the total stock of cars by 2050. This represents a rate of 1.7% per year, whereas to hit the 2030 target we need a more than 3% improvement per year from 2012. The picture is, however, very different from country to country and region to region. Indeed whilst there has been tremendous policy progress in several major markets, in some places fuel economy is actually getting worse. So whilst we celebrate the progress which is being made, we know that there is much more still to do. Moreover, whilst climate change and energy security remain high on the political agenda, and countries across the globe face severe economic challenges, the potential of fuel economy to save expenditure on oil and ease international financial imbalances adds to the imperative to make greater progress.

2012 is therefore a very important year. We must make much faster progress in addressing fuel economy by getting many more countries involved in developing fuel economy policies, and by ensuring that globally we tackle the issue in a way which secures real long term gains. That is why the GFEI is delighted to formally welcome the International Council on Clean Transportation to our partnership.

This document lays out our plans as partners in the Global Fuel Economy Initiative to drive forward improvements in fuel economy. We will continue to raise awareness, plug gaps in the data and understanding of the issue, we will do this in partnership with all who have an interest in the issue - government, industry producers and civil society. We will also focus even greater efforts on our practical in-country support and training programme. Our ultimate objective is to bring our message and our support to every country seeking to address this issue, wherever and whoever they are. This document lays out a path towards that objective for the next 3 years.



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THE GLOBAL FUEL ECONOMY INITIATIVE (GFEI)



The Global Fuel Economy Initiative (GFEI)

A range of measures will be needed in order to rein in oil demand and CO₂ emissions in the future. The transport sector is one of the most important areas requiring attention. Over 50% of oil use around the world is for transport, and nearly all the recent and future expected growth in that use comes from increased transport activity, as figure 1 shows. The IEA forecasts that fuel demand and CO₂ emissions in the transport sector around the world could double between 2010 and 2050, if strong measures are not taken to put matters on a different course. This is a highly unsustainable trend for both energy security and climate-related reasons.

One of the most cost effective measures across all sectors is to improve the efficiency of light duty vehicles (cars, SUVs, minivans). The Global Fuel Economy Initiative focuses on identifying and highlighting what low-cost technologies are available, how much fuel economy improvement they could provide, and which policies can help to realise this potential. The GFEI then works with governments and their partners to assist them in developing policies that can fully unlock this potential and maximize the fuel savings benefits.

The GFEI targets include a 50% improvement in the average fuel economy of all LDVs on the road in 2050, compared to a 2005 starting point. To achieve this, all new cars and vans must reach a similar target much sooner – by about 2030, so that with stock turnover the 2050 target can be met. The GFEI has also set an interim OECD target of 30% improvement by 2020. And the GFEI has begun to track progress. The IEA has recently made the first ever estimates of global average fuel economy, and found that it was a little over 8 L/100km in 2005. By 2008 it had improved to 7.7, which is encouraging. But this represents a rate of 1.7% per year, whereas to hit the 2030 target we will require nearly 2.7% improvement per year, over 25 years or more than 3% from 2012. This is disappointing against what is a perfectly feasible and achievable target (see page 15). In fact, when further broken down this figure reveals the worrying fact that in some parts of the world fuel economy is actually deteriorating. GFEI's efforts to reverse this trend will continue in the coming years, and the initiative would encourage others to join in these urgent efforts.

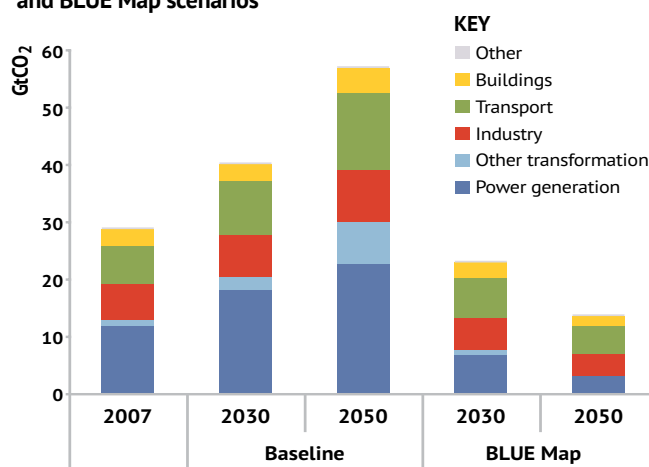
However there is some good news - many governments have now put in place fuel economy policies and some have strengthened theirs. Three quarters of vehicles sold today are subject to some form of energy efficiency standards (i.e. fuel economy, CO₂, GHG)

in the world's major vehicle markets (US, Canada, EU, Japan, China, Korea), whilst several others – such as Australia, Mexico and India – are in the process of developing standards. Indeed, the US, EU and Japan now have standards extending to 2020 and beyond. However some key parts of the world such as Russia and Brazil, where many of the vehicles will be sold over the next 20 years, have virtually no policies in place to promote fuel economy.

In its first three years, the GFEI has focused on addressing this issue, by working with governments to develop their first fuel economy policies. This report outlines the kinds of activities already undertaken, and looks forward to taking the logical next steps. GFEI hopes that it will be able to help every country to adopt fuel economy policies which really do reflect the severity of the issues which they – and the whole planet face – in relation to energy security, CO₂ and climate change and economic stability. In some countries this will mean supporting their very earliest efforts to collect data, communicate with stakeholders, and then develop policies. In others – where the policy process is more advanced – it will involve working to ensure that policies are as stringent and effective as possible.

In addition, GFEI will be tracking progress, developing and sharing relevant data and analysis, and encouraging global and regional political processes to put fuel economy at the centre of their planning.

Figure 1 - Global energy-related CO₂ emissions in the Baseline and BLUE Map scenarios



Baseline: no new policies are introduced between now and 2050
Blue map: global energy-related CO₂ emissions are reduced to half their 2005 levels by 2050

Launch of GFEI,
Geneva, March 2009

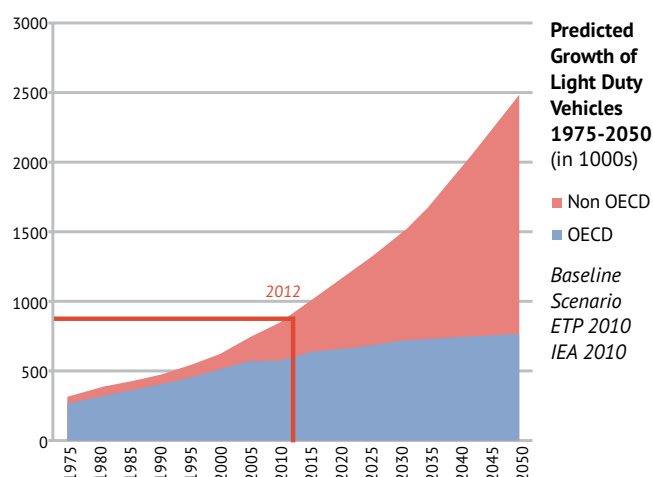


The Global Fuel Economy Initiative (GFEI)

Worst case global projections predict a tripling in the number of vehicles globally - the vast majority of which will be in the emerging economies as Figure 2 shows. The GFEI target to improve fuel economy is feasible using existing, cost-effective, incremental fuel economy technologies.

Figure 2 – IEA Projections of LDV fleet growth

Estimated growth of light duty vehicles - baseline scenario



The GFEI uses a three-pronged approach to achieve the stated targets:

1 OUTREACH

Support awareness initiatives to provide consumers and decision makers with information on options.

2 RESEARCH

Develop improved data and analysis of the current situation on fuel economy around the world.

3 POLICY SUPPORT

Work with governments and stakeholders to better understand the potential for fuel economy improvements and to develop sound policies to encourage fuel economy improvement for vehicles produced and/or sold in their countries.

THE GFEI FUEL ECONOMY TARGETS

From 2005 baseline:



reduction in L/100km by 2020 in
all new cars in OECD countries



by 2030 in all new cars globally



by 2050 in all cars globally

FORUM ROUNDTABLE ON THE FUEL ECONOMY INITIATIVE

Moderator:
• Lew Fulton, T

Speakers:

- George Eads, Executive Editor, GFE 2010
- KG Duleep, Managing Director, ICF International
- Henry LI, Senior Director, BYD Company
- Steven Plotkin, Analyst, Argonne National Laboratory
- Mitsuhiro Yamashita, Executive Vice President, Nissan Motor CO., LTD.

GFEI ACTIVITY TO DATE



1 ACHIEVEMENTS

2009

- Launch of the '50 by 50' Global Fuel Economy Initiative (GFEI) at the Geneva Motor Show
- GFEI spotlights fuel economy at UN's Copenhagen CoP
- Obama's global climate initiative at Major Economies Forum backs the GFEI
- Joint seminar with Indian Government at the 4th Environmentally Friendly Vehicles Conference in New Delhi
- Global Environment Facility supports the GFEI
- GFEI presented to American Motoring Clubs
- GFEI presented to global gathering of Motoring Clubs in Mumbai
- International campaigner Michelle Yeoh offers her support to the GFEI campaign
- '50 by 50' Global Fuel Economy Initiative launched
- Fuel Economy meeting in Bangkok with Clean Air Initiative Asia
- GFEI Paris Symposium outlines fuel economy roadmap

2010

- Global Fuel Economy gets an airing at COP 16 in Cancun
- GFEI supports RAC Future Car Challenge
- GFEI supports Australia's Green Zone Drive
- African Motoring Clubs sign up to support the GFEI
- European Commission, Global Environment Fund and US EPA step up support for the GFEI
- The GFEI launches report on Fuel Economy in South East Asia at a major regional meeting in Bangkok
- GFEI goals discussed at Low Carbon Vehicle conference, London
- GFEI reviews progress at Leipzig transport summit
- 50by50 Symposium for Central and Eastern Europe held in Budapest
- GFEI and ICCT sponsor Mexican vehicle standards seminar

2011

- GFEI presents fuel economy policy ideas to Chilean Minister of Environment
- GFEI publishes Working Paper on car subsidy schemes in US, France and Germany
- GFEI Working Paper shows Europe's cars are getting more efficient
- GFEI research showcased at LowCVP conference in London
- GFEI shares new global fuel economy analysis at Challenge Bibendum in Berlin
- GFEI supports ACEA's 'Our Future Mobility Now'
- GFEI showcased at Detroit Transforming Transportation conference
- GFEI supports Australian Government policy development with stakeholder conference and consultations in Melbourne
- Release of report on car fuel economy world-wide at UN's Durban COP

2 RESEARCH

One of the GFEI's key roles is to improve understanding of global fuel economy trends. The last year has seen the completion of several pieces of work that add to this understanding and more GFEI Working Papers are in preparation.

- An analysis of the impact of scrappage schemes in Germany, France and the US with TNO
- Research on global trends in fuel economy including in China and India
- Case study analysis of the trade in second-hand vehicles between the US and Mexico, with CTS Mexico
- An analysis of international funding mechanisms and their relevance to fuel economy work with TRL
- The cost effectiveness of fuel economy technologies in different markets with Ricardo and ICCT
- An independent assessment of the GFEI targets and global progress towards those targets - in 'Prospects and Progress' - confirms that the 50by50 target is achievable, but also concludes that it will not be achieved without concerted action by global policy makers.

WORKING PAPERS

- #1 Improving Vehicle Fuel Economy in the ASEAN Region (With CAI Asia)**
- #2 Proceedings of a GFEI workshop (with CTS Mexico):**
Mexico Climate Change Mitigation Workshop
The Importance of Passenger Vehicle Efficiency
- #3 Cleaner, More Efficient Vehicles (with REC):**
Reducing Emissions in Central and Eastern Europe
- #4 Car Fleet Renewal Schemes (with TNO):**
Environmental and Safety Impacts France, Germany and the United States
- #5 International comparison of light-duty vehicle fuel economy and related characteristics (IEA)**

All of this work will add to the widest possible understanding of key issues in fuel economy, and thereby support policy development.

All working papers and research documents are available at www.globalfuelconomy.org

3 POLICY SUPPORT

The GFEI has been extremely proactive in working directly with countries to increase fuel economy. A number of national projects, including Indonesia, Chile, Kenya, Ethiopia, Montenegro and Georgia are already implementing the GFEI approach, and at least 5 more are beginning the engagement process.

- **AFRICA** - Ethiopia held a consultative meeting on cleaner, fuel efficient vehicles in Addis Ababa, Ethiopia on 27-28 January 2011. National vehicle data is being collected to form a fuel economy baseline estimate. In Kenya, the GFEI supported the first national assessment of average vehicle fuel economy from 2005, and is now building a national approach to cleaner, more efficient vehicles to build on recent decisions on improved fuel quality.
- **EUROPE** - The GFEI has worked closely with the Regional Environmental Center (REC) to launch the GFEI in East Europe in 2010, resulting in national fuel economy projects in Montenegro and Georgia to build national baseline and plans to improve fuel economy. ICCT is actively engaged in developing the next stages of the EU's fuel economy standards.
- **LATIN AMERICA** - The GFEI has participated in a numbers of regional forums and has supported the development of Chile's national fuel economy vehicle labeling scheme and feebate proposal. The Centro Mario Molina Chile (CMMCh), together with the International Council for Clean Transportation, have provided technical support to an intra-ministerial working group designing the country's approach to less fuel intensive transport.
- **AUSTRALIA** - The GFEI has provided support to the Australian government on the development of national CO₂ emissions standards. A national conference was followed by two days of consultations facilitated by the GFEI between regulatory experts from the EU, US and ICCT and government officials and other Australian stakeholders. The experts involved are continuing to provide advice on analysis to support the introduction of standards (see page 11).



LAUNCH OF THE GFEI

The FIA Foundation, together with three major international agencies – the IEA, the ITF and UNEP - launched at the Geneva Motor Show on 4 March 2009. The organisations called for a global fuel economy roadmap to be embarked upon immediately, and integrated into financial support for the car industry.

With the vehicle industry featuring prominently in financial support packages in recent troubled economic times, the initiative gave concrete options for the world to change to cleaner and more efficient cars. The agenda should be achievable using existing, cost-effective technologies such as better engines and drive trains, more efficient components such as tyres, and lighter materials.

The GFEI committed to working with governments, the car industry and other stakeholders to achieve this goal. During the show the heads of each organisation jointly held meetings with high level industry representatives.

The five partners in the GFEI work cooperatively across the full work programme combining resources at the national, regional and international levels.

GFEI welcomed ICCT to the partnership in early 2012. The ICCT's council of government regulators will strengthen GFEI's ties with the world's leading government agencies in top vehicle markets (e.g., Brazil, Canada, China, Europe, Japan, Korea, India, Mexico and the United States) responsible for setting fuel economy and greenhouse gas emission standards for passenger vehicles. Complimenting IEA's technical expertise, the ICCT's 30 staff consists of some of the world's leading experts in motor vehicle emission

control technologies, and the organization has assembled one of the largest concentrations of relevant datasets of vehicle emissions inventories, technology potential and costs, and policy analysis and design. The United States-based ICCT will expand the global reach of the European-centric GFEI partnership in terms of perspective and funding. In sum, the ICCT strongly compliments the strengths and expertise of the GFEI original partner organizations.



Did you know?

Tyre pressure really matters, with experts suggesting that a 1 psi drop in tyre pressure could reduce fuel economy by about 0.3%.

SURVEY OF FUEL ECONOMY IN THE ASEAN REGION

One of the earliest actions of the GFEI was to begin a process of engaging with key players in the ASEAN region. Working in partnership with the Clean Air Initiative for Asian Cities (CAI-Asia), a survey was carried out for the ASEAN – a federation of ten Southeast Asian countries. The survey covered fuel economy policies of six of the ten countries – Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. The survey aimed to provide a basis for the ASEAN and its member countries to adopt a proactive approach to promote fuel economy by establishing a common framework for adopting fuel economy policies and measures in support of the GFEI goals. Furthermore, the GFEI has sought to promote the establishment of a network of interested stakeholders among the members of ASEAN needed to help establish such a framework.

Like China and India, Southeast Asia, with its many metropolitan cities, is poised to reach urbanization levels of 70% of the total population in the next decade. With this comes increased demand for mobility and fuel consumption and the associated externalities of transport like increased traffic congestion and traffic accidents, air pollution and its health impacts, and increased CO₂ emissions. The total number of motor vehicles in ASEAN countries nearly equaled the number in China until the mid-2000s and is projected to exceed the number in India by 2015. The great majority of motorized vehicles are two and three wheelers, but the number of personal cars and light commercial vehicles is projected to grow rapidly. As a result of vehicle growth, fuel consumption by transport in the ASEAN is expected to increase by more than 5% per year until 2030, and CO₂ emissions are expected to rise similarly.

The survey report provides data on vehicle emissions and fuel quality standards, fuel subsidies, vehicle taxes

and tariffs, and the status of fuel economy standards and other measures that exist in each of the six countries. The main reasons for fuel economy policies and measures are found to be fuel security and costs, climate change and air pollution. The survey reveals that such policies and measures could lead to up to 16% reductions in fuel and CO₂ emissions if applied to light duty vehicles (LDVs) and up to 26% if applied to both LDVs and heavy-duty vehicles (HDVs) these are modest improvements even over a ten year period. However, the development of fuel economy policies and measures varies significantly among ASEAN countries. Thailand is furthest advanced, with concrete proposals for such standards for LDVs, and will be adding other vehicle types step by step. Based on the survey it is concluded that support for a common framework for fuel economy and measures in the ASEAN exists, and the report describes criteria that this framework should meet, a possible framework structure, and a proposed action plan to establish the framework.



Did you know?

It has been estimated that fixing a car that is noticeably out of tune or has failed an emission test can improve its mileage by an average of 4%, (results vary based on the kind of repair and how well it is done)

WORKING WITH THE AUSTRALIAN GOVERNMENT



The GFEI co-hosted a high level seminar in Melbourne in March 2011 to discuss options for the development of an Australian CO₂ emissions standard for light vehicles.

Working with the Commonwealth Government, the Federal Chamber of Automotive Industries (FCAI), Royal Automobile Club of Victoria (RACV), and the Low Emission Vehicle Automotive Partnership (LEV), the GFEI brought senior international experts together with key Australian stakeholders in this day-long event. Attendees were able to consider the implications for Australia of global trends and experience, and how this might inform the decisions which the Australian Government needs to take in order to deliver on their commitment to develop a CO₂ emissions standard.



The conference was followed by two days of consultation, including meetings with the motoring clubs, NGOs and academia, the car manufacturers and the federal & state government representatives. The second day involved technical discussions with the expert group who are tasked with developing Australia's emission standards.

Since the meeting the Australian government has published a consultation paper: 'Light Vehicle CO₂ Emission Standards for Australia' in a further step towards developing a fuel economy standard in Australia.



Did you know?

Estimates suggest that a 10% change in rolling resistance will result in a 1-2% change in fuel economy.

DATA AND ANALYSIS WORK

During 2009-2010, the GFEI undertook research on the fuel economy of light-duty vehicles (LDVs) around the world. This study was published in November 2011 at COP17 in Durban, and is available at www.globalfuelconomy.org

In the study, the IEA investigated new LDV fuel economy in 21 countries around the world. This involved collecting data on vehicle registrations and technical characteristics at the make/model/ configuration level of detail for each country, and aggregating this data up to derive average estimates of key variables. The primary goal of the analysis was to estimate the global average fuel consumption of new LDVs and a range of national and regional averages for 2005 and 2008 in order to:

- create a base year estimate for use by the GFEI
- analyse how fuel economy and other vehicle characteristics compare across a range of countries and regions, and,
- obtain an initial sense of how fuel economy and other vehicle characteristics have recently changed in different countries, by comparing the 2008 and 2005 results.

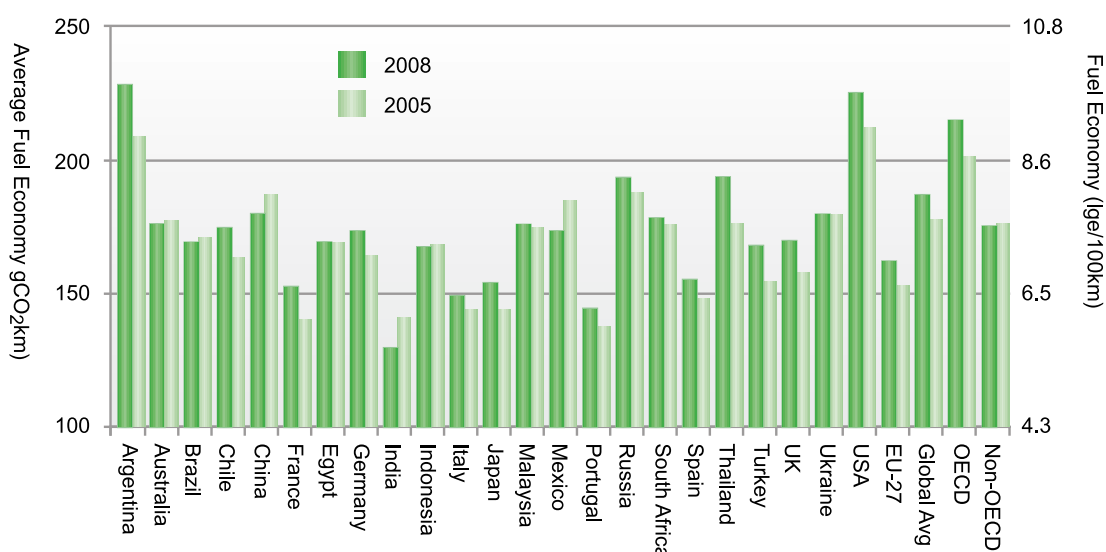
The overall results of the analysis are as follows:

- the rated fuel economy of the average 2005 car sample across 21 countries is estimated to be just about 8 Lge/100km, and improves to 7.65 in 2008.

This represents a 1.7% annual improvement over the 2005 to 2008 period, well below the required average annual improvement rate to reach the 2030 GFEI objective of a 50% reduction (to 4 L/100km), which is above 3% per year from 2012 to 2030.

National level average fuel economy shows a wide range of value and improvement rates. Average fuel economy in OECD countries in 2008 was slightly worse than in non-OECD countries, but improved from 2005-2008 whereas new LDVs in non-OECD countries became slightly more fuel intensive over this period.

The report includes a range of other estimates for fuel economy and indicators such as average vehicle size, weight and power, and distribution across various categories in each country.



THE GFEI CLEANER, MORE EFFICIENT VEHICLES TOOL

About the tool

The Cleaner, More Efficient Vehicles Tool provides information and real-world examples of technology and policies used around the globe to improve auto fuel economy. It is aimed at policy makers seeking to understand and design effective policies to improve energy efficiency and lower greenhouse gas emissions in their countries. It contains guidance coupled with case studies describing what is being done to improve automotive fuel economy around the world.

- 1 Introduction:** outlines the basic principles and reasons for improving automotive fuel economy. The section also includes information on the basics of defining fuel economy and research on vehicle safety vs. fuel economy.
- 2 Instruments:** allow users to explore current auto fuel economy policies and programs – from standard-setting and fiscal policies, to labeling programs and auto technology options.
- 3 Case Studies:** showcase country and regional examples that summarize approaches to improving auto fuel economy – from Latin America, Europe, Africa and Asia.
- 4 Resources:** how efficient are cars in your country? This section includes detailed guidance on how to plan for

and calculate a national fuel economy estimate in order to track progress and formulate policy, a fuel economy questionnaire, and a list of further reading and resources.

- 5 Global View:** presents the available information in map form which allows you to explore various fuel economy policies on a global, regional and national scale simply by choosing 'Global View' or any of the 6 additional regions plus any of the 16 policies in the selection box below it.
- 6 Developing a baseline:** the toolkit contains a section on 'Developing a baseline' that allows you to learn how to estimate average vehicle stock efficiency and CO2 emissions. It also provides country examples. The GFEI supports countries to gather basic vehicle information and calculate baseline measurements for policy-making.
- 7 Interactive questionnaire:** this simple form allows you to explore different options for implementing a strategy for a cleaner, more fuel efficient vehicle stock.
- 8 Case studies summarized:** the "Case Studies at a Glance" link allows you to view all available case study information in an accessible form.

This innovative Tool is available online at:

www.unep.org/transport/gfei/autotool



GFEI AND FUEL ECONOMY: PROGRESS TO DATE



GFEI and fuel economy: progress to date

The *GFEI Report Prospects and Progress* was a detailed external evaluation of the GFEI's progress and relevance which was published in 2011. This independent analysis had two main objectives:

- To assess the prospects for reaching the 50by50 goal of an improvement of 50% in average worldwide new car fuel economy by 2030, leading to a 50% improvement in average worldwide on-road fleet fuel economy by 2050
- To review the progress that has been made over the last couple of years in reaching this goal.

The report's principal findings and conclusions were:

- 1 By and large, the technologies do exist to deliver 50by50 on the timescale indicated; however the policy framework must be right to enable the market to deliver the fuel economy levels that these technologies permit
- 2 Differences in the fuel consumption of vehicles of the same class from one OECD country to another are almost completely explained by differences in diesel penetration, vehicle performance, weight, and the use of automatic transmissions.
- 3 Based on recent literature, incremental technologies available to improve fuel economy are estimated to be able to cut average new car fuel consumption by around 50% at least for OECD countries - and possibly worldwide - across the time frame 2005-2030.
- 4 To meet the GFEI 50% target around the world, (and its implication of achieving something close to 4 L/100km on average), it may be necessary in some countries to supplement technology-based improvements with shifts in size mix and performance (i.e. reductions, rather than just holding steady for some OECD countries, and moderated increases in some non-OECD countries).
- 5 From a policy perspective, the key to achieving this scale of improvement is creating a regulatory and fiscal environment that steers manufacturers towards using technological improvements to deliver fuel economy rather than enhanced performance and heavier vehicles, and that steers consumer demand towards more energy-efficient vehicles.
- 6 In order for manufacturers to make the necessary investments in engine and auto plants the regulatory framework needs to create certainty. Risks are minimized when binding targets are set well in advance.
- 7 It is important for those countries that have not done so, especially those that will experience major growth in their vehicle fleets in the coming years such as Russia, Brazil, and the ASEAN countries, to start developing national fuel economy initiatives now.
- 8 The GFEI should also work toward raising awareness and capacity of lawmakers, stakeholders, and the general public on the issue of fuel economy. This can be done by supporting labeling programs, public information campaigns, and continued use of workshops and conferences to share information and by recent research.

The Prospects and Progress report confirmed that the original objectives of the GFEI remain valid, but that globally we are far from on course to meet them.

As the following table shows, the average annual improvement rate in fuel economy worldwide in the 2005-2008 period was about 1.7%. This is well below the rate needed to hit GFEI targets, which is 2.7% per year from 2005, rising to more than 3% from 2012 as early indications suggest that progress in recent years did not match the required pace of improvement

to reach the GFEI's objective. There are two further important points to note. First, the global average decreased in part due to the fact that non-OECD country vehicle sales rose much faster than OECD sales, while gaining market share and since their average fuel economy is better than that in OECD countries, non-OECD country vehicle sales pushed the global

average towards better fuel economy, despite the fact that no individual countries (or vehicles) improved. Second, it should also be noted that the non-OECD fleet fuel economy actually got worse. Given that in the coming decades the non-OECD

fleet will dwarf the OECD fleet, and it is possible that this trend will swamp the modest improvements in the OECD, it really is essential that countries adopt fuel economy policies now, before it is too late.

	2005	2008	2030	Annual Change 2005-2008	Required Annual Change 2005-2030
OECD Average	8.21	7.66		-2.1%	
Non-OECD Average	7.49	7.68		0.3%	
Global Average	8.07	7.67		-1.7%	
GFEI Objective	8.07		4.03		-2.7%

all figures in columns 2, 3 and 4 are in L/100km

The scale of this challenge means that the GFEI targets are just as important now as they were when the initiative began :



It is clear that there is relatively widespread understanding of how to use technology and policy to improve fuel economy, but there is a gap in the adoption and implementation of policies, which needs to be addressed.

GFEI and fuel economy: progress to date

LESSONS LEARNED:

It is vital that the GFEI is able to respond to a fast changing environment. The work of the GFEI over the past 3 years has been most effective when it has been responsive and flexible. There are other aspects to the way in which the GFEI has operated, which have also enhanced its effectiveness. They are:

- 1 Partnerships are key to effective working** – GFEI has worked with a range of groups across the world. Those partnerships have worked best where the initiative has been able to access local networks, understand local dynamics, and really add value to the debate and deliberations occurring in those regions.
- 2 Wider engagement** with the broadest possible range of stakeholders through broadening out the GFEI Contact Group is vital to leveraging towards impactful change
- 3 Improved understanding, better information and data are vital** to raise awareness, support debate and to move roadblocks in the road ahead
- 4 Accessing and influencing the key political processes**
- 5** There is an urgent need to **share the technologies and best practices** and policies developed by countries around the world – so that others can also prepare policies before it is too late
- 6 Clarity of message is crucial.** GFEI will continue to refine its messages and targets to ensure that they are clear and understandable.

These ways of working will be even more embedded in the GFEI's activities in stage 2 of its programme of work over the coming 3 years. They are essential because they help to ensure that any progress made is soundly based.



Did you know?

Engine oil influences vehicle mileage. For example, if 5W-30 is recommended, using 10W-30 oil can lower mileage by 1-2%.

GFEI POLICY PRINCIPLES:

It has been very encouraging that so many countries and stakeholders have reacted positively to the GFEI's work. It is particularly heartening to see so many of them have engaged with policy development in a clear and coherent fashion.

Whilst the GFEI does not have a blueprint approach to the development of fuel economy policy, it is clear from GFEI's experience that certain basic principles need to be in place in order to ensure a stable and effective policy structure.

Consultation and discussion

The issue of fuel economy is of interest to many different groups within society from Government to car and specialist parts producers, and from academics to NGOs. It is essential that any policy which is developed to address the issue is as inclusive of those groups and their expertise and views and possible. This is important not only in the policy development phase, but also in terms of effective delivery and enforcement.

Evidence based

The GFEI is strongly of the view that there is no one policy blueprint which should be applied to every country seeking to address fuel economy. Every country will face differing scenarios in terms of the size and mix of their fleet, the attitudes and political views of their populations, the scale and scope of their own car producing industry, and so on. That is why it is vital that any country setting out on a course towards developing a fuel economy policy, must ensure that it has a very clear picture of these relevant features, and that the policy it develops is appropriate to them.

Benchmarking against Best Practice

There is already a great deal of activity globally around fuel economy policy, and a lot of lessons which can be learned from the best practice of others. This is what the GFEI in-country policy toolkit seeks to provide. By examining this sort of evidence the relevant authorities can then ensure that the policy model which they seek to employ is the most effective of its kind, given their circumstances.

Technical Coherence

When it comes to fuel economy policy the devil can often lurk in the detail, and as the US and EU show, very different technical approaches towards standards are currently employed. There are benefits and dis-benefits in each approach. Whichever a country adopts as being most acceptable for them, it is important that there is full technical internal consistency in the way in which every aspect of the standard is framed.

Evaluation

In the GFEI's experience of working on fuel economy policy development it is essential not just to measure the state of play – the baseline – in advance of establishing a policy, but equally important to assess the impact of that policy ex-post. Good data collection is essential throughout the policy development process, and methods for collecting the data needed for this ex-post evaluation should be built-in from the start.

the GFEI principles for fuel economy policy

- Consultation and discussion
- Evidence based
- Benchmarking against Best Practice
- Technical coherence and feasibility
- Evaluation

GFEI will continue to support principle-based policy development through the in-country policy toolkit work, and in all relationships with those with a role in such policy development

GFEI and fuel economy: progress to date

FUNDING:



The GFEI pools the resources (technical and financial) of its founding organizations – from research, to communicating the GFEI message and providing practical in-country support for policy development. Major financial contributors include the FIA Foundation, UNEP, Climate Works Foundation, the European Commission and the Global Environment Facility. The FIA Foundation also hosts the GFEI Secretariat. Now the ICCT will formally join the partnership as a fifth member for the launch of the second phase of GFEI's work.

Over the next three years the GFEI will seek to expand its base of supporting organizations, expertise roster, and stable of major donors. This will include additional bilateral agencies, development banks, and private foundations. Strategic

partnerships with related energy efficiency and climate change initiatives (including the green economy movement and climate negotiations) will be key, as will the support and buy-in of the private sector.

As the list of countries who access GFEI's support and services grows, their resources – both financial and in terms of knowledge – will need to keep pace. The partners will therefore each extend their efforts to expand support for the initiative, as well as building awareness of GFEI's approach to promoting fuel efficiency. GFEI's ability to mobilize the resources needed to grow this work is evident, and as the focus on transport as a key sector in addressing climate change grows, the partners are confident that both demand, and resource for GFEI will grow also.



Did you know?

An extra 100 pounds in a vehicle (e.g., extra cargo) can reduce fuel economy by up to 2%, with smaller vehicles being affected more.

ORGANISATION & GOVERNANCE:

Advisory and Contact Groups

Globally negotiated frameworks for action across a range of issues, from trade to climate change, are struggling to establish agreed alternative paths to business as usual. This makes it increasingly important that country and regional-level initiatives are properly established and receive support.

A key strength of the GFEI lies in its partnership working, especially when it comes to its in-country policy support work. The activities which the GFEI has undertaken in the past 3 years have relied upon these partnerships for their success. Some key examples are:

1. South East Asia – CAI-ASIA
2. Chile – Mario Molina Centre
3. Mexico – CTS Mexico
4. Central and Eastern Europe – REC
5. Africa – Climate XL

However, there are many others, and the GFEI will seek to develop further partnerships in our key countries and regions. The benefits of this mode of working in terms of local knowledge and understanding are obvious. In the future this will enable us to deepen and strengthen working relationships – and most importantly effectiveness.

Partnerships are not only important at a local and regional level however. They are also key in a global context. At this level, the GFEI is immensely grateful for the support of its Advisory Board of experts on fuel economy issues:

- Anumita Roychowdhury - CSE India
- Michael Walsh – Carlines
- Stephen Plotkin

The GFEI's Advisory Board has engaged with the Initiative's work across a wide range of activities, from research projects to in-country work. The GFEI will continue to draw upon their goodwill in the coming 3 years. By the same token – although it is a more recent development – the GFEI's contact group of stakeholders has already been extremely helpful and supportive.

Members of the group serve in an individual capacity, and bring to bear their understanding of the issue of fuel economy by discussing key issues, reviewing published materials, and helping GFEI to plan ahead.

At this stage there is no intention to expand the Contact group beyond its existing manageable number. Indeed the GFEI would like to deepen the engagement of contact group members by building a programme of partnership project work, picking up on issues of mutual interest, and expertise. The issues which are addressed will be determined by the nature of the policy debate' matters which arise from GFEI's in-country work, and the group's mutual interests.

By working together so closely with the GFEI Contact Group, the initiative hopes to fulfill its objectives and targets for improved fuel economy more quickly. The GFEI remains indebted to both the Advisory and Contact groups for their commitment and support.

Focus, targets and scope

GFEI is currently engaged in policy development work in Australia, Kenya, Ethiopia, Indonesia and Chile. The GFEI will continue to target specific countries and regions where the issue of fuel economy is of particular significance. This will also depend on the commitment of local stakeholders to work with the GFEI team in developing a baseline study.

GFEI has already developed agreements with several countries including Vietnam and Georgia, to work closely on fuel economy policies.

This does not mean that the GFEI will not be active in other regions or countries. Indeed, with ICCT as a full partner, the GFEI's scope has widened considerably. However, given the limited resources with which the Initiative has to operate, it remains important to target them where they will be most effective in achieving the GFEI's objectives. It is another reason why our capacity to lever-in the resources of others remains crucial to our success.

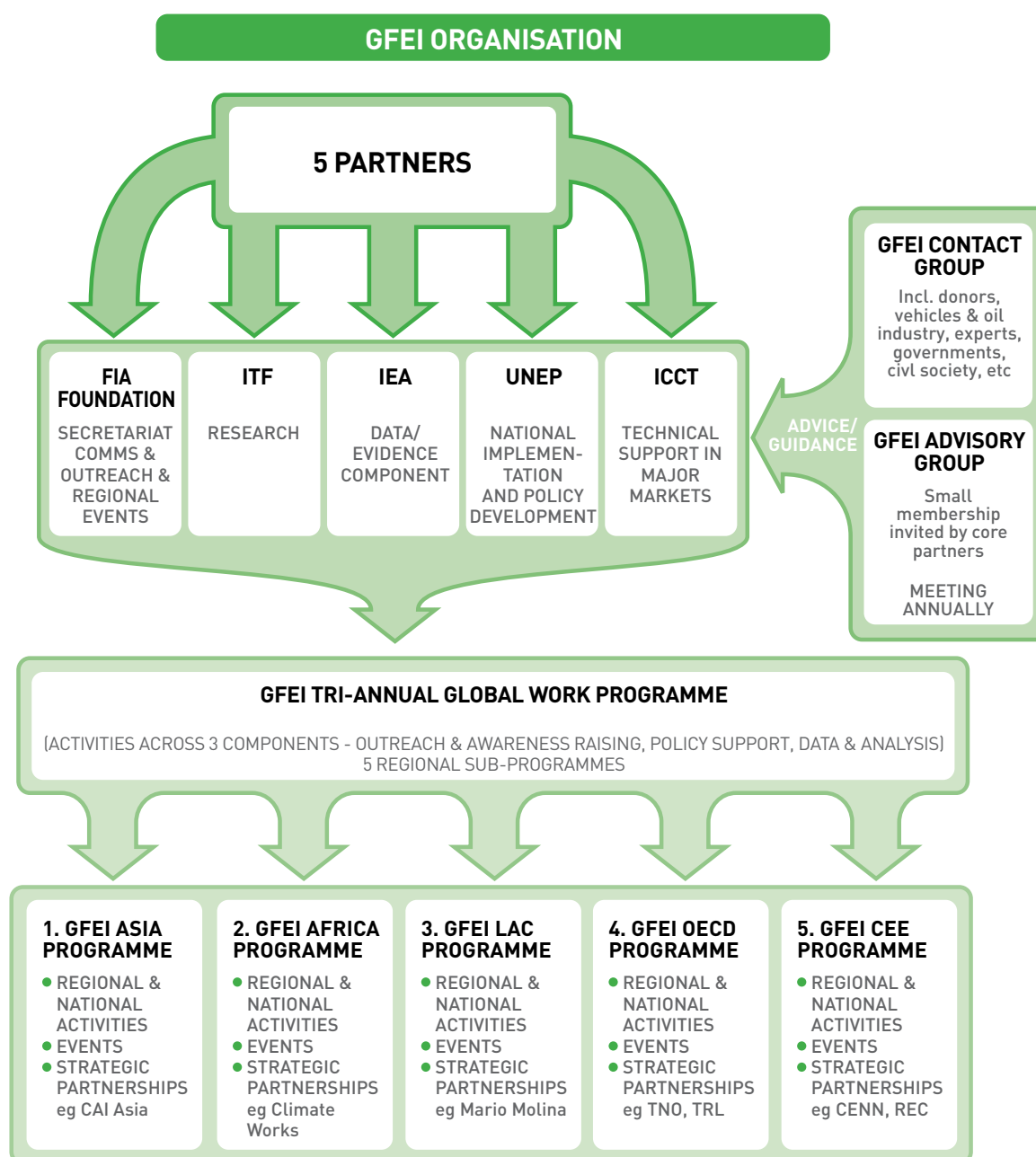
Since it was established in 2009, GFEI's scope has been limited to LDVs. However, the challenge of improving fuel economy runs far wider than that sector, and there are other vehicle types which make a sizeable contribution to the scale of the problem. HGVs are a good example, and GFEI is considering whether to expand its interests to this sub-sector. By the same token, the processes and countries with which GFEI engages are extremely focused on this issue, be it in the form of HEVs, PHEVs or full EVs, two wheelers, cars or large vans, and GFEI will engage with these matters also.

Fuel economy: Progress to date

Resources and Fundraising

The GFEI has benefitted from the generous support in cash and kind, of the original partners – IEA, UNEP, FIA Foundation and ITF. A great deal of effort has also gone into securing the support of other external sources of funding, including the EC, Global Environment Facility and others.

In the next phase of its work the GFEI will also have the support of ICCT, and dedicate even more resources to securing funding, both for the initiative's core work programme, but also for some of the specific projects which we will be pursuing with the Contact group and our Associate Partners.



GFEI TARGETS 2012-2015



1. Policy support

OBJECTIVE:

To offer real support to countries on fuel economy policies, presenting a suite of possible policy options and helping them to develop a strategy for addressing the issue which suits their circumstances.

- **Target 1a:** By end 2012 to have the GFEI online tool finalized and ICCT will have published its technology and cost assessment of achieving CO₂ g/km targets for the European market in 2020 and beyond.
- **Target 1b:** By end 2012 to have completed 4 in-country policy toolkit engagements in:
 - Ethiopia
 - Chile
 - Kenya
 - Indonesia
- **Target 1c:** By end 2012 to have 4 more in-country policy toolkit engagements, to have a further 6 identified, and to integrate the ICCT's work into the GFEI scope.
- **Target 1d:** To have a further 10 countries in the process of engagement with the tool via a process of expanding-out initial country case studies to regional groupings.
- **Target 1e:** To track global progress in a visual manner based on data and analysis (see figure 3) to ensure appropriate targeting of interventions across the globe in countries which have not addressed the issue of fuel economy - whatever their economic status.
- **Target 1f:** To have 20 countries in various stages of implementation by 2015 by which time the tool will be self-implementing and ready for global rollout.

2. Outreach

OBJECTIVE:

To continue to raise awareness of the issue of fuel economy, and the work of the GFEI at regional and global levels. To encourage awareness of the GFEI's bespoke country-based support and toolkit. To influence on-going discussions in Europe, US, China, India and elsewhere - to focus the GFEI activity in areas where we can make a real difference. And to work in partnership with others in other countries where we can add value and make a positive contribution.

- **Target 2a:** To have launched and established an engagement strategy (around case study countries and major vehicle markets) in each of our target regions/ countries by end 2012.
- **Target 2b:** To host an annual meeting of GFEI's contact group of key stakeholders which will be actively engaged in our work through individual initiatives, through sharing the findings of our reporting, and through engagement with the GFEI's wider planning process.
- **Target 2c:** To develop new outreach materials including films and leaflets, which convey GFEI's messages clearly.
- **Target 2d:** To engage in key global and regional policy development processes such as RIO+20.
- **Target 2e:** To raise the profile of GFEI through seminars and symposia; presentations at key global gatherings such as TRB and EFV; and the widest possible policy engagement.



Did you know?

Just sitting in your car with the engine running is like throwing money away. Idling uses a quarter to a half gallon of fuel per hour. In one specific test, it was estimated that turning the engine off during each of 10 idle periods lasting two minutes each on a 10-mile course improved mileage by 19%.

3. Research and Analysis

OBJECTIVE:

To improve global understanding of fuel economy. To use data and modeling to assist individual countries in establishing a policy programme to address fuel economy, which is suitable to their circumstances.

- **Target 3a:** In 2012, two major publications will be issued by the ICCT:
 - An update its Comparison of Global Fuel Economy Standards to provide a comprehensive update of global fuel economy standards report. This is a major update of the ICCT's widely-cited global fuel economy chart based on the 2007 report.
 - The Global Climate Transportation Roadmap which enables nations with major vehicle markets to quantify potential benefits of adopting international best practices for passenger and heavy-duty vehicle energy efficiency standards.
- **Target 3b:** by end of 2013 to have a prototype working model which can forecast the potential shape of the fleet in each country using core data.
- **Target 3c:** Also in 2012-2013, the GFEI partnership will investigate the development of a feebate tool for use in calculating oil savings and CO₂ reductions from various levels and designs of a feebate system along with revenue projections.
- **Target 3d:** To add to the GFEI's Working Paper Series.
- **Target 3e:** To consider the role of HGVs and electric vehicles and build them into our targets.
- **Target 3f:** identify the 2010 average fuel economy level globally – which will aid in monitoring fuel economy progress – by end 2012.

Potential areas of research interest include:

- A study of in-use fuel economy, including direct measurement of fuel economy performance on a sample of vehicles in a range of countries, linked to real-time information on the driving conditions, allowing a better understanding of a) real-world driving cycles, b) the relative importance of different factors affecting fuel economy, and c) the differences in real-world fuel economy for different types of vehicles. Such a study will require significant resources to achieve a large sample, but would result in very important information for policy makers.
- On-going tracking of average test fuel economy in countries around the world continuing monitoring progress toward the GFEI targets. This will build on the IEA 2011 report and add additional data sources and countries as these become available. Database development and a complete analysis for 2010 should be achievable by early 2013.



Did you know?

That using the air conditioner can reduce mileage by 5-25%? However, opening the windows instead can create its own problems, as the increased drag can reduce the savings you hoped to make.

Kamal Nath, India's then Minister for Transport and Highway, speaking at a GFEI symposium, Delhi, 2009





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