ECONOMIC NOTE

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Ideas for a More Prosperous Nation

The benefits of oil production development in Quebec

by **Germain Belzile**

For many Quebecers, the effects of producing and using oil and other fossil fuels are unequivocally harmful. These sources of energy are seen as relics from the past that will soon disappear. The idea that we could do without them entirely and quickly replace them with green energy sources like wind and solar power is widespread, as is the idea that all cars could soon be electric.

If – as this popular belief would have it – oil just pollutes and is harmful to society, and if it would be relatively easy to replace it with other, cleaner forms of energy that would themselves bring important economic benefits, then seeking to develop an oil industry in Quebec would be absurd. But as we shall see, this popular belief is entirely mistaken.

An essential resource

From 1989 to 2009, oil consumption in Quebec increased by 4%. The consumption of other forms of energy also increased, but oil's share remained essentially stable, moving from 41% to 39% of the energy used over this period. Clearly, oil consumption is not in the process of disappearing in Quebec,[1] and not in the rest of the world either.

Nor is there any reason to conclude that this state of affairs is going to change dramatically in the years to come, if we consult the most credible projections. In its *World Energy Outlook 2011* report, the International Energy Agency develops three growth scenarios for the global consumption of primary energy from 2009 to 2035. These scenarios rest on different hypotheses regarding the measures put in place by governments over the next few years to reduce energy consumption and promote renewable energy sources.[2] According to the middle scenario, oil will remain the largest source of primary energy in the world in 2035. Its share will decrease from 33% to 27% of the total, but demand will still increase by 17%, while new, "green" energy sources will only see their share grow from 0.8% to 4% of the total.[3]

Why does oil continue to be so important? The transportation sector is largely responsible for the substantial use of oil in Quebec and elsewhere.[4] So far, there exists no viable alternative to liquid fuels in this sector. Hybrid vehicles are rare, and without some technological breakthrough that would make them much less expensive and much more efficient, they will remain so for a while yet. And let's not forget that even these vehicles consume oil.

As for completely electric vehicles, they are virtually nonexistent anywhere in the world. They will surely be important one day, but for the moment, few people are ready to pay top dollar for these inefficient, low-range cars.[5]

The use of petroleum products is not limited to transportation, however. Fossil fuels also provide fuel for heating, fertilizers and pesticides for agriculture, synthetic fibres (nylon, polyester, acrylic) for clothing, plastics, solvents, paints and dyes, synthetic rubber, detergents, cosmetics, medicines, etc.[6] Indeed, a great many products that we use in our daily lives depend for their production on the availability of oil.

Expensive alternatives

Are a majority of people ready to abandon

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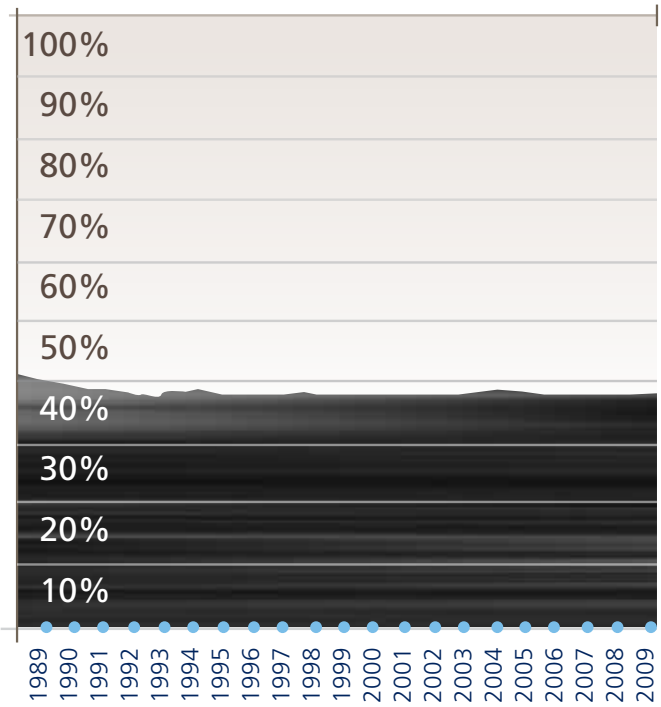
Figure 1
Share of oil in Quebec's total energy consumption



Source : Ministère des Ressources naturelles et de la Faune du Québec.

their cars? Who wants to live without those products made partly from oil, which would mean regressing to our ancestors' lifestyle? Oil may not be as "green" as some would like it to be, but we choose daily to enjoy the multiple benefits of an industrial economy that consumes a lot of energy, all the while trying of course to mitigate the environmental consequences of this choice.

A few countries have attempted in recent years to reduce their reliance on fossil fuels in an accelerated manner, while promising tremendous economic spin-offs from the development of new sources of renewable energy. The case of Spain is particularly instructive. In 1997, the Spanish government put in place one of the most ambitious policies in Europe to promote so-called green energy, based both on regulation and on the payment of subsidies.

The results did not live up to expectations. Each "green" job created since the year 2000 cost over 500,000 euros in government subsidies (over one million euros per job in the wind sector). Each "green" megawatt of installed capacity therefore destroys several jobs, due to higher electricity costs or more burdensome income taxes.[7]

To be competitive, green energy sources all require subsidies, which can balloon to enormous proportions if we try to replace any significant share of fossil fuels. Rapid, massive movement to renewable energy necessarily rests on these job-destroying subsidies that weigh heavily on the public purse. For this reason, the Spanish and German governments, among others, have recently had to greatly reduce their subsidies for wind and solar energy production, which has led to the bankruptcy of several companies in the sector.[8]

Oil will remain the largest source of primary energy in the world in 2035.

These difficulties do not mean that it will always be impossible to switch over to renewable energy. The transition, however, will take place over the long term in response to stronger demand, more competitive prices and more efficient technologies. In the meantime, oil remains indispensable.

Oil exploitation, source of wealth

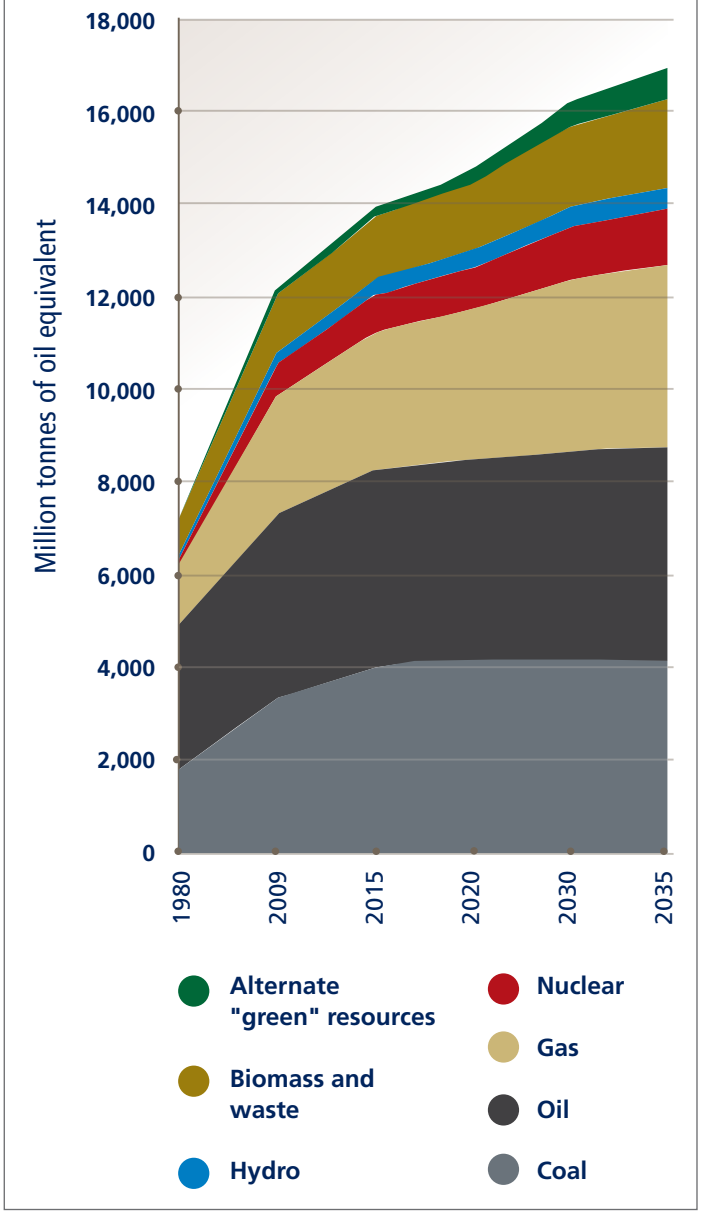
What can we say about the economic effects of oil exploitation? We can see a strong link, in developed countries, between prosperity and the exploitation of energy resources. Currently in Canada, the most prosperous provinces are those where the production of oil and natural gas is concentrated. In 2010, the three provinces with the highest GDP per capita were Alberta at $70,826, Saskatchewan at $60,877 and Newfoundland at $55,395. For the same year, Quebec's GDP per capita was only $40,395.[9]

In the United States, if we measure the performance of the 50 States using several metrics (growth over ten years, recent growth, growth of average personal income, growth of families' median real income), the four States that come out on top are Alaska, North Dakota, Wyoming and South Dakota. Oklahoma and Texas are not far behind, in seventh and eighth place.[10] These six States are all significant producers of oil or natural gas.

And given that we need oil and that we are likely to need it for quite some time yet, does it not make sense to exploit it at home if we have it rather than pay high prices to purchase it abroad?

Actually, a country should not develop an industry in order to reduce its imports or to reduce its dependence on an imported product like oil. This mercantilist argument, which continues to find favour with some, has been discredited by economists for several centuries.[11] An industry should be developed rather because some new activity makes use of scarce resources in an efficient manner and hence is profitable.

Figure 2
World primary energy demand by type



Source: International Energy Agency, *World Energy Outlook 2011*, November 2011, p. 74. Projections are based on the middle "new policies" scenario.

Whatever the type of industry, the logic of development is the same. In a free-market economy, price signals from the market encourage actors to allocate resources (labour, raw material, capital) to those uses that best serve the needs of consumers. When a company shows a profit, that profit is proof that goods and services worth more than those inputs have been produced and that resources were well used. In the opposite case, losses are a sign that resources could be better used for other purposes.

Any profitable industry, including oil exploitation, therefore creates jobs and leads to wealth increases. On the other hand, when a good cannot be produced profitably, we should simply import it and devote our limited resources to other types of production, since to do otherwise would destroy wealth rather than create it. Just think of the considerable amounts of resources that would have to be wasted to grow hothouse bananas, oranges and other tropical fruits if we wanted to become self-sufficient instead of importing these products.

Rapid, massive movement to renewable energy necessarily rests on these job-destroying subsidies that weigh heavily on the public purse.

There is of course no reason to believe that an oil industry that develops in Quebec will be any less profitable than in Alberta or elsewhere. But it is this line of argument based on economic efficiency that justifies the development of this industry, and not the mercantilist line of argument.

An oil industry in Quebec?

Can we extract oil in Quebec? In the absence of exhaustive exploration, Quebec's oil reserves are not known to any great degree of certainty. Nevertheless, we do know that the Saint Lawrence Lowlands, the Gulf of Saint Lawrence and Anticosti Island have the greatest potential. Preliminary surveys have been carried out and can provide an idea (probably an underestimate) of Quebec's oil potential.

According to evaluations by Pétrolia and Junex,[12] there are more than 40 billion barrels of oil on Anticosti Island. In the Old Harry oilfield, between Quebec and Newfoundland, there are about six billion barrels to be found. The Haldimand and Galt oilfields in the Gaspé contain around 0.25 billion barrels.

At $100 a barrel (probably a conservative estimate for the long-term price of oil) and even assuming that just a tenth of these reserves are recoverable, this is a resource worth the impressive sum of $400 billion.

Who would benefit from the growth of such an industry in Quebec? In the first place, the workers and shareholders of the companies directly and indirectly involved in the development of the sector, in the form of salaries, a lower unemployment rate, and investment income.

In order to illustrate the potential impact of this industry, note that in Alberta, one job in fourteen is linked to the energy sector.[13] Disposable income per household in that province was

$71,600 in 2009, versus $50,600 in Quebec. Even the poorest are better off. Quebec families in the bottom quintile had an average disposable income of $13,500 in 2009, compared to $17,700 for Alberta families in the same category, which works out to 31% more.[14]

Obviously, the Quebec government would receive royalties, but it would also receive tax revenue from the private income generated by higher growth. This would allow the government to reduce the tax burdens of households and businesses, and might even help it pay back a part of its public debt and escape from its dependence on transfers from the federal equalization program.

Conclusion

As long as it is less expensive than renewable energy and provides us with essential services, oil will remain an indispensable resource in Quebec and around the world. Someone, somewhere will have to extract it and refine it.

Assuming that just a tenth of these reserves are recoverable, this is a resource worth the impressive sum of $400 billion.

We can certainly buy oil that is produced elsewhere. But since we have exploitable oil reserves in Quebec, we too can benefit from the wealth creation that accompanies this activity. Without being a miracle drug that will cure all our ills, the exploitation of these oil reserves could become an extra tool in our toolkit for the improvement of our standard of living.

References

1. Ministère des Ressources naturelles et de la Faune du Québec, *Consommation d'énergie par forme*, http://www.mrnf.gouv.qc.ca/energie/statistiques/statistiques-consommation-forme.jsp. The same can be said for all fossil fuels. If we take oil, natural gas and coal together, their share of total energy used went from 56% in 1989 to 53% in 2009.
2. International Energy Agency, *World Energy Outlook 2011*, November 2011, pp. 70-71. Depending on the scenario, world demand increases by 23%, 40% or 51% (or by 0.8%, 1.3% or 1.6% per year, less than the 1.8% rate observed from 1980 to 2009).
3. *Id.*, p. 74.
4. *Id.*, p. 109 and Ministère des Ressources naturelles et de la Faune du Québec, *Consommation de produits pétroliers énergétiques,* http://www.mrnf.gouv.qc.ca/energie/statistiques/statistiques-consommation-petroliers.jsp.
5. According to the J. D. Powers firm, a benchmark in the automotive world, we can expect 7.3% of the 70.9 million new cars that will be sold in the world in 2020 to be hybrid or electric vehicles, versus 2.2% of the 44.7 million cars sold in 2010. The great majority of these nonconventional cars will be hybrids and will therefore still require fossil fuels. See: J. D. Powers and Associates, *Drive Green 2020: More Hope than Reality?* November 2010.
6. See: American Fuel & Petrochemical Manufacturers, *Chart of products made from petrochemicals,* http://www.afpm.org/policy-positions-petrochemicals/.
7. Gabriel Calzada Álvarez, Raquel Merino Jara, Juan Ramón Rallo Julián and José Ignacio García, "Study of the effects on employment of public aid to renewable energy sources," *Procesos de Mercado,* Vol. 7 (2010), No. 1, pp. 13-70; Kenneth P. Green, *The Myth of Green Energy Jobs: The European Experience*, American Enterprise Institute, February 2011.
8. Eric Reguly, "Austerity pulling plug on Europe's green subsidies," *The Globe and Mail,* January 26, 2011; "Solar Flare-out: As companies go bust, Europe rethinks solar power subsidies," *The Wall Street Journal,* April 5, 2012.
9. Institut de la statistique du Québec, *Produit intérieur brut aux prix du marché par habitant, Canada et provinces canadiennes,* March 28, 2012.
10. U.S. Chamber of Commerce, *Enterprising States: Recovery and Renewal for the 21st Century,* June 2011, pp. 16-17.
11. Mercantilism was the dominant economic theory during the 17th and 18th centuries. It advocated limits on imports and restrictions on capital outflow beyond national boundaries. For example, the leader of the Official Opposition, Pauline Marois, stated recently that we need to "radically attack oil consumption in Quebec" because it "generates a capital outflow of $69 million a day" (*Le Devoir,* April 3, 2012). In fact, we must see this transaction as a benefit of commerce, which allows us to profit from a good that we do not produce. The dollars that we "export" in turn allow foreigners to buy from us goods and services that they need, and those dollars are therefore "re-imported." This exchange is beneficial for both parties and there is no economic justification to deplore this movement of capital. Also, Quebec imported around $12 billion of crude oil from Eastern Canada and the rest of the world in 2011. If we divide this number by 365 days, we get only $33 million a day.
12. Pétrolia, *Pétrolia has big plans,* http://www.petroliagaz.com/en/exploration/carte.php; Junex, *Junex welcomes SOQUIP reactivation,* press release, March 21, 2012.
13. Government of Alberta, *Alberta's Oil Sands: Economic Activity,* February 2011.
14. Statistics Canada, CANSIM Table no. 202-0701.

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