Vehicle Fuel Efficiency Baselines: Practicalities and Results
Global Fuel Economy Initiative in Africa

One-Day Working Session
30 November, UNEP Headquarters, Nairobi, Kenya

Main Points of Discussion & Closing Summary

Morning session:

The core of the meeting rotated around the **Measure to Manage principle** – in order to address auto fuel efficiency properly at the national and global levels, decision-makers need to know what they are working with in terms of today's vehicle stock, growth trends and emissions in order to choose the right combination of technology and policy instrument to meet national emission, energy security, and efficiency goals whilst contributing to the 50:50 Campaign.

Representatives from Kenya, Ethiopia and Mauritius met with experts from the International Energy Agency, the National Association of Automobile Manufacturers of South Africa/Ford Motor Company (NAAMSA), UNEP and Climate XL to discuss in detail the mechanics of calculating the average corporate fuel efficiency of a country's vehicle fleet for any given year. This methodology will be used in the GFEI 'baseline-setting' phase of national implementation, and then in regular intervals afterwards, in order to gauge the impact of fuel economy policies.

Developing countries face distinct challenges in carrying out the data gathering and analysis required in the baseline stage – essentially, the first step in developing sound, impactful policies to improve auto fuel efficiency policies and standards.

While an increase in vehicle ownership does not necessarily mean an increase in vehicle use and kilometres travelled, the congested roads and energy costs of developing markets attest to a worrying trend in motorization and emission rates. There are numerous issues at this moment – from reductions in oil and fuel imports and increased energy independence to consumer benefits and improved air quality - that are addressed in some degree by auto fuel efficiency.

The day's discussion also pointed out that there are very few examples of adequate data analysis and trends for developing markets. The GFEI baseline exercise at the national level in both pilot (2009-20014) and Phase II countries (2010- 2016) can help to fill in the global picture on fuel efficiency, thus making trend analysis and scenario-building much more accurate and representative.

The South African example (e.g. see http://www.naamsa.co.za/ecolabels/), followed by a presentation on Kenya's baseline exercise, proved particularly useful as discussion and reference points for how to overcome data gathering and analysis challenges and policy-setting in a developing market context. Participants agreed that, while the Kenya baseline calculations are open to debate and further refinement, the experience to date has been extremely useful as a start to the practical discussion of measuring for management and change on fuel efficiency in an African context. They also agreed that baseline calculations should serve a dual purpose: provide support and reference for national policies; allow for international comparison to gauge progress towards 50:50.

The issue of fuel quality was discussed – given high sulphur levels, dieselization of the vehicle fleet as a means to more efficient vehicles is not really an option for Africa right now. Mauritius also announced efforts for an upcoming CO2 tax by early 2011 as complementary with a national move to 500 ppm diesel.

In summary:

- ✓ Developing countries should look at auto fuel efficiency due to high growth trajectories
- ✓ This is quite a challenge, partly due to the high number of 2nd hand vehicles and lack of data, awareness and political will. However, it should be noted that in some countries where age limits on imported vehicles are in place, second hand imports can actually be more efficient and a higher Euro standard than new vehicles, thus contributing to an improvement in the fleet's overall performance

- ✓ It is important to set targets and policies to keep up the pace of more efficient technology adoption
- ✓ Countries in Africa are already putting in place mixed policy instruments that could be incorporated into more comprehensive, technology-driving fuel efficiency standards and packages
- ✓ The GFEI is a tool in the national baseline-setting exercise
- ✓ Training and awareness using the GFEI Tool, partners, and expertise are good starting points
- ✓ Clean fuels are an integral part, especially low Sulphur (50 ppm) fuels, of vehicle fuel efficient policy development
- ✓ Pilots are truly important for lessons learnt and filling in the GFEI global picture
- ✓ Vehicle fuel efficiency labelling can be a good starting point, as it provides information to consumers and may incentivize manufacturers and importers for more efficient models

Afternoon partner session:

The underlying questions of the session were: how do we develop baselines according to a GFEI methodology, what do we use baselines for, and how comparable do we want them to be on an international level?

There are essentially two levels of intervention. Do we actually have access to the data for vehicles registered for a given year? If so, then what do we multiply this data by in order to analyze and calculate efficiency? (NEDC manufacturer test cycle data vs. on-road data vs. vehicle running cost data)

Partners agreed that our main concerns in national baseline calculation are:

Relevance: how relevant are these calculations to the country's decision-making on efficiency issues?

Comparability: how comparable are baselines on an international level and yearly within the same country and should they be comparable?

Replicability: is replication of the GFEI baseline methodology possible, practical and desirable?

On a practical level,

- ✓ What kind of data is necessary for development of a baseline database on a yearly basis? Country participants requested from the GFEI a list of mandatory vs. additional data fields.
- ✓ Should data be segregated into used vs. new cars? This has proven of benefit in the Kenya example.
- ✓ Where do imported vehicles come from? This will determine which test cycle to attribute to that vehicle.
- ✓ There should be a common database of test cycle data for as many years and vehicle makes and models as possible – UNEP and IEA will aggregate test cycle data and make this available to countries.
- ✓ Kenya will prove as a useful testing ground of various approaches to fuel efficiency calculations, including test cycle vs. real life efficiency calculations (as we now have this type of data), along with the more experimental "methodology of sampling" whereby we will randomly sample a representative set of vehicles (stratified by class, weighted by vehicle popularity) and compare average efficiencies with the stock-wide calculation. This experimental approach will allow us to be able to recommend other methods of calculation and sampling for countries that have very limited vehicle data.

Partners and participants agreed that:

- ✓ It is possible to develop and refine a GFEI methodology that is workable and adaptable to the national cases, but also still fits into a global analysis and is useable by the IEA and comparative across the countries we work in;
- ✓ That it would be useful to consolidate and communicate test cycle data from manufacturers;
- ✓ That scenario-building based on national calculations would be extremely useful to policymaking efforts and therefore IEA efforts are welcomed.

UNEP, IEA, Climate XL will continue to further develop national baselines with Kenya and Ethiopia, while working with Mauritius on national auto data and analysis needs.