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Select committee on alternative fuel sources

Comité spécial des sources de carburants de remplacement

Chair: Doug Galt
Clerk: Tonia Grannum

Président : Doug Galt
Greffière : Tonia Grannum

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LEGISLATIVE ASSEMBLY OF ONTARIO

ASSEMBLÉE LÉGISLATIVE DE L'ONTARIO

SELECT COMMITTEE ON ALTERNATIVE FUEL SOURCES

COMITÉ SPÉCIAL DES SOURCES DE CARBURANTS DE REMPLACEMENT

Wednesday 12 December 2001

Mercredi 12 décembre 2001

The committee met at 1010 in room 228.

NAVIGANT CONSULTING LTD

The Chair (Mr Doug Galt): I call the select committee on alternative fuel sources to order. Welcome, Navigant. The committee members have received your package. I'm not sure how many of them have had a chance to go through it, but we look forward to your presentation. Thank you very much for all your hard work. We look forward to your comments and thoughts.

Mr Mitchell Rothman: Thank you very much, Mr Chair. I'm currently having a small battle with technology and we're hoping to have this projector working in a minute; if we don't, we do have hard copies and we'll just start with that. So while I'm struggling, John, do you want to just start with the introduction now?

Mr John Dalton: Just so we're clear in terms of the document that we're going to be speaking to today, it has "Select Committee on Alternative Fuel Sources" at the top and it's a PowerPoint presentation, two slides per page, with a date of December 12.

What we will be covering today is a presentation which really is providing a summary of our findings, as well as our policy recommendations. In particular, what we'd like to do is really just review at a high level some of the discussion we had just over a month ago, on November 7, with respect to the criteria and methodology that we'd be using for our evaluation. Then we're going to jump right into the policy recommendations.

Initially we're going to focus with respect to the high-level recommendations, policies that from our perspective will have a beneficial effect on alternative fuels and technologies in general. There's a number of these that we've identified. Then we're going to focus on the specific fuels and technologies that we shortlisted, and then, as part of that presentation, go through the status of development, economic and technical potential, review barriers, and then, based on these barriers, talk about policies that we're proposing to address the specific barriers.

We'll just give Mitch one final chance to see if we can make technology prevail.

The Chair: We do have the paper in front of us.

Mr Rothman: Yes. There's a magnificent storage device called pen and paper.

The Chair: Something I didn't ask you at the beginning and I should have for the sake of Hansard, if you'd just state your names so that we have them properly recorded.

Mr Rothman: I'm Mitchell Rothman with Navigant Consulting.

Mr Dalton: John Dalton, also with Navigant Consulting.

Mr Henry Sandels: Henry Sandels.

Mr Sam Mavalwalla: Sam Mavalwalla.

Mr Rothman: I'm going to be doing most of the presentation this morning, but all of the people here have worked quite a bit on this report. As you can tell from the report, we have done quite a bit of work on it.

I just wanted to revisit—I'm now on slide 3—what we had talked about as the objective, which was that we were going to be looking at policies and measures that will reduce the primary demand for fossil fuels in Ontario. Once we had screened the long list down to a short list, we were taking the three-stage approach that's listed there. We first identified them, then looked at what the technological and economic potential is, then identified barriers to that development and then looked for policies to overcome those barriers.

Let me define just briefly what I mean here by "barriers." We were looking for measures that are now economic or can become economic. When I say "economic," I mean have lower cost. Sometimes we meant, at least informally, lower total social cost, that is, lower cost, including the cost of environmental damage, than existing standard technologies. In some cases, they have lower monetary costs than existing standard technologies. If that's the case and they're not being implemented, you have to ask the question why. If here's something that's cheaper and more environmentally friendly than the existing standard technology and it's not being implemented, why is it not being implemented? The reasons for that are what we have called, and what is called in this kind of analysis, "barriers." So we have looked for the barriers. We have looked for policies, then, that will overcome those barriers, because they are preventing the implementation of economic and lower-impact technologies.

Now on slide 4, we followed that process. We have come up with a number of policies, some of which, as John said, are policies that can affect a number of technologies or fuels, some of which are policies that

affect only specific technologies or fuels. We have put them into this report. We've made those as recommendations, but we haven't had any time for a systematic stakeholder review of those policies. So most of the recommendations are framed essentially as suggestions. For most of the recommendations, we've said, "Here are some policies the government could pursue," but we haven't said, "Navigant Consulting recommends," partly because we haven't had the time to do that stakeholder consultation and also because any policies are within the scope of the government, not within the scope of the consultant.

So when we make those recommendations, and I'm now on slide 5, we have looked for policies that will overcome the identified barriers, and we have done a fair amount of survey of policies in other jurisdictions in order to see what's worked there and to use them as guides.

I've already said that we talked about two kinds of policies: general policies and focused ones. The four general policies are: performance standards, interconnections and net metering, renewable portfolio standards and a public benefit fund or, as it's sometimes called, a systems benefit charge. So now I'm just going to go through talking about those four kinds of overall policies.

Performance standards: for many kinds of energy-using capital equipment, there are various standards of performance. For almost any kind of electrical appliance, for example, there is a CSA requirement. The Canada Standards Association has to certify it for safety. You can't sell electrical appliances in Canada unless they have been CSA-certified. For many other appliances, there are additional performance standards that relate to their energy efficiency; they relate to other kinds of performance factors. The province and, to some extent, the federal government have enacted these performance standards.

There are also performance standards on things like buildings. There are energy efficiency standards on things like buildings. There's something called the MNECB, the model national energy code for buildings, which is a federal standard and to which Ontario, to some extent, subscribes and has enacted. So there are standards both for equipment and for building envelopes. Those affect the energy usage across a wide range of technologies. The province already has a well-developed set of standards and has been the leader in setting standards and performance standards, both in buildings and in appliances. Our recommendation is simply that that continue; that the province continue to be a leader in setting standards. Of course, the province of Ontario can't be too much of a leader. You can't set standards that manufacturers can't meet or that builders can't meet. So this setting of standards is a process of balancing between what is achievable and desirable; so what is a push and what is pushing beyond the possible limit.

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The second thing we wanted to talk about in general was interconnections and net metering. Many of the kinds of alternative fuel sources that we've been talking about are alternative sources of electrical generation fuels. Frequently, these are relatively small applications, and many of these small applications face the requirement that they interconnect with either a distribution or a transmission system. When they do that, the transmission or distribution system owner has certain technical standards that they need to meet in order to make that connection. That's quite legitimate. They have to set such technical standards. They are interconnecting to a synchronously connected electrical system. Any kind of equipment attached to that system, especially any equipment that might be putting energy into that system, has to meet certain technical standards, has to be syncronously connected. You can cause all kinds of problems by having equipment that doesn't meet technical standards connected to the system.

On the other hand, the technical standard that you would need to connect a two-megawatt small hydro station or a 500-kilowatt solar panel, which would be actually less than that, should be lower than the technical standard you'd need to connect a 600-megawatt combined-cycle gas turbine. So there needs to be awareness, some respect for the size and relative cost of the interconnection. That hasn't always been true. So we are recommending that there should be a legitimate technical standard that is sensitive to the relative sizes of the equipment being connected. Such a standard is currently under development, and we recommend that the government consider adopting it.

Now, the requirement for that standard is a function of the Ontario Energy Board, not of the Ontario government directly. The requirement, as it stands, is contained in the distribution services code. The distribution services code is issued by the Ontario Energy Board. So it would be the Ontario Energy Board that would have to act in this area of interconnection standards.

Each of the two things that I've just talked about are policies that don't impose high costs on consumers, if they impose any excess costs at all. The next two policies, the renewable portfolio standards and the system benefits charges, would impose additional costs on consumers. A renewable portfolio standard would set a standard as to what fraction of the electricity consumed in the province comes from renewable sources. That's a policy that is widely adopted now. It was proposed in the Clinton energy plan. It's been proposed elsewhere. It's under discussion in other provinces in Canada and has been adopted in several states in the United States as well. It's a policy that is often seen as a way to ensure that restructured electricity markets continue to respond to environmental concerns, concerns about the total environmental impact of electricity generation.

It raises the price. An effective RPS must almost by definition raise the cost of electricity. If the renewable energy is economic, it would be being installed. So if the RPS is an effective constraint, that is, if it forces generators or consumers to do something they would not otherwise do, it must mean that it costs them more

money. So the RPS does have a cost to it, and that's one reason why we've said again here that this is a suggestion to the committee to consider and to discuss further with stakeholders.

The benefits are the obvious benefits that are listed on this slide, and now I'm on slide 9. There are a number of design issues that would need to be addressed in order to implement an RPS. I don't know that I necessarily need to go through all of those. They're on slide 9. The important ones are that there is almost inevitably an argument about the definition of what is renewable. In Ontario, for example, I would expect some discussion about what size of hydroelectric development would be considered renewable, and I expect that would likely be a lively debate.

Similarly, there would be a lively debate on what's the base level of renewables from which you start the renewable portfolio standard. So if you say, "Well, we already have 10% or"—if you want to count the existing hydraulic system—"25% of our electricity coming from renewable resources," then if you set a renewable portfolio standard of 10%, nobody has to make any changes. So the definition issues, the level of the base, the level of the increase, are all issues that are going to be important if we want to implement a renewable portfolio standard. Again, this is a kind of policy that would reasonably require some consultation with stakeholders.

Finally, the system benefits charge. The system benefits charge is simply a charge placed on electricity users. It can be used to fund anything you want. In some places it has been used to fund purchases of renewables where there isn't a renewable portfolio standard. In our case we're suggesting it be used to fund energy efficiency initiatives that require direct investment. The system benefits charge, because it's a charge placed directly on the electricity consumed, does raise cost to consumers. It isn't free, but it does provide reduced environmental impacts. That describes those four general policies.

On slide 11, I'm going to go through this short list of the alternative fuels and technologies. For each of them, there's a brief description of the technology, its status and where it's going, some description of its barriers and then recommendations that are more specific to that policy.

The first is biomass. If you look on slide 11, we have three subcategories of biomass: animal waste, wood waste and refuse-derived fuels. We found a number of technologies that do energy recovery from those fuels. Right now the main use of such fuels is in the forest products industry. Most pulp and paper mills have some kind of hog boiler and they may do cogeneration with it. They use wood waste or pulp and liquor in some way. There's not a lot readily available that isn't already used in the forest industry, and there may be some threats even to that given the changing nature of the way the forest resource is being used.

We look for growth from agricultural and municipal solid waste. Obviously, municipal solid waste is a rich source of all kinds of things, including controversy.

Mr James J. Bradley (St Catharines): Absolutely.

Ms Marilyn Churley (Toronto-Danforth): You caught our eye.

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Mr Rothman: Surely using municipal solid waste as a resource rather than a burden would make a great deal of sense if that can be done. One of the ways it already is done of course is through the use of landfill gas, which is the methane gas generated in landfills. But we look beyond that, to converting these waste products, either agricultural or municipal. Solid wastes can be converted. There are technologies available—they're not currently economic—to convert them into solid fuels and then coal-fire them in a coal boiler. There are ways to convert them into gas through digester processes and then use that gas either as a heat source or as the source of a generation fuel.

We looked at those technologies. Let me go back. When I said we looked at barriers to the implementation of economic technologies, we also looked at the question of whether the technologies could, in the near future or with some development help, become economic: are there technologies that are lower impact that could become economic in the near future? We also looked at those and looked at the barriers to that economic development. The biomass fuels are an example of that. Farm-based digester systems, for example, are very close to being economic. There are still some technological and economic factors that are barriers to them, but we have recommended here that those barriers can be overcome by funding some demonstration projects, by creating some demonstration projects for some of these farm-based digester systems which will help solve the animal waste problem.

The waste-to-energy plants: we suggested that the waste stream be separated. The problem is that some of the digester plants require a reasonably clean source of organic material—not clean, but reasonably clean—a source of organic material that's relatively free of non-organics. They can digest the organics, turn them into methane gas, use the methane gas and get out of that a reasonably high-quality fertilizer, but the current waste disposal infrastructure doesn't separate such high-quality waste from other waste. So that's the biomass section.

On cogeneration, we've talked about cogeneration, both large and small. There's a relatively recent comprehensive cogeneration report which was completed for the Ministry of Energy, Science and Technology, and we drew heavily on that report. The barriers to cogeneration include the connection requirements that I talked about from the distribution utilities, those technical requirements. The economics and environmental performance of cogeneration—many cogeneration facilities are attractive enough that we would expect that, without further direct policy, a large fraction of the new investment in electricity generation in the province would be cogeneration facilities.

One of the things we're observing is that those cogeneration facilities do require access to a competitive

electricity market. The province is already committed to opening a competitive electricity market by May 2002, as the energy minister has announced. We simply recommend that cogeneration would be encouraged by staying that course, by opening that competitive market.

We talked already about the interconnection standards. A way that the government could directly impact cogeneration would be to say that, if there are new government-funded facilities, institutional facilities in particular—hospitals and schools—the government would make a commitment that it would accept any cogeneration project in such facilities that is economic. That might mean that the facility would have a slightly higher upfront capital cost, it would have lower operating costs, and it would have lower total emissions in its operation. So we suggest that the government could consider undertaking a project like that, and the two institutional sectors I just mentioned, schools and hospitals, are in fact prime candidates for cogeneration. Many of the schools, most of the universities and many of the hospitals in Ontario already have cogeneration facilities. We're recommending that the government continue that, and support that development with a policy, if necessary.

We talked about geothermal as an area. The one geothermal technology that came through was ground source heat pumps. Ground source heat pumps are a reasonably mature technology. A ground source heat pump works by putting pipes in the ground and circulating a heat-transfer agent through those pipes. The ground then becomes a source of heat in the winter and it also acts as a coolant in the summer. It uses electrical energy but it gets a return of about three to one. You get about three times as much effective energy out of the system as you put electrical energy in.

Ground source heat pumps, in many applications, especially for new homes and in areas where the house has enough land to be a source to put the pipes into, work a lot better when you're building a new house, when you've got the land all torn up and you're just building, as opposed to retrofitting them. They're a very economic technology now. Barriers to that implementation include having an infrastructure of people who know how to install them, how to maintain them, and having architects, designers and others aware enough of the technology to want to incorporate them.

We think that ground source heat pumps are a potential candidate for what is called in this literature a market transformation. A market transformation occurs when an alternative technology essentially becomes self-sustaining—I'm on slide 17 now, by the way—when the alternative technology becomes the standard technology; when we no longer have to have policies to get them to put those technologies in place, but rather that becomes the technology of choice.

Natural Resources Canada already has a significant ground source heat pump program which is modelled on a market transformation approach. We suggest that the actions the province takes toward market transformation for ground source heat pumps be coordinated with that federal action.

Next is small-scale hydro. For most small-scale hydro the issues are finding a site that can be developed and being economic. When we talk about small-scale hydro, here we've defined it as less than 15 megawatts of capacity. One of the effective ways of dealing with hydro development in general was the water power task force, an industry task force which created itself and very successfully drew together stakeholders, made a number of policy recommendations, discussed those policy recommendations both with the government staff and with ministers and has gotten some policy changes that will make the use of small-scale hydro much more economic.

There has long been a problem with municipal taxation for hydroelectric facilities. Municipal taxation is typically based on the value of the building or structures rather than what's inside those structures. Since hydroelectric generation depends very heavily on the construction of a dam, the share of the structure and the total capital cost is much higher for hydroelectric generation than it is for other forms of generation. So hydroelectric facilities were paying many times the municipal taxes that fossil-fired generation, for example, was paying. One of the results of the water power task force was to change that taxation basis from the value of the structure to a gross receipts tax, to make that a much more fair tax policy.

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The remaining barrier we've identified is the environmental assessment process for small hydro, and we've recommended that the government consider establishing a class environmental assessment procedure for small hydro.

The second bullet is a more specific recommendation. In remote northern communities, there may be some places where small hydro could be put into place. It would probably not replace the existing diesel generation but could supplement it and displace the use of diesel fuel, which is brought in at quite high cost. We've suggested that the government consider capital support for the small-scale hydro applications in those remote communities where it is economic. It doesn't take as much to be economic in those communities because of the very high cost of the fuel in those communities; it's the high transportation costs.

We looked at a number of different solar technologies. Most people, when you think of solar technology and you're talking about energy, think of photovoltaics, which is the direct conversion of sunlight to electricity. That's an attractive technology but very expensive; not economic now except in a few remote locations. But some of the other solar technologies are quite economic. Solar water heating for residences, for pools, can be quite economically attractive. Solar process heating—I'll come to exactly what that technology is in a minute—and a passive solar building design are also quite economic technologies.

We didn't talk much about photovoltaics. Our interconnection policy would affect good, connected photovoltaics as well as other small electricity generation, but

most of the potential for photovoltaics, as I said, is currently in remote locations.

Solar water heating, however, does have some real attractions, especially for residential pool heating and some kinds of commercial uses. I'm now on slide 21, by the way. Solar process heating in industrial settings typically means that if you are using hot air in an industrial process, you can use a solar heater. It can't provide the air at the temperature that you need for your process, but it can preheat the incoming air, saving a fair amount of fuel in the solar heating process. It doesn't replace the existing fossil fuel process, but it replaces some of the fuel used in the existing fossil fuel process, and that can be an economic application.

In slide 22, we talk about what the barriers are for building-integrated photovoltaics. Again, they are the two overriding policies that we talked about not needing interconnections. For solar water heating, it's an information and cost problem: lack of consumer awareness and the fact that the consumer looks at high capital costs.

Passive solar designs are simply ensuring that when you design a building, it is designed without having to have equipment in it. The building is designed in such a way as to get maximum solar heating in the winter and reduce solar impact in the summer to reduce the air-conditioning load. Those are designs that are relatively easy to adapt. It's a function of ensuring that architects, builders and others involved in construction consider that.

So the first two policy recommendations I've already talked about; the third is that we think the solar hot water programs could benefit from information programs and some subsidies that essentially would be demonstration programs to show people how well they work; and for the solar process heating similarly, these are information programs.

We suggested that the building code could incorporate a requirement that passive solar designs be considered. That sounds kind of severe, but in effect any good architect designing a building now thinks about, what are the southern exposures, what are the northern exposures and what are the effects of the sun and the sunlight impacting on the building? This requirement would simply say that there is a requirement that you think about that in terms of the energy use of the building in addition to the use of the building in terms of views and how the occupants use the building.

Wind power is a technology that is kind of on the verge. There had been almost no activity in wind power in Ontario until quite recently, partly because, as the second bullet on slide 24 says, the grid-connected costs for wind turbines in the United States are about five to 10 cents US a kilowatt-hour, which is about 7.5 to 15 cents Canadian a kilowatt hour. The current production costs for coal-fired generation and incremental production costs from an existing coal-fired generation station are in the neighbourhood of two to 2.5 cents a kilowatt-hour US, and the costs of a new combined cyclo-gas turbine are in the range of five cents Canadian a kilowatt-hour. Wind is close, but it isn't there yet.

What is happening in wind is that those costs are coming down quite rapidly. The technology is improving rapidly and the costs are coming down rapidly, so we are suggesting that the barriers now relate both to environmental assessment and to land use, because of the problems of siting wind power.

We note, of course, that the federal government, just a couple of days ago, took a clear step toward supporting wind power by putting in a 1.2-cents-a-kilowatt-hour production incentive. In the federal budget, the government promised that new wind installations on or after April 1 of next year will receive an extra 1.2 cents a kilowatt hour from the government on top of whatever they can sell their power for. In the budget, the federal government called on the provinces to participate in this program.

The RPS would an be important incentive for increasing wind power. We recommend that there be a comprehensive land use planning framework in property tax treatment for wind turbines. The property tax problem again is similar to that of the hydroelectric generation.

Another piece of this is that the Ministry of Energy, Science and Technology is currently developing a labelling program so that consumers will get a label with their electricity. The label will say what the source of the electricity was, what its emissions are and give consumers information about the environmental impacts of the electricity they're buying. When you do that, when consumers can see what the source of their electricity is, it can give some consumers an incentive to try to buy their electricity from sources that have lower environmental impacts, of which wind is one.

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I'm now on slide 26, on alternative transportation fuels. If we look again at slide 11, we talked about two alternative vehicle fuels: ethanol and biodiesel. Ethanol is produced either from grain or from cellulosic materials and is blended with refined petroleum products to make a fuel for small vehicles. There currently is production of ethanol for vehicle use in Ontario and there are tax incentives currently for ethanol in Ontario.

Barriers to the use of ethanol are that under current conditions it is not economic and would require further development to become economic. Also, there are infrastructure problems, both in the transportation of the ethanol and in the requirement for engine modifications if engines are to burn more than 10% ethanol. Again on slide 26, E10 is a mix of 10% ethanol and 90% refined petroleum products; E85, therefore, is 85% ethanol, 15% refined petroleum products; and E95 is 95% ethanol and 5% refined petroleum products.

Grain ethanol is what's currently produced. Cellulosic ethanol is what is expected to become the ethanol of choice, but requires further technological development. The reason for moving toward cellulosic ethanol is that it's likely to be a better source of fuel in terms of the crops that can be grown for it and in terms of using waste or other materials to produce the ethanol.

In slide 27 we are now looking at the policy recommendations for alternative transportation fuels, including ethanol. Here again, this is a technology that is not currently economic and so we would suggest promoting R&D to help this technology become economic.

Biodiesel, as the name implies, is a fuel made from biomass that can be burned in diesel engines. It can be blended with a petroleum diesel fuel in any ratio and simply burned in standard diesel engines. It does create some problems in those engines in terms of maintenance. The people who are running the biodiesel have to know that they're running biodiesel and have to make some adjustments to their maintenance schedules.

There is already a biodiesel test going on that the Toronto hydroelectric system is doing, but with biodiesel now the question of exactly how much benefit it provides is not clear because there is some discussion in the industry about exactly how much biodiesel emits and therefore how much it reduces sulphur emissions.

Our policy recommendations are that there could be some research to help resolve that controversy over what the net environmental impact is and also that the government could think about converting some of its own vehicle fleet to use biodiesel. That would help develop the infrastructure that's needed. And there might be some tax incentive to accelerate the recovery of those capital costs that are related to the development of an infrastructure for biodiesel fuels.

Slide 29: we have looked at transportation applications for fuel cells. There are a number of different kinds of fuel cells. The ones currently being talked about are proton exchange membrane fuel cells. What fuel cells have in common is that they use hydrogen in a non-combustion technology to produce electricity, some heat and relatively low emissions. But fuel cells require hydrogen as a fuel source. They can either have an on-board source of pure hydrogen, which means they have to get the hydrogen from somewhere else, or they can have on-board reformers which restructure a fossil fuel—typically gas—into hydrogen and carbon. The hydrogen is then processed in the fuel cell.

Currently, the size of both the fuel cells and on-board reformers is large enough that they are really practical in large vehicles like buses. It's hard to use them in small vehicles like individual cars, but there is a great deal of development currently going on on fuel cells for both applications.

Right now fuel cells are not economic. If you look at the third sub-bullet on page 30, the manufacturing cost of a fuel cell is $300 per kilowatt, which is six times higher than the comparable manufacturing costs of an internal combustion engine. Fuel cells are not economic. We would recommend that the government should look at this technology and start to think about promoting further development and demonstration when the technology is coming closer to being economic, and perhaps the government could consider funding fuel cells as demonstrations for the transit fleet that it already funds at least part of.

Finally, we want to talk about energy efficiency. Energy efficiency means doing something with a more energy-efficient technology, which means providing the consumer with the same end use of the energy—the same amount of lighting, the same amount of home heating, the same amount of clothes washing, the same amount of dishwashing, the same amount of computer technology, the same amount of air conditioning in an office building—but using less input energy to do that.

There are essentially two ways you can think about energy efficiency. Most of the time we're talking here, we're talking about energy efficiency in buildings, meaning residential or commercial institutional buildings. You can improve the building envelope, which will affect how much energy is used for space heating, or you can improve the equipment within the building, which will affect how much energy is used to perform the functions that the equipment in the building has.

I'm now on slide 32. The barriers to energy efficiency are very heavily information costs. In order to put in a more energy-efficient technology for any individual user, that user has to gather information about the availability of the technologies, about their technical performance, about what is needed to install them and about what is needed to maintain them. Frequently the costs of gathering that information make doing the energy-efficiency investment uneconomic. Frequently also, just the idea of the costs of gathering that information means that nobody gets started.

So information costs are a large barrier to energy efficiency for individual users. But information, once it's gathered, can be made freely available to everybody else who wants to use it. So if information is gathered, either by a company or by governments, they can then apply that information across a wide range of users and make it available to a wide range of users, reduce their information costs and help them to implement economic energy efficiency technologies.

1100

The first sub-bullet on page 32 talks about split incentives. Those occur when the person who makes a decision about the capital cost isn't the person who has to bear the operating cost. If an engineer or a contractor is building a building and has to choose what the HVAC system—the heating, ventilating and air conditioning system—will be and has incentives to keep the building's costs down, they may choose an inefficient system. When the building owner gets it, they're now stuck with an inefficient system that's going to cost them a lot in energy bills. If they and a contractor had simply gotten together and said, "OK, we'll put in a more energy-efficient unit," we could have saved money for the owner all told. Those barriers are addressed by information campaigns and by energy efficiency codes and standards, which we've already talked about.

The last three bullets on page 32 talk about what Ontario is already doing. Let me explain briefly the last bullet. DSM stands for demand-supply management. It typically refers to a set of programs where utilities pro-

mote energy efficiency options for their customers. Those have benefits for people like distribution utilities because by reducing the growth rate of demand they may reduce their requirement to build new capital. If their existing customers can use less electricity, then the existing system can be used to meet the needs of new customers and they don't have to build new distribution equipment, new distribution capital for that purpose.

We also—and I'm finally on slide 33—have suggested for energy efficiency that we continue to monitor standards and tighten those energy efficiency regulations. Finally we looked at the water power task force and its success. There is also a wind power task force, similar to the water power task force, which has gone through the same process. It has looked at the question of wind power, what the barriers are, what policies would help it, and has produced a report which it is currently discussing with both the staff of the Ontario government and with ministers. We suggest that an energy efficiency task force might similarly be able to look at the entire range of energy efficiency measures and make recommendations with a multi-stakeholder task force that would help energy efficiency overall.

Finally, the last slide is a little hard to read, but it's a set of tick marks which show a general sense of what policies we have recommended for each of the technologies or fuels on the short list. Reading across the top of that column for you, the first is—the policies are on the columns. "Financial incentive programs" is the first one, "Government programs" is the second one, "Standards" is the third one, "RPS" is the fourth one, "Systems benefit charge" is next, "Developing the infrastructure" is next, then "Research and development" and then "Information programs." The tick marks simply tick off which of those general policies we have recommended for the fuel or technology application areas which are down the rows. That list is exactly the same as in, I think, slide 11 in this presentation, so I don't need to read it.

Thank you very much for listening to me. We're all here and happy to take questions.

The Chair: Thank you very much. It looks like a fairly thorough report. We appreciate the effort. We'll go around maybe 10 minutes per caucus, see how the time remains and go from there. We'll start with the official opposition.

Mr Ernie Parsons (Prince Edward-Hastings): I'm very impressed with your report. I'm trying to think how to phrase it or to ask it—I appreciate this is an excellent overview of the alternative fuel sources. I'm still wondering whether it's possible to have some comparison with, for lack of a better word, conventional fuels. I still struggle, and I hear the problems, as to what it actually costs to produce electricity using conventional systems. I would dearly love to find out how much electricity produced by coal actually costs.

Mr Rothman: So would I.

Mr Parsons: I'm sensing you can't put that number out quickly.

Mr Dalton: When you say "actually costs," I assume you're implying the social costs should be evaluated as well as the cash costs?

Mr Parsons: Yes, that's right.

Mr Dalton: One of the points we make in the report is that one of the policies the government has pursued is the development of allowance markets for sulphur dioxide and oxides of nitrogen. What that's going to do is largely internalize the control costs for those specific pollutants within the market price for power. That then raises the issue of what's the social cost. How does that control cost compare to the social costs? We recognize that we haven't fully reflected that.

Then there's the other issue of what about these other emissions that there aren't allowance markets for? To get more specifically at your question, our feeling once again is that once these allowance markets are in place, there's going to be a truer reflection of these social costs. It might not be a full reflection of these social costs. But in terms of the question of what are these full social costs associated with electricity generation, there have been very comprehensive reports done on that. From our perspective, it kind of went beyond the resources we had. I'd be happy to identify some of the sources that I would suggest it's worth looking at to give you a range. Unfortunately, that's all you're going to be able to get—a range in terms of these costs. We can do a very good job in terms of what is the economic cash cost, but it's much harder to put specific dollar values in terms of these social costs.

Mr Parsons: Second question: you've identified a problem I'm only too aware of, that often a mechanical engineer on a project, on a building doing the mechanical systems, has absolutely no contact with the ultimate firm that's paying the bills for it. Do you have a suggested solution? You bring these two quite separate groups together because the pressure is on the mechanical to bring in the cheapest job.

Mr Rothman: One of the easiest ways to handle that is to have performance standards for the building that the engineer then knows he has to meet. Another suggestion, another way, is simply information programs, simply letting the engineers know, letting the architects know, what kinds of alternatives are available. We didn't look up the numbers, but we can't be talking about an audience of more than a few thousand people, maybe 5,000 or 10,000 people in Ontario, who make these decisions. Information is available about what sorts of technologies can be used. Some of this stuff is reasonably well known, some of it isn't. That's why in our policy we're saying we need focused, targeted information programs that will get to that targeted community and ensure that they know what the alternatives are. Also, if we're thinking of commercial and institutional development especially, it's a relatively small number of people who are the developers and, again, it's getting the information to that targeted community.

The third piece is that for some of these technologies, but not all of them, you need specialized training, either

to install or to maintain them. Clearly, that kind of training is within the purview of the provincial government to ensure that its education and training system is turning out people qualified to deal with these more energy-efficient technologies.

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Mr Parsons: This may sound maybe a little silly or absurd, but the US government requires that appliances have a rating system on them in terms of energy efficiency. Yet our biggest consumers of power are the hot water systems in the buildings themselves. There is no requirement that I know of that we produce an evaluation, an effective running cost, for a building. When I chaired a school board, we put in a ground-source heat pump system. It was not easy to get approved. It was the most expensive system by far, and it will never happen again, although it's a tremendous success. The operating costs are phenomenally low, but the up-front capital costs that have now been paid back will be such a barrier that I don't think any publicly funded institution will be able to do that again. Yet it was a great investment. It's one very small accomplishment that I'm very proud of. It would be interesting to me if we could bring in a system that would actually rate building efficiency, so you could say to the owner, "Here's your white label. You can tear off the front door after you move in, but here's what the building will cost you."

Mr Rothman: I agree. Just as an aside, we recognize exactly that problem, that for government-funded buildings, there is heavy pressure on capital costs and not necessarily as much recognition of the ultimate operating cost. This report explicitly says in a couple of places that we recommend the government be willing to accept all such energy-efficient applications that are economic, that will save money over the course of the building, and be ready to pay the up-front capital costs if that's what's required.

When we define "economic," we've suggested that it be defined using the government's cost of borrowing as the discount rate, rather than a commercial one because it's the government putting the money up, so the government is going to have to borrow that money. If these energy efficiency or alternative technology investments are economic at that discount rate, then the government could institute a policy that would recognize that and be willing to pay that up-front capital.

Mr Parsons: Do I still have time?

The Chair: A couple more minutes.

Mr Parsons: Many years ago, I can recall Hydro paid a grant to a homeowner if they put in an electric furnace or if they bought a new refrigerator. Have you any sense whether that sort of approach would work if we went the other way, say if you went to a heat pump rather than an electric furnace, if you went to this particular level of insulation even though it's far above the building code? Any sense of whether it's in the public good to do that?

Mr Rothman: Those programs of Ontario Hydro's were justified on the basis of the nature of the electricity system at the time.

Mr Parsons: Yes, it would be reverse to what Hydro paid for at that time.

Mr Rothman: The obvious set of organizations that could deliver such programs and that might well be eager to deliver such programs now would be the local distribution companies. Most of them now have two sets of activities: a regulated set of activities, which is simply delivering the service of connecting wires to customers and maintaining those wires and that service, and a non-regulated activity, which typically looks for energy-related activities that they can sell.

One of the things we've talked about, for example on the ground-source heat pump market, is that that would be an obvious activity for distribution utilities to undertake because it's economic; they can make money selling it if it is economic and it would provide them with profits and create energy efficiency. Similarly, the distribution utilities would be obvious candidates for doing the kind of demand-side management programs or energy-efficiency programs that you are talking about.

I think the issue for such utilities and for such programs is whether or not they are economic. If they are not economic on an out-of-pocket cost basis, then consumers won't install them in general unless somebody gives them some incentive. The question is, who would have that incentive and how would you fund it if you wanted to do those programs? How do you decide which programs deserve to get an incentive based essentially on your first question, which is what is the total social cost we're avoiding? Why would anybody give an incentive to an activity that has a total social cost higher than its alternative? Those programs, as they were administered by Ontario Hydro and a number of other utilities in North America when they were trying to answer those questions, ran into huge problems of all kinds: administrative costs, free rider costs, definitional costs. That was a real problematic system.

Ms Churley: Thank you for your presentation. Mr Chair, I'm going to have to leave soon to go and speak to a group about this very committee.

The Chair: With some fresh information.

Ms Churley: That's right. What I want to do before I leave is ask more process questions, because I'm not clear on where we go from here with this report. Obviously, in your slide 4 you say your policies have not been—you haven't had an opportunity, and obviously we understand that, for a stakeholder review. I think one of the big questions we still have to answer, and you asked the question here as well, is the definition of "renewable." For instance, you raised energy from waste as perhaps being one of those. There are some forms of energy from landfill etc that I think we would all agree could be considered renewable, but there are some discussions we need to have around what we consider to be renewable, and some of the suggestions here, in my view, aren't. I guess that's for another time.

But I'm concerned about some of the suggestions around energy efficiency and conservation and some of the other areas as well. Where do we go from here? We

don't have information about, for other jurisdictions that are much further advanced than we are in energy efficiency and conservation, how we pluck some of these policies out and just get moving on them, some of the things that used to be done, how we bring back those kinds of government support and incentives.

My question perhaps might be more directed at the Chair in terms of this report we've got here. We still have a lot of questions around which policies we're going to be recommending. Where does the committee go from here with this report?

The Chair: I appreciate your concerns. I haven't had a chance to read the whole report, but starting on page 80 there's an overview of policy instruments. Have you had a chance to go through that?

Ms Churley: I haven't had a chance to read the whole report yet.

The Chair: It may be in there, what you're looking for. I felt the same way when I first started reading the report, but I haven't got into this chunk, and maybe they can help us with that.

Mr Dalton: In the policy discussion, we attempted to initially provide a high-level overview of what are the various policy tools available to the government and then review specific examples and, where possible, where there was sufficient information, to kind of review the effectiveness and success of these programs. In addition, with respect to each of the write-ups for the fuels and technologies, there was also discussion in terms of policies that have been promoted in other jurisdictions designed to really promote these specific fuels and technologies. We hoped to really provide that information here.

Ms Churley: OK. You're suggesting that if I read the report a little more closely than I have, some of my questions will be answered, from your perspective. Is the work of this firm now complete in terms of the contract?

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The Chair: As I understand it, essentially, yes. We might want to ask more questions later on.

You do plan to come back to the committee again?

Mr Dalton: We could. I don't think it was in our contract.

Interjection.

The Chair: Oh, from this to finalize it?

Mr Dalton: Right. The thought was that we'd be using this meeting to finalize the report. Some good ideas have already been put forward which will be reflected in the final draft that you see of this report. We also recognize that it is a draft and that, as we get further ideas, we'll bring those forward in the report, though with a 120-page report we feel that our job is pretty much done.

Ms Churley: So again, just in terms of process, then, as we go through this today and ask questions, the committee may at the end of this meeting make some suggestions—I guess my question is, your work is complete except for finalizing this report? Not having had an opportunity to read it thoroughly, which I really haven't time to do but want to do, Mr Chair, I'm wondering what period of time we have to respond. Did you need the response today for any changes or issues we might like to see reflected?

Mr Dalton: No, we don't. I would hope that before everyone breaks for Christmas we get e-mails saying, "What about this? What about that?"

The Chair: Any response from members who don't get a chance to mention it today, if they write to you before Christmas, and then you'll finalize the report in the new year?

Mr Dalton: That's correct. If there was anything that we felt was beyond the scope, then we would get back and suggest that we really don't have the time or resources to answer those questions.

Ms Churley: That it's beyond your scope. OK, that's helpful.

The Chair: I also appreciate, Ms Churley, your concern about where to from here, and I'm concerned about that. I've been discussing that with research and we have some thoughts for down the road.

Ms Churley: On a point of order, because I have to leave now, there is this—

The Chair: There are some date difficulties here?

Ms Churley: There's the report from the subcommittee on committee business.

The Chair: It's Wednesday night that we'd go out, not Tuesday night.

Ms Churley: OK, and otherwise it's all the same?

The Chair: Essentially, yes. That's the block of time.

Ms Churley: OK.

The Chair: How much time we spend in each location will depend on the resources there that we want to see and listen to.

Ms Churley: OK. But those dates have been agreed to by—

The Chair: Going out the night of the 6th—are now firm.

Ms Churley: OK.

The Chair: I've heard nobody scream about it, so they're now firm.

Ms Churley: Nobody has screamed yet. OK. Thank you.

Mr John O'Toole (Durham): Thank you very much. A good review, as far as my ability to say that.

I want to repeat a couple things that I don't see enough in here myself. This is not criticism, it's something you've explained to Mr Parsons: the whole issue of costs. It's the starting and ending point to all of this, whether it's direct or indirect subsidies.

When I look at all the pages here, including the pages dealing with—I think it was on page 29 or whatever. I look at nuclear, for instance. I'll give you one example. The cost of the debt, the cost of the capital, how they're going to eventually deal with radioactive waste and shut down the plant and secure it: none of that is in here. It wasn't even in the old one under Ontario Hydro. They said it was, but it wasn't.

I sat for 18 weeks with I think Mr Bradley or Mr Conway or somebody on that NAOP, nuclear asset optimization plan. It's pure bullshit. We're paying for it; I don't care what side of the table you're sitting on. So the cost issue is not—and I think it's the nut that they don't want to crack, because it makes wind and everything else look unsustainable or unaffordable.

If you could help us there, that would be helpful. Ernie has addressed that; I think everyone here has. When you look at the whole equation of demand-supply, the DSM model, and all those, they all depend on cost.

I think I've made my point. I think I'm just repeating what has been said a hundred times here.

The other one is the DSM. It ties into the whole metering and net metering issue. I guess I have a question on that. I want to maybe go to the slide specifically.

Right now it appears to me in a billing sense—am I on the right track, is what I'm asking. Right now, technically, the price goes down as the usage goes up. That's almost the reverse, like so much per kilowatt. I think it's related to, the more you use, the less you pay per kilowatt. As a consumer—if you want to control demand, increase the cost. That's simple. If I use that extra gallon of hot water, if I leave the TV on—and start to educate people that the more you use, the more you pay. It should be a kind of relationship between demand and cost. I don't think that's the current pricing policy and invoicing policy, or at least it used not to be. That's part of that whole thing, and it also goes back to the whole issue of cost.

The other one, and it's too bad Ms Churley is not here, the energy-from-waste policy: I don't think there's enough political will there, whether it's on the nutrient stuff or however you use the energy-from-waste stream. Once you dedicate that waste stream—I don't think we've looked clearly enough at Europe. Their policy is energy from waste. Holland I think specifically is the most advanced. But somehow there's no appetite here for that. That is a problem, because all of the waste—what are we? You're engineers; I'm not. The only difference between my throwing something called "landfill" in a hole in the ground or burning it is time. The only thing is time. One takes 50 years, and one takes 50 seconds to incinerate it. But you still end up with the same bag of residual leachate and all the rest of it, whether it's in the form of gas or sludge.

I don't think there's enough there and I think it is one of the options. We're generating more and more waste all the time and all we want to do is hide it in some forest or in some hole in the ground in northern Ontario. That's just not intelligent. How do we do that? You do this as consultants. I think it's tragic that we're avoiding the real issue of energy from waste.

But it's the whole reversal. We're dealing with a bill—Mr Bradley knows now, Bill 90. I think it's the Waste Diversion Organization. That's all predicated on having a waste stream and a whole strategy of the three Rs or the four Rs or whatever it is. I'd be interested in your response on that.

The last one I have is on the technology side. I think we're underscoring and underestimating the technology equation, not that I'm capable of saying my motive for that, except to say that it's an exponential equation. Change feeds on change. Having worked in that industry for a number of years—hydrogen will be the fuel of the automobile within 10 years. I am not qualified to say that, except that GM just bought 25% of Hydrogenics. And they're dealing with the PEM, the membrane issue. They have an on-board what they call rack reformer of some sort for a mid-sized automobile. It will be in production, I'd say, in less than 10 years.

Mr Bradley: Reformer?

Mr O'Toole: Mr Bradley would like to—actually, there are some good things about reforming, but they're just a few things. I think we've underestimated the potential of technology, even with wind, the efficiency of wind power, as they get these generators more and more efficient and tied into the technology of timing, storing energy in forms of hydrogen or some other way of storing it and sort of peaking out the load costs.

This to me is a literature review. I'm not trying to be smart. We're not engineers or scientists here, but I've heard most of this before in some form or other, almost completely. I don't think we've spent enough time on the whole equation of cost.

If we can't make the argument, we won't change one policy. OPG is motoring ahead. Ron Osborne made a key speech on future directions for market opening two weeks ago. It's worth reading. Their commitment to sustainable energy forms is growing their divestment down to 35% of generating capacity under Bill 35 or something—I forgot the bill. They're mandated, but they're going to go into other companies. They're going to be called WindPower Inc or whatever they're going to be called, but they will be generating other forms of energy with other partnerships for sure: wind, and probably solar, if you take its potential in Canada.

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Anyway, those are just some observations. If you want to respond, that's fine. I appreciate the amount of material that has been covered here. If you look at this and our report, there are some pretty substantive kinds of analysis and a framework for bringing four key recommendations to whoever is the government. I put to you that the key one of all is how you're going to subsidize this transformation. You have a term here that you call it: market transformation. That's money, period, however you subsidize it: through land tax, through capital tax, through depreciation, through whatever.

Mr Dalton: I think the comments are all right on. We will do a better job in terms of trying to further develop the information that's available with respect to the social cost associated with electricity. I think we need to recognize, though, that it's going to be a range of estimates. It's well beyond our scope to put the final decimal point in there, but we will bring forward some of that information.

I think the one thing we're going to be seeing with respect to opening the wholesale market here in Ontario

is that there's going to be greater price transparency, as an economist would say. The cash costs are going to be much more obvious and transparent. That'll help in terms of making some of these investment decisions. One of the challenges I think we have, though, is these social costs that aren't fully reflected in the generation of electricity. To what degree do we want to pursue policies that promote the development of alternative fuels and technologies? We've put forward a couple of proposals, RPS being one. I think those really can be justified on the basis of the fact that there is this disconnect and that the social costs aren't fully reflected.

Mr O'Toole: The one key here is that all of this is cast against a bigger policy question, and that's Kyoto. Actually, if we want to be pristine in terms of social costs, it'll be easy to achieve, because we won't be doing anything. Do you understand? The whole economy would collapse. If you tax it into non-competitiveness, it'll be as clean as you want. It'll be called Ethiopia or something, because there won't be anything. There will be no smokestacks and nothing happening. There'll be no money, so there'll be no economy. We can't all operate computers. They consume huge amounts, all these green forms of business.

So my point to you is that really Kyoto is driving this sucker at a very high level. If we impose some kind of tax to get to this accord agreement, and now it costs four times as much to build a car or any other manufactured good, then they'll be building it in Mexico and we'll be buying it at twice the cost.

The Chair: Would the committee like to do another round or have you had enough questions? Do you want to do another 10-minute round per caucus? OK, we'll do so.

Mr O'Toole: I won't participate.

Mr Parsons: Marilyn said we could have her time.

Mr Bradley: A couple of observations while you are here today: I must say I am, to put it very modestly, much less enthusiastic about the prospect of burning garbage to produce energy than my good friend Mr O'Toole is, recognizing what that means in terms of the waste diversion people wanting the same products or the same waste as those who want to burn them, in many cases. We won't get into the argument about it. I just wanted to put on the record my conspiracy theory that somehow there is an attempt somewhere along the way to get burning garbage back on the agenda. I hope it wouldn't be the vehicle of this committee, I think there are enough progressive-minded members of this committee that that won't happen, but it is a concern of mine that there are some people who are itching to get those incinerators going again. I must confess a bias, and it is a bias, as you confess your bias, against that.

I also want to indicate that I think that Mr O'Toole has identified one of the major problems, and that is going to be determining costs and who's going to subsidize, and that transition from the traditional fossil-fuel-dominated economy that we're in now to an economy that is based on, indeed, alternative fuels. I don't have the same doomsday outlook at the international agreements as does my good friend Mr O'Toole, because I think they can be achieved. I've listened to all the arguments that I just heard Mr O'Toole make in years gone by. If successive environment ministers and those responsible in other ministries were to listen to those arguments, we would have had no progress made to this point in time. There are always people, particularly in the industrial sector, who are going to tell us why we can't achieve what we want to achieve. I'm not demeaning the comments of Mr O'Toole, but we have listened to those before. I agree with him that it takes an international effort. We have to persuade one another to participate. But simply because in Bolivia they may not be moving to the same regime environmentally that we are, that we should hold back I think would be unwise.

I know that my colleague had some questions or comments that he wanted to add, or perhaps that she wants to add as well.

Mr Parsons: I had asked mine.

Mr Bradley: You were asking one more question, it seemed to me, at the very end.

Mr Parsons: Yes. Rolling back to my question about incentives to be energy-efficient: the problem as I face it, if it's biomass or if it's groundwater heat pump, what you're doing with that is actually saying to the distributor, "We don't need natural gas any more and we don't need oil; we're going to really reduce our electricity"—I can't understand where the distributors would have any incentive to helping you go offline; quite the opposite. Hydro used to give you an incentive to use more electricity; they're certainly not going to give you an incentive to use less electricity right now. So who has to assume the role of saying that there has to be some sort of initiative to make that energy-efficient building?

Mr Rothman: Just a couple of things on that. First, we are talking here about the competitive retail arms of the distribution utilities, not their regulated arms. The competitive retail arms are primarily engaged in selling other services than electricity. For some utilities they will probably be selling electricity, but they will be selling it along with a host of other products, including gas and energy efficiency. They'll be selling anything where their expertise and customer contact can help them make a profit.

Second, I would expect that over a fairly short time the tariffs that electric distribution utilities collect for their regulated businesses would not depend on how much electricity they sell, how much electricity moves through the wires, but rather what the size of the wires' connection is. That's already the way the transmission tariffs are set. They don't depend on how much electricity moves, but only on the size of the system that's needed to move the electricity, because that's what determines their costs.

Finally, I think the competitive retail arms of the local distribution utilities might well be a set of companies that would be natural suppliers of energy efficiency programs, because they don't care in the end what they sell as long as they can make a profit on it.

The Chair: Any further questions? No?

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Mr Jerry J. Ouellette (Oshawa): Being that this is what we affectionately call the "silly season," I haven't had an opportunity to fully review this. However, when you came before us and we specifically asked for one review which was the low-flow hydro generation based out of British Columbia, what were you able to find out and what details did you bring forward in regard to the low-flow generation that's taking place on the islands in BC?

Mr Dalton: We tried to go broader than that and look at small hydro in general. From our perspective, the degree to which that technology is being implemented in BC is demonstration that it's economic in that market and that people are willing to invest in it. Rather than focus on a specific technology for small-scale hydroelectric projects, we looked at the projects overall and evaluated what the barriers are going to be that are going to impede the development and the increased application of these technologies in Ontario. Our focus kind of went beyond this low-flow technology.

Mr Ouellette: Although it was a very good political answer, I take it from that, though, that you didn't specifically look into the islands off BC to find out how they're utilizing low flow?

Mr Dalton: That's correct.

Mr Steve Gilchrist (Scarborough East): I appreciate the work you've done here. However, I'd draw a few things to your attention. First off, I think it was page 68, a by-product of burning hydrogen is not oxygen. You seem to miss something in the draft. It's almost a question posed to yourself there under 3.8.3. I can assure you that oxygen is not created in the burning of hydrogen. Hydrogen—and I admitted my bias when you were before us last time and Mr O'Toole made reference to it as well—is clearly the fuel of the future. I don't quibble for one second with any of your preamble about the current economic potential.

Let me ask you a few questions. You don't seem to have explored the potential for other large systems, such as railroad locomotives; is that correct?

Mr Dalton: That's correct.

Mr Gilchrist: Why not? In fact, 12 years ago when the technology was not nearly as advanced, Ontario Hydro invested a lot of money and prepared a paper on how GO Transit could be hydrogenized using off-peak nuclear power that's free with Lake Ontario water that's free and the only cost would be the one-time capital conversion and the ongoing pumping and compression costs. I must respectfully challenge your submission in here that there are no potential applications that are economically viable today, because I believe you're wrong.

We've also had Daimler Chrysler indicate that if they had an order for 1,500 buses—let me put that in context. Toronto this week ordered 220 just for this year's need. If you added up all of the buses being ordered by fleets just within the province of Ontario, my guess is this year you would have a number somewhere in the ballpark of 400 to 500. Daimler Chrysler will deliver 1,500 hydrogen-powered buses at the same cost as diesel. Today, not 20 years from now, not 10 years from now, the large vehicle applications I would submit to you could be, with some government assistance—obviously in this case the Ontario government being the sponsor of a bulk order of 1,500 buses. We could get the technology advanced to the point that it literally becomes the norm. I would ask you to go back and re-examine those sections and review the context of large vehicles, the merits of direct government intervention in the marketplace today.

A second point about hydrogen: in remote sites where currently diesel has to be trucked in or barged in probably once a year in some of the remote communities up north, it's an extraordinarily expensive way to produce electricity. I would invite you as you move from the draft to your final report to reflect on whether or not it is economically viable today to be matching up a windmill or a solar array to a fuel cell application that would provide the mobile electricity, if you will, over and above the stationary energy that's created by the windmill itself or the solar array and whether or not in northern Ontario there are merits today in the government both for environmental reasons but also economic reasons in taking every one of the 52 native reserves in places like Moosonee and Fort Albany and moving them into far cleaner technologies as perhaps a demonstration project. If there's any part of the province of Ontario where that would be justified, I think we would all agree it would make the most sense where current costs of energy creation are the highest.

The third point, and I'll make it more as a throwaway line, I don't fundamentally disagree with Mr Bradley's point about opening up a can of worms here on incineration, but I would raise a specific example and that would be the burning of tires in cement kilns. We're talking about in any one cement kiln the size of St Marys Cement just outside Bowmanville there, it's my understanding they would burn one million tires a year if they were guaranteed reliable supply. The alternative is that those one million tires are going to wind up in a landfill site because there is no other technology being used right now to crumb and assimilate that. While I wouldn't want to make it the focus of any report, recognizing that that would absolutely displace the burning of other petrochemical products, and that every tire is the equivalent of a barrel of oil in terms of the latent energy, I would invite some reference there under the section where renewables—and I'd be the first to accept that it's not particularly a renewable strategy save and except that every year people have flat tires or tires that wear out and another million tires will be shed into the marketplace here in Ontario. I would invite you to reflect on that. If you have any comments now, I'd be glad to get into a to-and-fro.

Mr Dalton: Your point with respect to remote communities, that clearly is going to be the first application for many of these technologies. I think you're right that we probably need to kind of go back and look at some of the technologies and put forward some policies there.

One of my notes earlier was that there should be something for wind power and looking at the application there in terms of remote communities. We will do a better job in terms of reflecting that.

Mr Miller: I'm subbed in here today so I haven't seen the report, but on the shortlist of alternative fuels there's no mention of propane or natural gas. Is there a reason for that?

The Chair: I think there is in the report itself.

Mr Norm Miller (Parry Sound-Muskoka): Is there? OK.

The Chair: If not, maybe in the summary.

Mr Dalton: At our November 7 meeting we put forward two potential objective statements and we had recommended the committee endorse the objective statement that we put forward and that really was to focus on reducing the primary demand for fossil fuels in Ontario. Based on that objective statement, we did not give consideration to switching to different fossil fuels, propane and natural gas. The intent here really was just to focus our research and our reference as much as possible.

The Chair: Further questions? Just a comment that I would have, not having completed reading all of the report, there were discussions when you were in, as I recall, about if a policy change is made, how long would it take for that to be reflected in Ontario? What would happen five years down the road? I'll give you an example of gasoline. To get ethanol in there in larger quantities or more actively, if we were to, say, drop the road tax, how quickly would that conversion occur; or if we were to provide an incentive someplace else, how quickly would the windmills start to spring up?

I think we, as a committee, need to have some indication of, in five years' time, how many megawatts of power would come from it. I think the public deserves that kind of thing and we look to you for that. There was that kind of discussion and I believe it was at the time that you were before us. I'm having a little difficulty being quite specific, but I think there was discussion along that line. I believe that would be tremendously helpful to this committee when recommending to the Legislature why we're saying that we would recommend this instrument be used because, in five years' time or in 10 years' time, we would expect this to happen; because in California or because in Denmark that was the response to changing the instrument in such a way. Can you accommodate that in the final report?

1150

Mr Dalton: We will endeavour. I think that's a very challenging analysis. As a consultant, when you start putting numbers on things, we're very careful when we do that because one needs to compare the economics of the existing system, compare the economics of the new technology, look at the incentive, see what's going to be the impact of the incentive in terms of the technology and then based on that start to estimate what's going to be the impact in terms of the overall rate of adoption of the technology.

The Chair: And of course there are other variables in the system.

Mr Dalton: There are. One can talk about what happened in Denmark, but then one needs to step back and say, "What was the experience in Denmark?"

The Chair: Even to know what happened in the examples of Denmark and California that we're using would be helpful. Then we can in our own minds have some idea as to how quickly things might or might not turn around.

Mr Dalton: We'll attempt to do a better job. I don't think we're going to be giving you the definitive estimate that you'd like, but we will try to reflect back in terms of experience in other jurisdictions and point out how that's moved these markets.

The Chair: Anything else from the committee while we have the delegation here? OK, thank you very much. On behalf of the committee, we appreciate the effort put into it. A few members identified a few holes, a few cracks, and if you can help fill in some of those in the final report, that would indeed be appreciated. So with nothing else from committee members, again, thank you for your work and for coming forward.

SUBCOMMITTEE REPORT

The Chair: I think what we should do is move to the amended committee report that Ms Grannum just circulated. That is how I remember the discussion the other day. Any questions?

Mr Gilchrist: Do you want it read in?

The Chair: Certainly, go ahead.

Mr Gilchrist: Your subcommittee on committee business met on Tuesday, December 11, 2001, and recommends the following:

(1) That the committee hold public hearings in Toronto on Monday and Tuesday, January 28 and 29, 2002, and in Ottawa if sufficient response warrants on Wednesday, January 30, 2002, and a second week of hearings in Thunder Bay on Monday, February 18, 2002, in Toronto on Tuesday and Wednesday, February 19 and 20, 2002, and in Windsor, on Thursday, February 21, 2002, with possible site visits in Windsor on Friday, February 22, 2002.

(2) That invitations be sent to all those who have previously appeared and those groups and individuals who have contacted the clerk's office to date, to respond to the committee's interim report during the hearings the week of January 28, 2002.

(3) Option 1: that the committee conduct meetings and site visits in Los Angeles, February 7-10, 2002; Sacramento, February 11, 2002; Vancouver, February 12-13, 2002; Calgary, February 14-15, 2002.

Option 2: that the committee conduct meetings and site visits in Los Angeles, February 7-10, 2002; Vancouver, February 11-12, 2002; Calgary, February 13-14, 2002.

(4) That the committee advertise in the English dailies and the French daily (Le Droit) for one day on January

10, 2002; that the advertisement will ask people to respond and present their views on the committee's interim report; that the advertisement also appears on the Ontario parliamentary channel and the Legislative Assembly Internet site as soon as possible.

(a) That the final deadline for those wishing to make an oral presentation be 12 noon on Monday, February 11, 2002.

(b) That the deadline for written submissions be Thursday, February 28, 2002.

(5) That the Chair and clerk of the committee have complete authority to schedule all witnesses and make all arrangements for the public hearings.

(6) That individuals be given 10-minute presentation slots and business groups and organizations be given 20-minute presentation slots.

I move the adoption of the report.

The Chair: Questions, comments? I have a couple if there are none from other committee members. We did talk about, as I reflect, if necessary, keeping the Monday and Tuesday open, February 25 and 26, should there be a large number of delegations requesting to come forward.

Mr Gilchrist: I'd be happy to add to the report. We'll do that in number 1.

The Chair: Yes; only if necessary.

Mr Gilchrist: "Further, that there be a possibility of additional public hearings in Toronto the week of February 25, should response warrant."

The Chair: The other one, Mr Gilchrist, just in travel, I notice you're really keen on Los Angeles versus Sacramento, Sacramento being the capital and where most of the companies etc would be. I'm getting different messages from research and—

Mr Gilchrist: I think research's own presentation shows that the majority of all of the windmill applications are in southern California, particularly near Palm Springs. The majority of the solar arrays are in southern California and they would be within about one hour's drive of Los Angeles. The best reason to go to Sacramento would be the California Air Resources Board offices being located there. I'm wondering, though, rather than all of us going off the beaten path to Sacramento, because there are no direct flights from Toronto, whether it might be cheaper to pay to have one person from the California Air Resources Board come south.

Having said that, the California Air Resources Board has regional offices and I'm told that its branch in Los Angeles is the busiest and most experienced when it comes to the environmental challenges that we are trying to deal with here in Ontario. I believe you will find that the same expertise is resident in terms of state employees. I think you'll find in terms of actual site visits there is next to nothing to see in the Sacramento area, but there is a lot to see in southern California.

The Chair: Can we have a little flexibility as we move around in these different places as to need etc? Maybe you and Mr Richmond can have some discussions on these two locations, because it's not something that I know first-hand and both of you seem to. So maybe you can just have a little discussion later as to where we're going.

Mr Gilchrist: I would also add that it's my understanding that the clerk will be getting the costing for the two options, and I think that also will bear on our decision here.

The Chair: Sure. Otherwise, that's how I recall the discussion.

Further discussion?

Mrs Marie Bountrogianni (Hamilton Mountain): On the report or on another matter?

The Chair: On the report. Over and above this, we should talk about Navigant, but I think we'll get this approved now. Those in favour?

Mr O'Toole: I have one question, if I may, in the context of this report. I'll be brief. Who's going?

The Chair: The committee.

Mr Gilchrist: Anyone who wants to go.

Mr O'Toole: OK, that's good. That means anyone who's had any other trips and all that stuff? I'm not trying to be smart. We don't need 1,200 sets of eyes seeing the same thing. John Hastings etc?

The Chair: As I understand, it's available for the committee, for the clerk and the researcher.

Mr O'Toole: OK, that's fine. No outside people? How many? How many staff and all that kind of stuff?

The Chair: The clerk and the researcher.

Mr O'Toole: All right; just a simple question. How about making alternative arrangements? For instance, I will be in Alberta myself probably about a week before that. Do I make that through you, Tonia? It's not a problem? I haven't decided yet, but I'm there under other official functions.

Mr Bradley: Is that for the Alliance convention?

Mr O'Toole: No, it's actually for the Ministry of Finance.

The Chair: I think the movement around the country would be typical of other committees and those rules and regulations will apply. By going over the weekend, we're going to have—

Mr Gilchrist: One third the cost.

The Chair: —it much cheaper than if we did it over one week.

Mr Gilchrist: About half price.

Mr O'Toole: Do we have an estimated cost on what it costs for this per person? Are there any numbers that have been floated; is it $4,000, $8,000 or $12,000?

Clerk of the Committee (Ms Tonia Grannum): We don't have it on the first option, but if we were doing the Sacramento trip, it was $1,100 per person, if you do the Saturday. You have to stay over the Saturday.

Mr O'Toole: That sounds reasonable.

The Chair: Plus the accommodation, plus some travel by bus out there, so probably way out—$20,000?

Mr O'Toole: I'm not charged with handling the economics for this group, so—

Interjections.

1200

The Chair: Oh, I'm sorry. We'll need to vote on the amendment first, to sit the week of the 25th, if necessary. Those in favour of the amendment? Those opposed?

Mrs Bountrogianni: The 26th and 27th are out of the question for us.

Mr Gilchrist: The motion said "the week of," though.

Mrs Bountrogianni: All right.

The Chair: We'll pick whatever days people are available. What I was looking for was in case we needed a little more time. So those in favour? The amendment is carried.

Now the amended motion for the subcommittee report. Those in favour? Those opposed? The subcommittee report, as amended, is carried.

I need to comment on a couple of things. If you're sending any response to Navigant, please include Ms Grannum as a carbon copy, just so we keep track of what's going on.

Also, while you're here, could we just have a few minutes on how the committee is going to respond and how you want to deal with this? Do you want another interim report some time in February? Would you like to meet next week after you've read this? Do you want to meet the Wednesday before the committee sitting, whatever that Wednesday is, in January? I'm struggling with how you want to handle this.

Mr O'Toole: I would be interested in having an itinerary with some background stuff: who the people are, the background of each of the groups, whether it's at the issue level, whether it's wind, solar, whatever. I expect that we would have had the opportunity to be very familiar with the report. I don't get all the stuff you get.

Mr Gilchrist: It was sent to you in separate form.

The Chair: That information has been sent out a couple of times; not a specific schedule as to who will be here at 9 o'clock, but the different ones we're looking at has been sent out. I appreciate your comments and we'll keep you updated as much as possible.

I'm concerned with what we do with this report that we have, when it's finalized and how we deal with it.

Mrs Bountrogianni: One possibility is that the next time we have been scheduled to meet, we talk about it first, rather than have another meeting.

The Chair: You want to wait until January 28?

Mrs Bountrogianni: Yes.

The Chair: I'm just looking. I don't want a meeting for the sake of meeting.

Mrs Bountrogianni: That's right. That's what I'm trying to avoid. So if we can schedule the hearings such that we can have—

Clerk of the Committee: It's a block of time.

Mrs Bountrogianni: It's a block of time that we're together. We can schedule the meetings where the people who start at the hearings start an hour later and we deal with the report before. I just want to cut down on—

The Chair: If I may comment, on Monday, January 28—I think I've got the right day—we take from 10 to 12 to review the report and how we want to handle it and then we start with delegations in the afternoon. Are people comfortable with that?

Mrs Bountrogianni: That sounds great, if that's OK.

Mr Gilchrist: The only caveat to that is, of course, the amount of time we would have after that to make any adjustments based on the discussions we have that morning. I can't remember the exact details of the contract with Navigant.

The Chair: I think it's over by January 28.

Clerk of the Committee: They're to submit a final report in January. I can't give you the exact date yet. I think it's January 15, something to that effect.

Mr Gilchrist: That certainly would give greater urgency to any individual member forwarding their comments to Navigant and to the clerk in a timely fashion, and requesting that Navigant, in an electronic form, retransmit what they propose to be the final report before they actually submit it. My preference would be at least one week before the deadline for submission, which would give us one last opportunity individually to go over that report.

I don't know whether there would be a great need to get together, although perhaps a teleconference might be the most efficient way. If such a revised report was distributed, perhaps a day or two later, the Chair and the clerk could arrange for a teleconference. Those members who want to participate could join in and you'd have one last kick at the cat.

Mrs Bountrogianni: That seems efficient.

The Chair: If the Chair isn't available, the Vice-Chair is. But certainly the first round, as we indicated to him, we'd have those comments to him by Christmas.

The other one is the report that has been given to us. Do you want this put on the Web? Is that in order at this point in time, or do you want to wait until the report is finalized?

Mrs Bountrogianni: I think final.

The Chair: And then would you feel comfortable with it on the Web?

Mrs Bountrogianni: Yes.

The Chair: Before our response to it?

Clerk of the Committee: I'm having just the final report from Navigant on the Web, as opposed to putting the draft report on.

Mr Gilchrist: I don't think it would be appropriate to put the draft report on. First off, we've identified some problems at a very cursory level. For example, that the burning of hydrogen creates oxygen is not something I think would form the basis of a report I'd like to see out there in public.

The Chair: We can discuss this on January 28, whether we put the interim report or the final report. If the final report—

Mr Gilchrist: The final report. Once we've signed off, I think it is appropriate. We've spent the taxpayers' dollars on that.

The Chair: Then those who are presenting to us will have our first interim report and we'll have this report. It's a lot of material they can look at and respond to.

Is there anything else we should be covering prior to meeting on January 28?

Mrs Bountrogianni: Just a very small item. I have a summary—and these materials are in my office—of European sources, the conference and my meetings. My report, as a summary of that conference and meetings, will be given to the committee members before the 28th, so you can have that as a background, but if anyone wants to borrow or take any of these—and then at the completion of committee business, I will give it to the library, I guess.

The Chair: Before we adjourn, I need to have Mr Richmond make a few comments on his thoughts on how we respond as a committee to this report, so we're at least doing some thinking prior to seeing the final.

Mr Jerry Richmond: Let me just say first off, I guess we've all enjoyed our experience here in the last six months and I think we've come a long way. I don't know whether my hair has gotten greyer over the last six months.

The Chair: You're losing some.

Mr Richmond: These things are tentative, but because we're not going to be meeting for a month and a bit, I thought to share these thoughts with you and get some general concurrence.

Dr Galt and I were chatting about where we go from here. The thinking is that the interim report would be transformed, modified, whatever, down the road, before the end of May, to become the final report. I think what's in there, the basic organization of it, with whatever modifications, would serve as a good basis for that.

The committee well knows they had six primary objectives at the front and 65 public policy questions. My sense is that somehow the public policy questions can be transformed into recommendations, with whatever other input occurs over the next five months or whatever. So there's that point of transforming the interim report into the final report.

This is a matter of how we integrate the Navigant report. That's a matter for consideration. Once we receive the final Navigant report at the end of January, from looking at the outline of their draft report, it would seem that the recommendations of the consultants and the ones that the committee wants to buy into could be inserted into the interim report, bolded or something. My thinking is, in the interim report, you would well know, we have recommendations from the witnesses who appeared, I think, the week of hearings in August. With computer technology, we could very easily add the final Navigant recommendations into the appropriate sections under wind, solar etc, subject to them preparing the final report and any further interaction between the committee and the consultant.

Dr Galt and I were chatting and in terms of our upcoming hearings, both here in Ontario and in the western part of North America, my thinking is that the material that results from those hearings, if they do bring to the fore significant new information, could be distilled down and, once again, I'm confident that we could use the interim report as the template for that.

Those are just general thoughts. I don't know whether anyone wants to respond, but Dr Galt and I felt that, because we're not going to be meeting for a month and a bit, just to share those thoughts with you so we can get a sense—because there were some questions, in a general sense, of where we are going from here.

1210

The Chair: Maybe on the 28th you might draft up something for us to see.

Mr Richmond: My thinking is it's going to be a work in progress. On the 28th, I would wait to see what comes out of the final report from Navigant, their final recommendations, see what the interaction and response is from committee members to those recommendations and then after that, they could be slotted, in whatever computer template, into the interim report.

The Chair: Is the committee semi-comfortable with looking at that route, and on the 28th we'll revisit it and continue to work with it into next year?

Mrs Bountrogianni: So it will be sort of an interim interim report?

The Chair: If the committee so desires, yes, a second interim.

Mr Richmond: It's up to you.

Mrs Bountrogianni: Would the purpose of that be just to keep us up to date on what we've done so far? Why would we do that instead of waiting for a final report?

Mr Richmond: I just thought to advise you so that everyone knows of the prospective process, so we don't come to April or May and committee members are not aware of what has transpired. If you wanted another interim report at the front of the previous interim report, we have an executive summary. We could modify that and hypothetically take the 65 public policy questions that are grouped by wind, solar, biomass etc and, subject to direction, insert the final Navigant recommendations. That's totally doable, if that was the committee's wish.

The Chair: So do some thinking between now and the 28th.

Mrs Bountrogianni: Can we think about that, fellow committee members?

The Chair: First, if you want a second interim report, is there any advantage? It does start pulling information together in one common pool that you can look at. Wind: this is what the public was saying, this is what we heard from our researcher, and now how do we put that into a final? It's pulling it together for us by going through that exercise.

Dr Bob Gardner: One thing we can do—Jerry and I haven't talked about this, but we can work it out behind the scenes for you—is if you want to put the revised version of the Navigant report up on the site, you'll want to be commenting on it somewhat. It is something you're putting up. You want to say, "We agree with these recommendations; we're going to think a little more about those recommendation. Here is the direction we're

going next." That may be something for you to be thinking about between now and the next meeting. Jerry can quickly work up some notes that may help with that. We can send you something before the next meeting to facilitate that.

The Chair: OK, thank you. Mr Ouellette, I think you were struggling to get in there.

Mr Ouellette: Just a comment about the presentation we had earlier. I was very disappointed in the presentation. I thought there was some specific direction—and maybe it was in the way we laid it out that we didn't receive certain things. Obviously, the costing of electricity was something that was brought up by a number of members here.

Are we sure we're getting exactly what we're asking for? I felt I specifically asked for the local BC, brought it up, and it wasn't mentioned at all. They didn't even bother to contact the people, obviously. So I'd like to make sure that if we're going to hire these people, we get what we pay for. I'm not sure I saw what I was expecting from them. I didn't see that, and I'd just like to make sure that if we're going to be paying these people, we get the value we paid for.

Clerk of the Committee: Your specific question was on the—sorry?

Mr Ouellette: The low-flow usage in British Columbia whereby islands just off the BC coast are not connected to the grid and they're utilizing local technology. I brought that forward, and the electricity costing question was brought up by a couple of members here. There was no response, which to me indicated that they didn't do the research in those areas.

Mrs Bountrogianni: Did they not indicate, Chair, that they would later on?

Mr Ouellette: We hope so, but I want to make sure we get compliance, because we're going on the 28th. If on the 28th their contract ends and they say, "Well, we did the best we could"—we looked at the bigger picture here.

Dr Gardner: What we can do is look back at the terms of reference in the original contract and at the Hansard and check that out. We'll work with Tonia and the Chair and advise the Chair on the final sign-off on this. If members have some specific concerns like that, let Jerry and I and Tonia know and we'll look at it very carefully. The Chair has to sign off on this, and if there are concerns, we can negotiate further with them.

The Chair: OK. The other question I would like to pose to the committee is, I thought it was interesting, maybe even ironic, that we had two ministries that opted not to come before us, namely Training, Colleges and Universities and also the Ministry of Municipal Affairs and Housing. It's surprising how much in this report was pointing a finger at them. How strongly do you want your committee Chair to encourage them to come before us, or would you like to have them subpoenaed?

Mr Gilchrist: Let me just deal with MMAH. Now that the municipalities have ownership of all public housing, I don't know what would be served by having a ministry that once was a landlord, that once had the ability to put in passive solar or any number of environmentally appropriate technologies but no longer has that power today. I don't know what would be served by asking them to come before us, recognizing it won't be up to them to incorporate the kind of policy changes this committee might advance. That would be MEST. So the fact that there may be applicability to housing when we're done I think is utterly irrelevant to the folks at MMAH. These are energy initiatives. There's a ministry of the crown that's charged with advancing that agenda and it isn't MMAH.

The Chair: The thinking was just simply housing and certain requirements in housing as they relate to insulation, development of—

Mr Gilchrist: Might I suggest that if you are looking in that direction, it would have been far more appropriate to invite the head of the Building Code Commission and challenge them to bring the committee up to date with the evolution of green technologies into the building code to date, why it hasn't gone further, if in fact the committee thinks there are other things that could have been incorporated. That's the specific arm of the government that is responsible for those technical details and, again, it's arm's length from the minister.

The Chair: The other aspect that was brought up was on planning, zoning, windmills. If the committee doesn't want to hear from them, it's unfortunate, but the Chair was concerned.

The other one has to do with the whole MUSH sector and building buildings, whether it be a hospital or a university or a secondary school. I think we heard Mr Parsons and his frustration. Should we be looking at policy instruments that would encourage or require those kinds of changes?

Mr Gilchrist: Let me just finish off on your municipal affairs question. I think it's a very different kettle of fish. If the committee wanted to pose specific questions, that might generate a more positive response from the ministry. Instead of being under the impression that they have to all of a sudden develop some great expertise on green technologies that may not be resident in that building right now, if the question relates to something like the planning for windmills, I think you would get a response. You may get an instant written response that saves the committee a lot of time.

On the general question—and then I'll yield to Ms Bountrogianni—I agree that we need to be looking very seriously at all government buildings, both the ones we build to own ourselves and the ones we fund in the MUSH sector, but, again, let's be clear what we're going to ask them. If you want them to come before us and explain why they've done what they've done or why they haven't done certain things, that's fine, but let's make that very clear in the invitation. If we're asking somebody from the Ministry of Training, Colleges and Universities to come in and speak to the merits of the sort of technologies we have going here, I don't think that's fair to them, because I doubt very much that they have that expertise.

The Chair: I think you may have hit on it. Maybe the issues that have come out in this report—we'll wait until it's final and just lift those recommendations out and say to them, "What's your response?" That may be the way to handle it.

Mrs Bountrogianni: I would agree with Mr Gilchrist with respect to the Ministry of Training, Colleges and Universities. There are certainly things that are just now starting to happen in other parts of the world, so I don't expect anything from the ministry at this point. For example, in Europe right now they're just starting a master's in renewable energies this fall. That's totally new in the world. That's something that maybe the ministry would like to think about in the future, but I don't see the purpose of yet another meeting, yet another hearing, yet another, "Sorry, we don't have the expertise, but here's how wonderful we are in other areas." It's a waste of time.

The Chair: But we may have hit on a way of handling our response to this, just simply to ask some of the ministries, "What are your responses to these recommendations?" Then that might even be part of our final—

Mrs Bountrogianni: Sure.

The Chair: Anything else that needs to come before the committee at this time? Seeing that it's 20 minutes into lunchtime, the select committee on alternative fuel sources is adjourned.

The committee adjourned at 1221.

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Vice-Chair / Vice-Présidente
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Mrs Marie Bountrogianni (Hamilton Mountain L)
Mr James J. Bradley (St Catharines L)
Ms Marilyn Churley (Toronto-Danforth ND)
Mr Doug Galt (Northumberland PC)
Mr Steve Gilchrist (Scarborough East / -Est PC)
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Mr John O'Toole (Durham PC)
Mr Jerry J. Ouellette (Oshawa PC)
Mr Ernie Parsons (Prince Edward-Hastings L)

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