

8th ASEAN Leadership Forum

Session : Promoting Green Growth and Sustainable Development in ASEAN – New Challenges, New Opportunities for Business

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The world is on the move. The world's population is expected to grow from six and a half billion today to nine billion by mid-century. Together with economic prosperity, more energy will be needed. By 2050, energy demand is set to double. The desire for greater mobility will be a big part of this surge. Take the example of road transport - the number of cars and trucks on the roads is expected to double to 2 billion by mid-century. Without intervention on the side effects of such a rise, the consequences would be unacceptable.

What does all this mean in practical terms? Firstly, manage demand where we can and maximise the efficiencies of today's technologies. Secondly, make alternative energies a material part of tomorrow's energy mix. And thirdly, commercialise frontier technology such as carbon capture and storage, and zero emission electricity.

I'd like to focus on the first of these 3 steps in my speech today.... and the actions we are taking in Smarter Mobility to help manage demand and maximise today's technologies. I have grouped it under three categories: smarter products, smarter use and smarter infrastructure.

Let me start with Smarter Products. There is no silver bullet. No single solution that will sweep aside the 900 million cars on today's streets and the infrastructure that has been built over the last 100 years. Instead, we think the future will be a "hybrid" one, with a variety of fuels developing over time, and varying from one region to the next.

Last year, we launched our most advanced Fuel Economy formula fuel to date, Shell FuelSave. This helps customers save up to 1 litre per tank with every fill. To date, we have launched Shell FuelSave in nine countries across Europe and Asia. While 1 litre per tank-fill may sound like a small contribution, it adds up. We have calculated that in the first 12 months since FuelSave was introduced, motorists across these eight countries have saved up to 130 million liters of fuel, enough to fill up about 100,000 cars for a year.

Apart from conventional gasoline and diesel, we also believe that biofuels, for the next 10 to 20 years, would be the most cost effective way to reduce transport CO₂. By 2030, they have the potential to provide as much as 10 percent of the world's transport fuel demand – up from about 1 percent today. As it is, Shell is the largest distributor of bio-fuels, about 9 billion

litres worth in 2009. We're also working hard on tomorrow's biofuels, such as ethanol from straw, super-enzymes that convert biomass into fuel, diesel made from algae.

In lubricants, Shell works in collaboration with the world's leading manufacturing and automotive companies to create cutting edge lubricants that are specifically formulated to meet drivers' needs. Many of our Shell Helix Ultra motor oils are designed alongside engine and fuel innovations, for better fuel economy and reduced carbon dioxide (CO₂) emissions. For instance, our Indonesian team working with a fleet client demonstrated that through drastic reduction in the requirements for overhauls, extend ODI (Oil Drain Interval) so less equipment downtime, less oil used and greater productivity by using our high quality diesel engine oil Shell Rimula R3 X 15W-40 - in combination with Shell services, LubeAnalyst and Shell VideoCheck Products are only part of the equation. Let me turn to 'smarter use'. Our customer surveys show that 83 percent say they want to know more about saving fuel. Over 10 million customers come to Shell stations every day, so that's a lot of interested customers.

For the last five years, Shell has pioneered a Driver Education programme. We share our Shell FuelSave tips to reduce fuel consumption – essentially good driver habits, such as keeping a constant speed using cruise control, taking unnecessary weight out of your car and regularly checking tyre inflation. We recently held our FuelSave Challenge in 10 countries, training over 2,000 drivers in Fuel Economy.

We also launched FuelSave Partner that electronically tracks fuel use and recommends speeds, routes, driving styles to optimize economy. It is an open platform (meaning it can connect to any vehicle) fuel management system that is commercially available that can automatically calculate fuel-related CO₂ emissions on a per tonne-mile basis, making it easier for our customers to manage – and reduce – their fuel usage and hence carbon footprint. We developed this in collaboration with IBM, and the inputs from many commercial fleet customers

There is a third side of the Smarter Mobility triangle and that's infrastructure. Mass transit systems, traffic management, fuel distribution networks, city planning, virtual mobility – all of these can make for smarter mobility. We are involved with cities, stakeholders and partners in conversations about all of these things

But the humble road is where we make the most difference today. We are involved in laying 1 km of road every 4 minutes. All over Asia, massive roadworks are underway. To help meet this demand for roads in a more sustainable way, we have developed low carbon bitumen products, such as Shell WAM Foam Process and Instapave, which allow roads to be laid at lower temperatures. This results in lower overall energy consumption of between 25% and 35% compared to conventional asphalt, and so lower CO₂ emissions. Such roads can also be

ready for use in as little as 30 minutes after they are laid. Instapave is a real breakthrough in road-laying speeds, from an average of 0.3 km/day to 1 km/day. Some of the pioneering work on these products is done here in Asia, at our regional Shell Bitumen centres in the Philippines and India.

Looking longer term, beyond the current efforts under smarter mobility, some of you will wonder about other often quoted game-changers, for instance, plug-in hybrids, electric vehicles or hydrogen fuel cells. We believe that these are set to grow in the coming decades. Some technical hurdles, however, must be overcome. First, the efficiency and range of batteries needs to go up. And second, we will need the infrastructure for batteries to be recharged or replaced conveniently. But the most serious issue concerns the electricity itself. If it remains dependent on burning coal in power stations, and if nothing is done about CO₂ emissions, then electric mobility will result in the environmental benefits that people hope for. Moving to electric vehicles shifts the challenge from one of clean transport fuel to one of cleaner primary energy source for power generation.

We believe that natural gas has a big role to play in meeting the world's growing energy demand in a responsible way. Natural gas is the cleanest-burning fossil fuel. A modern gas-fired power plant emits half the CO₂ of coal-powered ones for the same amount of electricity. Gas plants also cost less and can be built more quickly than any other type of power plant. This makes natural gas the quickest and cheapest way to cut global CO₂ emissions from the power sector, and an important component of a sustainable global energy mix. Shell is a pioneer and the global leader in LNG and is working with partners to tap the region's energy supplies to meet its growing needs. By 2012, more than half of our upstream production will be natural gas, growing further beyond that.

But let's pause for a reality check: it will be a decade or two – maybe more – before some of these technologies can make a material difference. Our researches and experiences have found that in the twentieth century, it took 30 years for new energy types to capture 1% of the market. For instance, biofuels are reaching their 1% share of the oil market only now. We also saw this being true in the development and use of natural gas. We call this the 30-year rule. The reason for this is that scaling up involves learning by doing. It takes time to build sufficient human and industrial capacity to make new energy technologies widely available and also for them to be adopted against other legacy and existing practices.

In summary, it will take a combination of technological, economic and regulatory evolutions to promote both demand and supply of low CO₂ solutions, combined with sustained emphasis on public education on reducing waste and CO₂ emissions. At Shell, we will do our part with Smarter Mobility, providing smarter products, enabling smarter use and infrastructure today, while recognising and sharing the broader challenge.