# Driving Change During Low Oil Prices

The landscape for mitigating transport emissions was radically transformed during 2015, as tumbling oil prices forced a review of the approach of the European Climate Foundation (ECF).

To appreciate this, it is first worth looking at the successful initiative for a 95g/km CO2 standard for cars during 2011-2013. The makers of powerful premium cars, mostly in Germany, were opposed to tighter European Union (EU) standards, but as oil prices soared against the clamour of Arab Spring uprisings, automakers struggled to make their case heard. ECF partners, by contrast, delivered resonating arguments about safeguarding consumers and Europe's energy trade balance.

During the year after the 95g/km standard was adopted, oil prices remained above $100 per barrel supported by nervous market sentiment as ISIS expanded its territory in Iraq and conflict broke out in Ukraine. But 2014 signalled a reversal. The steady expansion of United States (U.S.) oil shale had eroded the monopoly advantage of the Organisation of the Petroleum Exporting Countries (OPEC) and tipped the balance. In November 2014 OPEC abandoned its historic role of constraining supply to maximise prices, and instead started competing for market share. Add to that the more recent slowing of Chinese economic growth; add to that Iran's re-entry into the market; and today the future looks starkly different... and perhaps not so conducive to regulating vehicle emissions.

Through 2015 the ECF Transport team undertook a review of everything from the economics of oil to the implications for policies and strategies. By drilling deeper, traces of an element not widely discussed were unearthed, lending new perspective on future prospects for mitigating transport emissions.

Inevitably, much of the previous public debate has centred around impacts to oil supply. Such changes are usually news-worthy and often intimately linked with conflict. When impacts on demand have been mentioned, it is largely at a higher level: slow economic growth, for example. However, it is rare to see much discussion of the progressive reduction in the energy intensity of developed economies. Yet this factor – driven primarily by vehicle standards – is increasingly important. Without standards, around 5 bn more barrels of oil would have been needed between 2000-2015, pushing the market to a slightly higher equilibrium than today.

Looking forward, this has significant implications. Implementing the 2015 Paris Agreement implies the global implementation of policies to drive new technologies into the market, to improve system efficiency and ultimately to moderate traffic.

The oil market in 2015 had an excess of 2 m barrels per day of supply over demand. In a future business-as-usual scenario, oil demand would continue to grow to 2020, soaking up this over-supply and existing production would continue to decline, aggravated by under-investment. Prices would start moving upwards again and eventually beyond $100 per barrel. In a post-Paris world, though, with carbon mitigation underway globally, demand for oil would likely peak some time around 2025, and reduce thereafter, with profound impacts on long-

term oil prices. Modelling commissioned by the ECF shows that deploying low-carbon technology alone could reduce global oil prices by around a quarter by 2040, with several important implications:

- Policies to reduce oil demand have for the first time given Western governments a place at the table for setting global oil prices.
- Oil-importing regions such as Europe would benefit from an economic boost due to lower energy costs.
- The business-case would no longer stack up for frontier oil exploration, for example in the Arctic and ultra-deep water.

At the same time, lower oil prices would create challenges. To reach the 2°C goal, society will need to mainstream new vehicle technologies, which are projected to remain more costly than existing combustion engines during the 2020s even under the most optimistic assumptions. To give a concrete example, during 2014 the payback period for adding a hybrid system to a new car was around two years. This was stretched to three years or more with fuel prices at the level that predominated during 2015.

While economic considerations are an important factor in car purchasing, their role should not to be overplayed. Cars lose so much value through depreciation when driven out of the showroom that economics would dictate they should never be bought. Yet they are. Car-buyers are rarely economically rational. And there is strong evidence that car-buyers are willing to pay for environmental performance. The difference between the basic model of most cars and the most luxurious model can be around €5,000, more than twice the cost of a hybrid system. So it seems plausible that a sufficient proportion of future car-buyers might value climate protection alongside tinted windows and leather seats.

What is more, history shows that, urged on by big auto's advertising budgets, the social aspiration for style and status has trumped the good economic sense of car-buyers at every turn. Tesla has amply demonstrated that electric vehicles can be cleaner, sexier and simply more fun to drive. Maybe now social aspirations will start to play in favour of the climate.

At the same time, the period since the 95g/km debate has brought with it many advances in shared vehicle use, ranging from disruptive players like Uber to the initiatives of more traditional players such as Daimler's Car2go. Such new models of vehicle usage are likely to help the economic case for low-emissions technologies by spreading technology costs across more users.

With such fundamental changes in mind, during 2015 the ECF developed a series of initiatives to explore the opportunities from the emerging mobility paradigm: One with more connectivity, more sharing, and powered by zero-emissions energy sources. The Agora Verkehrswende (Agora mobility transition) is one such initiative – a German platform that seeks to unite mobility stakeholders to explore how this transition can go from being a challenge to being an opportunity for Europe and its industrial sector.