ECONEWS

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TRAVELLIN' GREEN

How will we travel and transport our goods when the world's oil supply runs scarce, and we finally accept that we've got to stop burning fossil fuels because of the growing climate emergency?

Some will say this is fear-mongering, since Alberta's tar sands hold 173 billion barrels of oil - but the world uses 84 million barrels a day, and the tar-sands only contribute 1.2 million. Projections see production rising to 3.3 million barrels a day by 2020, not enough to meet the crisis, and that's without including the problems of water supply, pollution, three times more carbon emissions than conventional oil, and the Mordor of Alberta's boreal forest.

The International Energy Agency expects world oil production to peak by 2020 - and it is the world's most conservative voice on the matter. Others think oil will peak well before then, causing prices to rise dramatically.

So back to the question - how will we travel when oil becomes a luxury?

It's a question which every city and government should be addressing with extreme urgency, since you can't build new transport infrastructure overnight. These things take time and investment.

There's one school of thought that says we should shift our cars and trucks to natural gas, with all the shale gas that's becoming available.

For climate change, however, this would be a disaster. As well as being a CO_2-producing fossil fuel, natural gas leaks 1.5% of its content as raw methane, which over its ten year life in the atmosphere traps 100 times more heat than CO2, making it almost as bad as coal. Shale gas also requires a technique known as "fracking" which contaminates water supplies with nasty chemicals, and causes healthy alarms among local people.

When we look at the problem rationally, a clear set of solutions emerges. We'll address personal travel first, and then mass transportation.

If we neglect to plan ahead….

The Swedish city of Lund has been investing heavily in bicycle lanes for 40 years - and Lund's citizens now do 45% of their commuter trips by bike. For a BBC clip, see http://bit.ly/lund-cycling. Copenhagen is at 33%, aiming to hit 50% by 2015.

When we assume electric bicycles with a 50 km range, safe bicycle routes and ample bike parking, 50% becomes an achievable goal. Lund, with a population of 75,000, has 160 kilometres of cycle routes and 5,000 downtown bicycle parking spaces. The long-term health benefits of more public cycling offset the cost.

Next up is public transit - and here we should be assuming buses that arrive every ten minutes, no more than 5-10 minutes from your home - as they do in Lund. For the main commute routes we should assume Light Rail Transit or Bus Rapid Transit with dedicated lanes that mimics the ease of LRT, but for a lower cost.

We should also plan for *free* public transit, with the cost being included in city taxes. When they did this in the Belgian town of Hasselt, ridership increased 11-fold. This all needs investment and planning.

When it comes to the future cars and light trucks, the solution will be electric vehicles (EVs) with a range of 100 km, powered by green renewable electricity; and plug-in hybrid electric vehicles (PHEVs) which run on electric for all local trips with a biofuel capacity for longer journeys, which could come from biodiesel or biogas, made from organic wastes.

Every major motor manufacturer is working on its EVs and PHEVs. The Nissan LEAF may be first to market, with a price of $25,000, a running cost of 1.5 cents a kilometre (assuming electricity at 8-10 cents kWh), and a $150/month lease fee for the battery.

While the market for EVs and PHEVs is growing, we should plan for the conversion of regular cars to electric, starting Electric Vehicle Conversion Coops in every community.

Now add ridesharing into the mix, with commuters accepting it as normal, and carsharing, enabling households not to own a car but having access when they need one, as the 405 members of the Victoria Car Share Coop do today. Community Videoconferencing Centres will help too, enabling us to eliminate many trips to meetings.

So what about mass transportation - trains, trucking, shipping and flying? Trains - and high-speed trains - can be electric. For the rest, farmland biofuels are off the table, as we'd need three times the world's farmland, but biofuel made by growing algae looks hopeful, as it requires 50 times less land.

For flying (5 million barrels of oil a day), *New Scientist* magazine suggested that growing algae-fuel would need 68,000 sq km, the size or Ireland, or 0.15% of the world's farmland. To put this in perspective, we use 70% of the world's farm and pastureland to raise animals for meat.

The transition to a green transport future is achievable - but we need to work on it now, both to accelerate urgently needed action on climate, and to do it *before* the oil crisis hits.

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