

Renewable energy creates a cycle of prosperity

EXAMPLE

The Charlevoix Dairy is a well-known cheese producer in the region of the same name; it's also a success story, boasting an exciting sustainable development project.

This project enables the dairy to save 65,000 litres of fuel oil per year within its operations, while ecologically treating the residues produced by processing milk into cheese—whey and wash waters. The company opted for biomethanation in order to generate biogas from its production residues, which they then put toward their energy requirements. The liquid residues from the cheese dairy pass through ponds filled with plants, algae, snails and fish—a wonderful filtering marsh that swallows up nitrogen and methane, producing purified water.

“They recycle their residues while generating their own energy on a self-sufficient basis,” says Jean-François Samray, director of the Quebec Association for the Production of Renewable Energy (AQPER). In his opinion, this case demonstrates how biogas can be a major source of renewable energy in order to reduce our dependence on fossil fuels and our greenhouse gas emissions, while recycling waste and improving company competitiveness at the same time.

Biomethanation in the carbon cycle

Municipal dumps are also greatly involved in this form of recycling, as Quebec is requiring municipalities to remove 65% of organic matter from

landfill sites between now and 2013. Recycling this organic matter into energy is now the main challenge for them and for the agri-food sector which wants to develop this “green” system! Mr. Samray notes that the Quebec government still has to really get behind bio-

methanation, and the association is campaigning for a minimum standard for biomethane in the gas distribution network and for electricity production using biogas.

Quebec has taken giant steps in renewable energy generation, achieving more than 50 percent of total energy production. According to Samray, “We need to continue in this same vein. There is the potential to gradually increase this share, even if, paradoxically, the availability and low cost of energy in Quebec stands in the way.” However, he states that it is clear that

we have to reduce our oil imports

as it enables each drop of water to be used to the maximum.”

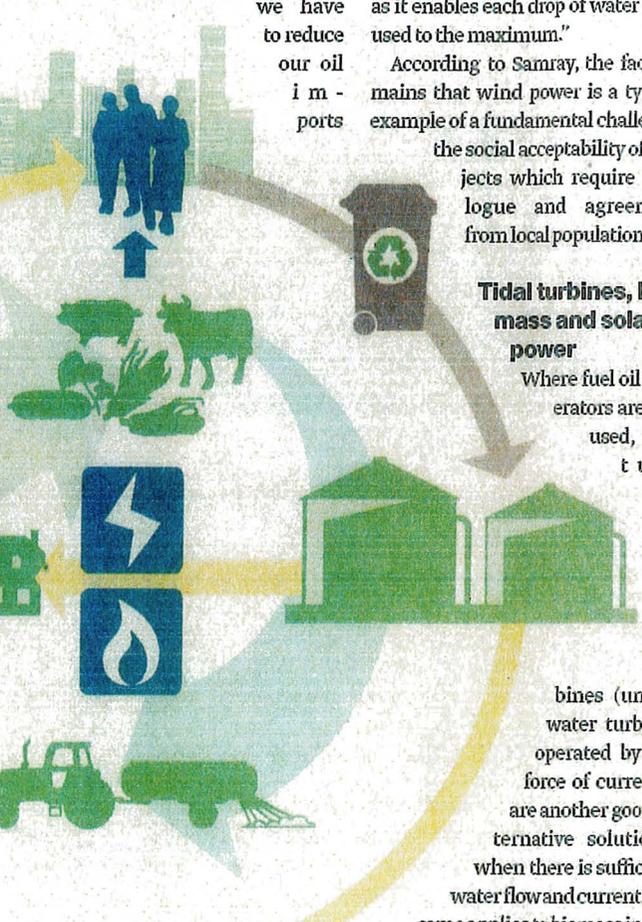
According to Samray, the fact remains that wind power is a typical example of a fundamental challenge: the social acceptability of projects which require “dialogue and agreement from local populations.”

Tidal turbines, biomass and solar power

Where fuel oil generators are still used, tidal turbines

(underwater turbines operated by the force of currents), are another good alternative solution—when there is sufficient water flow and current. The same applies to biomass in logging regions, where the recycling of forest residues can result in biomass replacing fuel oil in heating.

As for solar power, Greenpeace writes in a recent report that “By 2050, energy consumption in buildings could be reduced by half” in Quebec if new buildings were designed for an optimum use of solar power and existing buildings were suitably renovated.



BIOMETHANATION IN THE CARBON CYCLE
IMAGE © 2011 QUEBEC ASSOCIATION FOR THE PRODUCTION OF RENEWABLE ENERGY

and produce more energy locally—and biogas is not the only way forward.

Wind power is gaining strength

Wind power has taken flight in Quebec. Hydro-Québec is going to agree to projects totalling a production of 4,000 megawatts for 2015. Says Samray, “Wind power is the perfect complement to the hydroelectric system,