



## RESULTS OF THE DISCUSSION FROM THE PANEL *BIOFUELS FROM CULTURE OR FROM WASTE?*



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### Panelists:

- Barbara T. Diagne: Student in environmental engineering
- Camil Lagacé: CEO, Québec Biodiesel Council
- Luc-Y. Tremblay: Special projects manager, Montreal Transport Authority
- Marc Olivier: Researcher, Industrial Ecology Technology Research Centre (CTTÉI)

### DATA GIVEN IN INTRODUCTION TO THE PANEL

#### Biofuel production sources:

- **Agriculture:** corn, sugar cane, palm, wheat, canola, etc.
- **Waste:** used oils, organic waste (restaurants, food and fishing industries, residential, commercial and industrial, etc.), sludge, manure, forest or culture residues

#### Main types of biofuels discussed in Québec and Canada:

- **Ethanol:** liquid, mixed with petrol in a 5 % to 10 % in Québec and Canada but up to 85 % in Europe and in the US. Ethanol is mostly produced from energy crops.
- **Biodiesel:** liquid, mixed with diesel in a 5 to 10 % in Québec and Canada.
- **Biogas:** gas, mixed with natural gas in any proportion (same chemical form: CH<sub>4</sub>). Biogas can be used without natural gas but also in any use of natural gas (ex : heating, industries, etc.). Biogas is most often produced from methane capture from waste sources. Used in Europe as biofuel but in Québec or Canada only for heating of electricity purposes (not as a biofuel).

#### Questions asked to panelists to start the discussion:

1. *What will the biofuel markets be in 2020?*
2. *Should there be government support for biofuel markets; if so, how should it be done?*
3. *Should we consider ethics and economy together? If so, how?*
4. *If you had to choose biofuel production from waste or from culture, which one would it be?*

#### Questions from the public:

1. *Shouldn't we support biofuel plants in region (local and regional economy)?*
2. *Shouldn't we manage more of our energy ourselves, as we can see now with wind turbines?*

#### Main answers from the discussion:

- Biofuels from crops are in conflict with food production. This situation is even more problematic in poor countries where energy crops create many economic, environmental and health problems for the local population. Although ethics are fundamental in biofuel market development, it's not considered as an issue right now.
- We must think of biofuels in ethical terms and not only as an agriculture source of market development. Sustainable development must include ethic concerns.
- EVEN IF THERE IS A GENERAL AGREEMENT AS TO THE FACT THAT BIOFUELS FROM CROPS ARE A PROBLEM, those *first generation* agofuels are necessary to develop the *second* generation biofuels from waste of different kinds. As an example supporting this argument, a couple of years ago, the Montreal Transport Authority (STM) has tried to get biodiesel for some of its buses. No supplier was available. The STM is trying again to get biodiesel but won't ask

questions regarding the source of biodiesel in order to avoid the same situation. Nonetheless, once the contract is signed, it will then be possible to know the source of the biodiesel (waste or agriculture).

- Although ethanol is available in Quebec, it's not popular. Work needs to be done to convince Quebecers to use it.
- The Government must support the development of biofuels markets but not the way it is done right now, i.e. to sustain a deficient agriculture industry. There is a bias towards agrofuel production (ex: 345 millions CAN \$ subsidies from the federal government can only be used for agrofuel R&D and market development). A more holistic vision of biofuel market development must be supported by the governments, including better economic and energy uses of waste production (including more R&D research on optimizing different sources of waste).
- In 2020, there should still be petrol but also more biofuel production and electric and hydrogen cars. The situation regarding transport possibilities will be better in cities than in rural areas. Not only will car use be way more costly in rural areas but urban centers will have access to different transport uses: advanced public transport, networks of cycle paths, car sharing, denser urban planning, etc.
- In 2020, biodiesel in its actual form will be replaced by *second* and *third* generation biodiesel, where all kinds of biomass will be directly mix and used in biofuel production plants.
- THERE IS A GENERAL AGREEMENT that biofuels are only part of the solution and that energy should come from many sources.
- THERE IS A GENERAL AGREEMENT to the effect that energy in Québec must be produced and managed in a public way and not only by private partners. The regions must act to keep this energy potential from biofuel to avoid losing the control to the private sector which would mean losing local benefits.
- While the idea of regional and local biofuel production plants from industrial waste is quite valuable, some questions arise. The wood and fishing industries are facing difficult times in Québec and many could shut down. This situation would have a devastating effect on biofuel production, one being linked to the others for the supplying of waste.

Preparation, research and writing: Kim Cornelissen, June 2007

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