

# Queen's Park Methanol use urged by Reed

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On February 12, Stuart Smith released a study which he had commissioned on fuel alcohol, or methanol, which may well be the most practical and desirable alternative for our future oil requirements, particularly with respect to transportation fuel, which accounts for almost 50 per cent of our crude oil requirements each year.

Despite research and development on such alternatives as battery-power, hydrogen, and coal gasification, it is clear that for the foreseeable future, there will be no practical or ready alternative to the automotive internal combustion engine requiring liquid fuel. Therefore, the objective must be to find a liquid fuel which can replace gasoline. For Ontario, that may well be methanol. Its potential for meeting our needs and providing economic benefits is almost staggering.

Methanol can be produced from any material containing carbon or hydrocarbon. In Ontario, the most abundant sources are wood, municipal garbage, farm crops - all of which are renewable - and lignite and peat. Whatever its source, methanol can be used either as an additive, or as an eventual substitute for gasoline. It can even be made into synthetic gasoline. It's a natural liquid, burns cleanly and is biodegradable.

Of course, methanol does have some disadvantages. Like gasoline, it is poisonous; therefore safeguards would be necessary during its distribution and retail. It is also a corrosive substance, although this problem would largely be overcome in the methanol-gasoline blend situation, or by adapting engine parts in a 100 per cent use situation.

The fact of the matter is that - today - we could fill our cars with a blend of 10 per cent methanol-to-gasoline, and our cars would run as well as or better than they do now. That substitution alone would cut our oil requirements by four per cent a year. A gradual conversion to 100 per cent methanol use would reduce our oil consumption by a full 35 per cent. If the commitment to development and distribution of methanol were made now, we could make gasoline totally unnecessary as a transportation fuel by the turn of the century, according to the Liberal study.

More than half our methanol production could be derived from our huge resources of wood waste - chips and branches left behind or burned off by our forest industries, unused trees, poplar plantations already in an experimental stage in Eastern Ontario. These are renewable supplies, and the problem of resource depletion would not arise. Wood requirements for methanol could be reduced by about 60 per cent if hydrogen were applied as feedstock to the production process. This could be produced on-site by electrolysis of water (an Ontario-designed technology) using Ontario Hydro's own off-peak or surplus power capacity. Including hydrogen capability in a methanol plant would require larger capital costs, but since wood accounts for almost 40 per cent of the cost of production, and hydrogen would reduce the demand for wood by 60 per cent, it is an extremely viable option.

In addition, almost 60 per cent of the solid waste generated by our municipalities is a potential source of methanol. Furthermore, Ontario has huge resources of lignite in the North, which could supply a methanol plant for more than thirty years. While peat and farm crops may only serve to support local fuel alcohol requirements, they cannot be overlooked.

It's estimated that a commercial-scale plant would require \$300 million capital start-up costs (\$350 million if hydrogen production were included). This cost compares favourably with the expected cost of the next synecrude plant on the basis of net energy delivered, and is far more cost-efficient than the electric power to which such a massive commitment has been made.

There would be economic side benefits to methanol production on a large scale. Even a modest programme of 13 commercial-size methanol plants could produce more than 20,000 jobs and almost \$300 million in salaries which would be spent and taxed in Ontario.

Conversion to methanol would produce a significant improvement in our environment. The main exhaust product of methanol is water vapour, so air pollution would be greatly reduced. Municipal waste disposal problems would be, to a large degree, solved. Our forests would be replenished and improved.

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