

GLOBAL ENERGY JUSTICE: ETHICAL ENERGY IN A LASTING WORLD

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MD: Let me just start things very briefly by telling you that, as you expect, we are here to talk about global energy justice and it is a little hard to think of anything more important. It has the span of the entire planet and it has the temporal range of at least the next fifty years and, if you want to think more seriously about it, perhaps seven generations and, if you want to think more seriously about that, perhaps all foreseeable life on this planet. The scale is obviously huge and there are many billions of people who care and there are only a few of us on the panel. So there is a big gap. There is a whole lot of people in the world who aren't here who, in some ways wish they would be either making the decisions or coming up with _____. We are here, however, because we have tried, to some degree together and to some degree separately, to start some serious work on what it would take to have a world that would be achievable in some shape and form by the year 2050, which is not too far off, and it would have some sustainable elements so that you could recognize its pattern and predictability from that point forward. And it would take the world's energy systems and treat them in a way that feels morally, ethically, in terms of justice, better than where we are right now. Now, the idea that some of us have had is that we might write a book together on that topic. Others are doing the work on it in lots of other projects that go beyond it, but all of us are doing it because we care about the question. We're going to start by asking Markus Gehring to speak. Markus is both a lecturer at both European and International Law at the University of Cambridge and has been lead counsel and is for Trade Investment and Competition for the Centre for International Sustainable Development Law which is in Montreal. You'll notice that that spans both sides of the Atlantic and he will be able to tell you in some detail how he lives a bi-coastal, bi-continental life. We will have me talking a little bit about the kind of work that we may do and the things that the Institute

is seeing. We will have Rob Miller, the director of Eco-Fuels Canada, talk about what it seems like to bring a company into the real world, not just a concept of doing good, and what that teaches you about the paths to seek for a sustainable level of energy systems that we feel are moral. And then we're quite lucky that Tracy Bach, who most of you know because she's under the Law and other faculties here, will be able to comment on Markus' presentation from the perspective of the work that she's beginning with the Climate Legacy Initiative that the Vermont Law School has begun. And since that issue, what kind of legacy we leave to the future is intimately tied up with the larger energy issues that we're dealing with, the moral ones, that is a very nice interception I'll speak briefly later on some subsequent points and I'll thank people at the end, but I'm hoping we'll have time for some general conversation. So with that, I'm going to say a small word of regrets about Marie-Claire Cordonier, who could not be here because she is taking care of a sick child, that classic tension that we all have in life when a child says "I feel bad." Markus is in an expert position to comment on that since they're married to each other and he can describe what it's like to decide, "Who goes to the conference and who takes care of the sick child?" But I wanted you to know that it's a pity she's not here because much of the work that she's done is extraordinarily interesting and perhaps some commentary on that will come out as part of the rest of what we're doing here. With that, let me turn it over to Markus to do a somewhat formal presentation for 15 – 20 minutes, and then we'll have a much less formal sort of commentary about it. The audience is yours.

MG: Thank you very much, Michael. Thank you very much for the kind invitation. Coming down from Ottawa this morning, I got up very early after an almost sleepless night, so bear with me a little bit. Marie-Claire had to send her apologies. I cannot replace her because she's not today. The decision was that I should go down. It's a pity because the way down from Montreal is truly stunning at the moment and it reminds us, or it reminded me this morning, how precious this planet actually is. I'm here to talk about the European Energy Sector and some of it might be very technical. It's not because Europeans love technical regulations. It's because in the European Union of 27 sovereign member states, there is actually a lot of legal cultures that come together and a lot of compromise needs to be negotiated in the language. Where does the European

energy policy go? At the moment we don't have one. The European level, the European institutions, are not responsible for energy policy as such. They are responsible for free trade, they are responsible for exchanges, but they are not responsible for the policy planning and decision-making on energy questions. That is still member state competence. It was foreseen to introduce this new shared policy area in the constitutional treaty, but most of you might be aware that the constitutional treaty failed and we now have negotiations on a so-called reformed treaty which should not expand existing competences, so the energy policy innovation, so to speak, might fall out. The European Union, on the other hand, faces serious energy challenges concerning sustainability, greenhouse gas emissions, as well as security of supply, import dependence, and the competitiveness and effectiveness, effective implementation of the internal energy market. So, there's still, between the member states there is still a lot of distortion. If you look at France where virtually the entire energy sector is owned by state-owned companies, or indeed, the UK, where I live at the moment, where you have small and medium-sized operators that are being taken over by German or French companies because the state companies have a lot of money to invest. What are some of the challenges in terms of justice? I'm not sure if these are the real challenges, but I will just quickly list them. There are predictions that external energy dependency could reach 70% of EU needs by 2020, oil dependency could reach 90% and gas dependency 60%. Oil and gas prices are on the rise. Increasingly there is a tight balance between supply and demand due to growing demand for oil, especially in the US and China. Demand in the US is actually not growing, so I have to apologize, but it remains high. Significant lack of spare crude production and refining capacities is a characteristic of the European situation. 2004 showed the largest worldwide increase in oil demand ever. So Europe, just like many other regions of the world, is heavily dependant on fossil fuels. Here is just a graph to make it more explicit, what the challenge might be with rising oil prices. What's the European answer? The European official answer is that, given by the EC Commissioner for Energy, "The most logical response to high oil prices is to switch to using alternative, competitive and, wherever possible, more environmentally friendly energy sources." How does the European Commissioner or the European institutions try to implement that? There's the Market for Electricity Directive, which has been recently

amended in 2003. It established common rules for generation, transmission and distribution of electricity, so an important part of the energy sector but not the entire energy sector. Rules relating to the organization and functioning of the energy sector are contained in that directive, such as access to market, criteria and procedures applicable to calls for tender for new power plants, operations of systems, public service obligations which member states have the liberty to impose on energy suppliers, electricity suppliers, such as security, including security of supply, regulatory quality and prices of supply, and environmental protection, including energy efficiency and climate protection. So member states, under the Electricity Market Directive, have already the liberty to impose these public service obligations on the generators but also the distributors of electricity. However, as I mentioned already at the beginning, the market is not perfect in this sector. Normal competition rules and free movement of goods rules should apply in this sector, as has been ruled by the European Court of Justice in the late '60's, but competition is distorted in the energy market. What should be the answer? The Commission says "clearer separation between management of gas and electricity networks and production or sales activities, so that you don't have both together. Because vertically integrated companies have little interest in increasing the capacity of the network and thereby exposing itself to increased competition on the market. The question is, will member states actually try to hamper their national champions, these large energy giants, by taking away the network, which is a very valuable part of their operations? But the presentation should also be about innovations towards more what we might call energy justice. In March 2007 the Council, the highest decision-making body in the European Union, decided on some very interesting changes. The first point was that the European energy policy should be in place by 2009, which is coming up very soon in European terms. There were some binding targets with regards to renewable energies. For example, a binding target to have 20% of the EU's overall energy consumption coming from renewables by 2020 and as part of the overall target, a binding minimum target for each member state to achieve at least 10% of their transport fuel consumption from biofuels. This goal was then later caveated by: "This target is subject to production of biofuels being sustainable and that second-generation biofuels are becoming available." There is a clear greenhouse gas reduction target, a binding target to reduce EU's

emissions by 20% by 2020, regardless of progress made internationally and a binding target of 30% should other industrialized nations, including the US, take similar steps. There were also energy efficiency targets agreed. To achieve the Commission's objective of saving 20% of the EU's energy consumption compared to projections for 2020, by 2008 the Commission should make proposals for increased energy savings from office and street lighting and by 2009 to make proposals for increased energy savings from lamps and lighting in private houses. What the European Council could not agree on, and you might have seen the international news last week, the Commissioner is nevertheless going ahead with this, was to achieve a breakthrough in the internal market discussions. The Commission had made proposals breaking up these large energy utilities. Member states like France and Germany stopped this ownership unbundling but the Commission, due to its competence under competition rules, might still go ahead as was announced this week, even though the European Council did not agree. I've got, before I finish I've got a small case study which I will just rush through a little bit and maybe we could come back to it in the discussion. Several complaints, this is about electricity and emission trading in Germany. Several complaints were made in 2005 to the Federal Cartel Office, our competition or anti-trust authority, against the electricity prices charged by the four big German utilities E.On, EnBW, RWE and Vattenfall. It was submitted by the Association of small and medium-sized energy producers, which are largely small communities, who were alleging that at least one billion Euros were, the costs were illegally increased by one billion Euros. The four utilities explained this price increase by the new burden of the new EC emission trading scheme for CO2 emissions. What had happened? I will just say at this point that there is an EU CO2 emissions scheme which has now been in place for several years. It is starting to work really well after the first implementation period was quite difficult. Because the member states didn't really know how to handle the emission trading scheme and allocated allowances, these emission credits to be traded far too generously. But it also meant that, for example, the Federal Environment Ministry, the implementation agency in Germany, handed out 1.2 billion allowances for electricity utilities, of which 80% went to the four big utilities named earlier. These companies just took the value of these allowances and used it, added the value to their electricity prices charged to the consumers, even though

most of these allowances, if not all, were grandfathered. So they didn't have to pay a single thing, but they already charged the consumers at the beginning of this scheme and made a windfall profit, I would say, estimates say, around 35 million Euros. A nice gift by the Ministry for the Environment. It had, from a justice point of view, a double purpose. On the one hand, you can blame this new system of emission trading for higher prices and on the other hand, you can cash in on the arrival of this new system. What's the end result? We don't know how the competition authorities and the European Commission, who might also step in, are going to decide this issue. What does it mean for me as a lawyer? I would say, closer and timely supervision of these operations are needed, and maybe even European supervision for the emission trading scheme. The second to last slide, I've tried to summarize a little bit where I see the energy justice issues in the future in Europe. I would say it's fair to say Europe is trying to achieve internal and external energy justice. Internally high consumer prices are being addressed by, for example, increased competition. External sustainability of supply and climate change are the main justice components in European policies. A radical decrease of energy use is not envisioned, but from a justice point of view would, of course, be best. Michael always shows this beautiful slide with all the lights across the world, and you can clearly see where the centres of light are and where the rest of the world has virtually no electricity use at all. A more tenient goal might be more renewable energy supply. Some advocate nuclear power, but there is the security and the waste issue. So what's the conclusion? I would say Europe is trying to achieve a coherent energy policy as a first step to more energy justice. Europe maintains high concentrations in the energy sector which are questionable from an efficiency and broader justice point of view. Europe's grid, I haven't talked about the grid, but it was hailed as one of the best in the world until a nearly complete blackout last year, and that was also blamed on the large utility companies. Increased competition and continuation of support for renewable energy sources might be the best and appropriate answer for the EU internal situation. Thank you.

MD: Rob, I thought I'd start by asking you to make a couple comments, both about what you just heard and, more generally, about what you think is going to be on our minds.

RM: Okay, I can do that, but I'd like to do that afterward. First of all, I'd like to introduce myself a little bit. I'm a Canadian and I'm going to try to draw relevance as to why a Canadian is talking to you about energy, and it's probably pretty crazy. I have a very good friend in Vancouver who is a Jewish architect from Boston, and we have heated debates around Canadian and US cultural differences and they're quite amusing. She always, it always draws home to me that there is a lot of similarities between Canadians and Americans and there is also a lot of differences. I am fortunate enough to be both an American and a Canadian. In fact, my mom lives very close to here. And, I spent some time at a US law school. I am a Canadian lawyer and so I think that any expertise that I may lay claim to lies in the fact that I hold two passports, and that's what I wanted to talk to you mostly about. The European situation I want to talk about as well, but I also want to talk about the Canadian energy situation and why potentially Canada is relevant to the US energy situation. And then perhaps I'll talk about what we could potentially do about that together. And I'm ridiculously unprepared. I've got all my notes on my computer, so I'm pretty much just freestyling this, so I hope you'll bear with me. And I just got out of my car, so I've got terrible hat head and I apologize for that. But to start off, I'm going to give you ten facts that you may or may not know about Canada and why that may be relevant to the US. Does anyone know anything about Canada, by the way? Is there any Canadians in the room? It's north. It's big. We are a bunch of hosers drinking beer and calling each other "hosers, eh?" And we have the largest reserves of oil in the world right in our oil sands in Alberta. It is becoming a serious constitutional issue for us when it comes to climate change. The Feds want to regulate environment, obviously, where they have jurisdiction, and the Province of Alberta wants to regulate its natural resources and, why not? So there's a lot of oil out there, a lot of investment in that oil, a lot of investment from the States. There's actually a pipeline being built to ship a slurry of the oil sands. The oil sands have to be upgraded. It's not a light, sweet crude. It's like a sand tar basically, and you have to upgrade it. And there's a pipeline being built from Alberta, from Fort McMurray very north in Alberta, down to Texas where they're basically putting a slurry of the sand together with the light sweet crude, so it can be upgraded in Texas. There is also a pipeline being built from Fort McMurray, which is Alberta, across the Rockies, across all the mountains to Prince Rupert, where a lot of the

oil will be shipped to India, Asia, Petro-China. All of these state companies of emerging markets all have significant stakes in our oil sands personally, which, in itself, is interesting. There is something like 107.5 billion invested dollars right now in the oil sands. What that means is right now we are your number one importer. You import the most oil from Canada on a month to month basis. Bigger than Saudi Arabia, for example, bigger than. . . . Anyway, we are an important oil destination for the US. And right now it is being done on a private basis, obviously. If, in fact, there is ever a conflict, I bet you it's going to happen on our soil. So, you know, it's sort of like a South Park thing – you can [MUFFLED] right now. So that's the transportation for the oil. And then our energy grid, of course, is connected as well. It's a harmonized regulatory framework for energy in North America. We presently export 20% of our energy that we develop in Canada to the States. And we import as well. It all has to do, of course, with timing, when the energy is required, where it's required. I submit that Canada is relevant to US energy security or at least to climate change, especially since the upgrading of oil sands oil is actually four times more energy intensive and five times more carbon intensive than other oil, light, sweet crude, than our oil sands. So I'd say that Canada's relevant. So what are we going to do about our relevance? Or, what is being done right now? I am going to make some opinionated and very scanty on factual comments on a couple of bills that are from the Senate right now, the US Senate. You maybe even have heard about the Lieberman that's coming up, as well as the Bingman bill. And these are very interesting bills. What they do is give us what we're looking for from a sort of pricing of carbon. They set up a scheme which is interesting. It's sort of the first – well, not necessarily the first – the first time any bill with legs, I would say, has come in front of the Senate. And, here's the opinion: It's possible that it's all just a veil for US energy security and protectionistic measures, leaving out of consideration foreign energy and especially Canadian energy, where we're harmonized in our energy and regulatory scheme but we're looking at not harmonizing on the greenhouse gas emissions, which could lead to anomalies, especially for importers of, or I guess exporters. Canadian exporters of energy to the US will be forced to act within the US, so they will be forced to actually set up all of the oil upgrading, all of the energy production will basically be, from a fiscal perspective, forced to set up in the States rather than Canada. So what I'd

like to do, I guess, is comment on the European approach, which is an interesting approach, and the similarities to the European approach in the California approach, and the potential for the California approach to develop a scheme which is actually, I guess, more potentially environmentally based rather than . . . I'd say, I guess I would call it a . . . while I think that this is a good thing, there is a potential for a trap. And what I say is that climate change has now become a trade issue rather than an environmental issue. Which, you know, at it's core, I mean we need it to be a trade issue. But there is a potential trap in there, in that if you become a little too protectionistic about it, then it's just it really this veil for energy security. So that's a lot of opinion, and there's not much facts in there. And I've got the facts somewhere in here, in my scanty notes here, and I'm willing to talk about them. But I guess what I'd like to do is say that the European approach and the California approach, where you've got a one single measure, which is the over-arching measure, which is the pricing of emissions in one way, shape or form, by capping trade or carbon tax or another form of regulation entirely that, combined with ancillary measures, including your renewable fuel standard, which I think is a very important standard. So, renewable fuel and transportation aside, and what I love with the Californians is the low carbon fuel standard. So it doesn't necessarily have to be a biodiesel or ethanol, because we all know that ethanol and biodiesel can be made poorly and they can be made well, but it all comes down to the life cycle. So on the low carbon fuel standard, that's an interesting ancillary measure as well as a renewable portfolio standard, in various different jurisdictions. Of course, it always comes down to what is geographically relevant for your energy production. So, what I learned recently is that wind and solar are actually better suited for a base load that is provided by hydro or natural gas, rather than a coal or a nuclear. So, essentially, they are better suited where they are not necessarily needed from a carbon perspective. So, I mean, you've got all of these tensions going on. And trying to work your way through those tensions, not only on the regulatory side but both on the energy production side, is a feat for a genius. And fortunately we do have these great minds thinking in this way and, I'm going to finish off in about two seconds here. I guess my message, if I can deliver it, is what we need is harmonization where there is energy independence. So if there is energy independence, for example, in North America, we definitely will need harmonization on the greenhouse

gas side. We also need inter-linkages, where there is energy being transferred. So Europe and North America, for example, there needs to be an inter-linkage. But we will probably approach it in a different way because we have different considerations. Over-arching scheme, harmonization, inter-linkages, ancillary measures, and then So, Soclo and Pacla. Anybody heard of these guys before? In order to reduce our greenhouse gases, we have to: 1) reduce our greenhouse gases from existing sources and as well increase our reliance on sources which are not greenhouse gas intensive. Fairly simple, right? And Soclo and Pacla, I'm suggesting, they're always referred to. I wish I had the slide, but there are certain wedges that include renewables, biofuels. . . there's about five or six of them, all different types of energy. So to increase those energy sources, to increase their market share, we need a technology fund. So we're looking at a technology fund in Canada. I'm not sure if that's happening here. I didn't see it on the Lieberman or the Bingman bill. It is in California and it is in Alberta. Alberta is already legislated so that it can claim to our federal government that it's already legislated so the Feds can't come and legislate again. And they do have a tech fund, which is interesting to look at but it doesn't actually achieve what we need to achieve. But that's basically my general, opinionated, low in facts, freestyle. . . . There you go.

MD: Thank you. Tracy, do you want to take the mike?

TB: Sure. I was just at a conference in Iowa sponsored by Physicians for Social Responsibility, PSR. And it was looking at the health impacts of climate change. And that report was mentioned again and again as an article in Science, published in Science, except it was called wedgies. So, we went from wedges to wedgies. Well, my name's Tracy Bach and I'm a professor here at the Law School, and for the next two years beginning with this academic year I'm working on a project that's called the "Climate Legacy Initiative". And so Michael Dworking invited me today, in part, because he was looking at clearly the climate piece of it and the legacy piece which he emphasized in his introduction. And so moving from the admitted complexities of the European market and European regulation in particular, and the complexities of the specific energy sector in Canada as well as in other parts of the world, I'm going to focus on the justice piece of it, of this title. Which, in case you didn't know, where you're at right now is "Global

Energy Justice: Ethical Energy in a Lasting World". So I'm going to focus on the justice, the ethical and the world piece of it, because that's what my project is currently doing. So we know a fair amount about intra-generational justice. We think about that in the United States in terms of the environmental justice movement, right? Equality, justice, among groups who are currently alive whether they are separated by race or ethnicity or country across the world. That's that spatial piece that Michael mentioned in his introduction. I'm focused in particular on this sense of, or notion of inter-generational justice, so justice between generations. And justice, as you can imagine, can break down into a number of different ways. The way that we're articulating it in the Climate Legacy Initiative is focusing on the duties of current generations to future ones, as well as the rights of future generations that they could claim against past generations. Now, you can imagine that could be applied, that idea, in a number of circumstances. We're focusing it specifically in the climate change realm. Well, let's break that down. Sustainability is a word we hear a lot, right? And we hear it in terms of intra-generational sustainable practices across countries, in particular. But in the inter-generational context, I think the commission that was headed up by Rowe Harlan Brutlan, and I apologize for mispronouncing her name. She was the first prime minister, woman prime minister, of what country? Trivial Pursuit.

AM Norway.

TB: Very good. Can I throw you an apple? All right, nice job. And she was. And she . . . her commission is to define sustainability in terms of meeting the needs of the present without compromising the ability of future generations to meet their needs. Now, you can imagine that that poses a number of conceptual problems. And so, when I'm looking at how law can help define what our legacy should be (ie. Help define current legal duties as well as the rights of future generations), I first look to the area where sustainability is probably the most developed, which is in the area of ethics and morals. And in particular, if you've ever heard of a professor at Georgetown named Edith Weiss Brown. . . . If you haven't, I should put in a plug, I see Jack's daughter sitting up front smiling. She's happy because she's just agreed to be one of our keynote speakers. Or, not our, one of Vijel's keynote speakers at a symposium that will occur over the weekend of

February 22nd and 23rd. And she wrote a seminal book called, “In Fairness to Future Generations”. And she set up a three-part framework by which to analyze, essentially, sustainability. And she said in order to be sustainable, in order to be fair to future generations, you had to conserve options for the future. You had to conserve quality for the future. And you had to conserve access. Okay? Three big ways of looking at it. Options, not the same ones we had. Or, sorry, I think we had, Michael. You guys probably had slightly different ones since it runs by generation. So we had, not the same, but options. And the quality of them, again, does have to be the same as what was inherited, as far as the legacy that’s left, but there needs to be a quality as defined, of course, by the entity passing on the legacy, we would argue, not those receiving. Although, certainly there are very good arguments about the receivers, and I see many of you out there, wanting to define that. And of course, talking about access, the equitable access to these resources. Well, what this project is doing, Climate Legacy Initiative, or CLI, that relates a bit to each of these speakers, I think, or at least I’ll try, is trying to move from this ethical arena to the legal arena. And trying to look at ways in which existing law, whether that comes from the United States, which clearly has been our primary focus, to that of other countries, individual countries, as well as international law of all the nations. How that already embodies norms of intergenerational accountability. Let me throw out a couple that we’ve already found, or, well, that we argue that we’ve already found. And I’m saying we because I recognize several of our research assistants in the room who I should make stand up and take a bow. Since we didn’t provide you Energizer t-shirts, I need to recognize you in different ways. Katie Moll is sitting right here. That is you, Justin, right? Justin Brown is up there blocked by the sunlight. And I think maybe behind that, yup. Mave McKennie’s up there. Is John DiCarlo? Oh, and John is sitting next to Katie. So we haven’t come up with a great name for them yet; we’re working on it. We’re debating it, but we need to give them public recognition for their good work. So, there’s a couple of examples I’d just like to point out to you quickly today, and then close so that you can ask some questions, because this really is the 30,000 foot view of the issue. First of all, has everybody memorized Section 101(b)(1) of Nepa? More or less? More or less. Or you’re going to, if you haven’t. It says, ‘It is the continued responsibility of the federal government to use all practical means consistent

with other essential considerations of national policy to improve and coordinate federal plans, functions, programs and resources to the end that the nation may . . .'. Fine print . . . here's the key stuff: ' . . . fulfill the responsibilities of each generation as a trustee of the environment for succeeding generations.' Our Constitution, there are some folks who want to point to our Constitution and say that embodies some level of inter-generational accountability and justice norms. It's pretty broad language, but I'll offer it to you: "We, the people of the United States, in order to . . . secure the blessings of liberty to ourselves and our posterity". There's a whole group of thinkers in the United States, and writers, who want to argue that posterity, our posterity part of the Constitution, embodies a norm that should be acted upon and applied in this particular prism for inter-generational justice. Alright, still though, I'd be hard pressed, especially for those of you who have been following the case law, what we might call the "Global Warming" or the "Climate Change" case law running through the federal courts these days, to say that we are operationalizing. Is Ken still here? Ken Kriley? I used that word for you: "operationalizing" those norms in our case law. Our judges are not taking it to that nth degree, nor, clearly, under Nepa, are our regulators. But let me take you to Australia for a moment. Justin's been conceptually there, working on this. Where we've been tracking a number of cases working through the environmental courts, for the most part. In particular, I think, most blazingly out of New South Wales, that have taken their equivalent of Nepa and in the case of coal mining expansion request. In going through the Environmental Impact Statement, or the equivalent, it's not the same language, but through that review process, has required as a condition showing compliance with the statute's requirements for the coal mining facility to not just show the impact of the expansion on water, air, typical nuisance claims, sounds. . . you know, the typical adjoining, the abutting property owners, but they must show the impact of the burning of that coal in terms of greenhouse gas emissions. That's a big leap, in my opinion. It's a great one, in my opinion, in getting back to the sustainability idea. But it certainly is one to put into, a hard one to put into practice, right? How do you: 1) measure that; 2) is it within the jurisdictions, the emissions with the jurisdictions for outside; and 3) the big temporal piece, right? This stuff stays up there for a long time. And as we know, what we're experiencing now, the IPCC tells us, is a direct result of what our grandparents or

great-grandparents were doing in terms of economic development. But the point that I'd leave you with is that there is a jurisdiction in one country that just happens to be the fourth largest coal producer in the world. Some folks, when they're crunching the numbers, the Australians are the second-highest per capita emitters of greenhouse gas after us. That's on a per capita basis. And it's a place where I think it's 85% of their electricity market comes from coal. So it's a big step that the courts took in interpreting the statute and explicitly 1) embracing that framework, that three-part framework that I mentioned from Edith Brown Weiss; and 2) explicitly recognizing what's called the "precautionary principle". So that's one example that I hope leaves you with some sense of hope of where, at least in some countries, there are legal norms in the context of global climate change where a sense of accountability to future generations is taking place. I think I have one more minute?

MD: If you want it.

TB: Anyway, it's with my class, you know. One minute, really. Yeah, and I'll drop the other stuff and I'll make my plug. One of the things that we've been doing in the CLI is thinking about a lot of things in a lot of areas of law. But one of the things I wonder about, that I'm currently wondering about, is will our legacy be what some folks call recapturing the commons? This idea that, for example, the air, the atmosphere, is a commons and that we've largely allowed it to be privatized by, for example, through a variety of regulations permitting industries to emit into the atmosphere. Well, this guy, whose name is Peter Barnes, who is an interesting combination of a background as a journalist and as a social entrepreneur. He's the one who founded Working Assets, and I can tell you more about it if you're interested in it. But he has an idea of: 1) redoing capitalism from the current 2.0 to 3.0, even though he's not a real Microsoft fan, and basically changing it so that this new form of capitalism has to regulate the commons in a different way. And specifically, he wants to create something called "sky trusts". Trusts that basically place the atmosphere in the trust, that's the rate. The beneficiaries are future generations, and the trustee has to manage it properly. So he's trying to use a legal construct that we all learn about, either in Property first year or Estates in succeeding years, and apply it to this very specific issue of regulating what goes into our atmosphere.

I'll stop there, but he's coming a week from Wednesday, October 3rd here to VLS. He's speaking at our request, it'll be 5:00, and he'll also going to be signing his book afterwards.

MD: Thanks Tracy. I wanted to suggest three clusters of facts, and then a little bit of a sense of how we might try to make order of them. The first one is important in terms of what Tracy has called intra-generational equity among the human beings that are alive right now at the same time. And it's very straight forward. One quarter of humanity has no electricity now. Another quarter has less than a tenth of what we did a decade ago. There's another quarter that has about half of what we did ten years ago, and we can look at the group of about 600 million people who live in Western Europe, North America, Japan and Australia and say that they've got at least as much as they need. But this is important because, from our perspective, our life as we look around, our life, our daily life, our monthly life, what you see is incredible affluence. A huge amount of electricity, a huge amount of energy use in running cars, and a lot in every other way. And you get the sense that that means the world's energy needs are met and that all we have to do is trim a little bit and back off a little bit. But from the perspective of somewhere between a quarter and half of humanity, it's not energy affluence. It's a huge yearning desire for more energy than we have right now. And that's a vital part of the global picture.

Second thought, second cluster of facts, if you will, are that the buffering capacity of the planet, most importantly that of the atmosphere, is not just being strained right now. It's being filled and we're at the fill point and everything else is going beyond the fill point, adding in emissions, most importantly greenhouse gas equivalents, whose average retention time in the atmosphere is at least a century. And we're putting them in right now at a rate that is at least 40% or more faster than they are being taken out of the atmosphere. And they'll be here for a long time with lasting effects. So the buffering capacity of the planet requires that we radically reduce our greenhouse gas emissions at the same time that the energy needs of the world are crying out for vast increase in the distribution of energy. That's a tension. The point where the tension gets most acute is in the third cluster of facts, which are that the way we meet the world's energy needs right now are overwhelmingly through the use of fossil fuels. About 40% of the carbon emissions coming out come from electric power, for generation. About 30% come from

motor vehicles. The remaining 30% is spread over a whole lot of things, but the two together, electricity and cars, adds up to three quarters of the mix. And we can't get a handle on the tension between buffering capacity of the planet and the yearning for energy for a better life unless we start facing those two things, electricity and cars. Now, that's relatively easy to say. It's a lot harder to figure out how to fix. Within the more affluent societies there's every potential in the world for constraining our energy use at a level equal to or a little less than it's been, with great social happiness and without economic pain. As Markus made in a little side comment, US carbon emissions have had periods of flatness a couple of times in the last couple of decades, where they've gone for a couple of years without any of you or me or most of those around us suffering greatly. And if that was our only model, we could say, "Hold flat the US emissions, hold flat the affluent world emissions, and then start meeting the energy needs with more renewables, and we could maybe bring down the 40% reduction that's needed." The catch is that, for the one quarter to one half of the world that's in a terrible situation on energy, the prospect of telling them to just hold flat their energy need is one that has two fundamental problems. One is the moral one, ethical, justice one. It doesn't seem fair. The other one is the pragmatic one. It doesn't seem likely that people are going to want to live with it. Telling them to not try to get energy out of East Africa and take it to South China is to tell people to give up on the yearnings that they're going to want to move forward with. It's not going to happen as a voluntary matter. So we have this fundamental sense, the world is crying for more energy, the planet does not have the buffering capacity to do it through the existing systems that we have, and the replacement of those systems in the electric and transportation worlds is something that is going to have to be more than just stabilizing. It's going to have to be reducing. Now, if we add to that not just the intra-generational phrase but the inter-generational phrase, we come up with a deeper tension. Because we could probably get through the next 30 to 50 years. Most of you are working lives and most or some are living lives. It's something not too far different from where we are right now. Maybe we'll have a peak oil or a significant decrease in pricing, but not much radically different from what it has been. But if we do it, it's by burning the buffering capacity of the next few generations, and we don't know how to avoid that at this stage. And all of you have been in my classes and I can see you seeking answers and

I sit there and I throw out questions and I want answers, but so far we haven't come up with answers. And so that's, if you will, a moral tension to ___ pain, which we're trying to deal with. In that context, I get tremendous respect for people like the Europeans who are trying to work through what at one level sounds like a bunch of rather boring, nitty-picky, technical details, but at another level, or what it takes to actually turn a concept into a reality. You can build a bridge partly by thinking of Varizonal Narrows and Golden Gate and visualizing the span that crosses them, but at a certain point somebody needs to say, "How many rivets does it take?" And that's what the Europeans have begun to try to do. My biggest question, though, is: Is Europe and Canada, which I sort of perceive in this context is an appendix of Europe, a pace-setting leader for humanity, or is it just an outlier, a bunch of people who have the advantage of low or declining population, plenty of resources, plenty of money and the chance to do this with what might look like dabbling from the point of view of people who are in a far tighter crunch in the Southern half of the world? And so when I say, Does your presentation tell us a path, or renewable energy path? I mean, I think it tells us a path for North America, Japan, Europe, maybe Australia, but I don't know that it tells us a path for sub-Saharan Africa, much less Southeast Asia. And that's the tension that I'm left with, as I try to figure out, what are we going to do when we try to write something [muffled]. So that's the spiel by me. Most of you have heard pieces of it before. I thought it would be nice at this stage just to open up to the audience, anybody who wants to either make a comment or to ask a question. Hands? Way back.

AM: I'm going to ask all of you, are we fiddling while Rome is burning? You know, to build on what you're saying, Michael, if justice is what we're after, are we going to get justice without radical change? And is anything that we're working on anything close to the radical change necessary to achieve true inter-generational justice, or are we just fiddling?

MD: Everyone heard David Meer's question: Are we fiddling while Rome is burning? Is it possible to move toward a better world without radical social change? I hate to do this, but I'm going to at least tell you why I have trouble with this question which I keep facing over and over again, as it's a vital question. As I look at the track record of the

last few thousand years, basically as long as we've got written literate history, and you see people, whether it's Sadartha Katama or Jesus or Mohamed, who sit there and, or stand, but usually sit under a tree and speak and preach a radical social change. And it lasts for as long as, you know, a century or two and maybe 5% of humanity, but I don't see it sticking. I don't know how we're going to get radical social change toward a better world in a way that lasts. And I agonize. But let me just see if anybody else on the panel has any kind of reactions to what you just proposed. Start with you, Robb.

RM: Sure. I think that that is an excellent two part question and I would answer it yes and no. But what I would add to that is that in all of these cases it comes down to your starting point as an individual and who and where your allegiances lie. So on a very personal level, and the Sadartha Katama approach, I look inward and I find myself an optimist. On this question I find myself a pessimist. On the allegiances and starting point for members of industry, I think it's time that everybody sort of take a step back and look at their own biases. And this is true, not only of industry insiders, but also of well-intentioned, strong-willed, environmental, good-hearted people. There's a lot of unintended consequences and we can go about this completely the wrong way. So that's a long answer to your good question.

TB: Okay, David. I was going to say da and nyet as well. It's a yes and no kind of think. Fundamentally, gotta disclose, I'm a mother of two children and I've gotta be bullish on the future. So I want to be positive. I think the da, the yes part of it is, where I see where we're not fiddling is in the technology sector. At this conference I was at, and I wish I could remember this guy's name, but he presented a slide that showed . . . and he's a tech guy, PhD and all kinds of advanced biochemistry, blah blah blah. . . and he showed a slide that showed that by 2030 his NGO was predicting that we could be free of oil and nuclear. We being the US. And he was putting into places the specific technologies and how they'd need to be grown and where they'd need funding, and he was pointing to places in the market that's already doing that. The second piece I supported, so I'm a little bit more bullish on the laws of economy than the laws of man at this point, what we dwell in. I don't know if you saw this a few months ago, this is the cover article of the Times, that Thomas Friedman wrote. And in particular, he's linking our national security

with our energy independence. And he argues that the way we advance this discussion is becoming a world leader in what he's calling the 'greening of geopolitics'. And he argues that a piece that is taking place in part because green is now on Main Street. And so that our markets are producing these demands that are developing these technologies. So that's one thing. I think on the law side mostly I think we're fiddling. The three federal bills that I've seen, seem mostly fiddling to me. They seem wholly inadequate, and the last thing I heard, this is on the sad side, is that I guess the IPCC folks are, the last report still sticking with 2050, but there's a fair number of scientists who think that we could have a really, what they're calling an abrupt climate change because some really big pieces of ice are going to fall off pretty soon. So on the burning thing and the fiddling, I think on the law of man and real social change and the things we have to do in our personal lives, the carbon footprints, we need to understand personally, I don't think we're there yet. I think technology's ahead of us on that though, and that I'm bullish on.

MG: Yeah, I'm enjoying the chorus of positive impressions, because I think that the first step that we had to make was to have a consensus or really have the knowledge sink in. A couple of years ago I saw a very disappointed presentation by Gus Speth, who said: "How can it be that in '79 we already knew everything that was going on and no one acted upon it?" And the answer was, because there was no consensus on what climate change was, how it was happening, what the results might be. We've come a long way since '79 and it always takes a bit of time to then act upon it, and what drives me a little bit up the wall is that we've got all these marvelous technologies and opportunities in place and we're not using them because we have a lot of vested interests in the existing sectors, especially in the energy sector. And I think we will see radical social change in some quarters of the national economies around the world, yes. But I don't think it necessarily involves radical social change for everybody and all private citizens.

MD: Not all change is good. Questions, comments? Did I see your hand in the middle?

AM: My question is more of a personal one, I suppose. I wondered if, what any of you think is the hurdle that the US needs to overcome in order to reach the level that Canada and the European Union and everyone else has reached as far as urgency and environmental

policies and procedures. Because, as you said, there are bills in place now. We've gotten them there, so obviously there's recognition, but like you also said, is the first one only the first couple to get their feet off the ground? Is it the fact that you don't think there's, I don't know, an urgency as we expect, as the other nations do, or what would you guess?

RM: I'll answer that. But what I want to clarify first before I do is that Canada is no further advanced than the States. And ours reflects a lot of things, including governmental mishandling the entire way, but we do have a proposed legislation that's in front of our House right now. However, it doesn't go any further, it doesn't go anywhere near where we need to go and it's, quite frankly, a joke. So, but I'm not going to try to answer your question except to say that I think you need to wait for an election.

MD: Are you going to want five minutes? Then you go.

MG: Yeah, on the way down from Montreal again, I heard on the radio a very interesting story about a tiny island, a Caribbean island of Bonaire. Bonaire is scheduled to be the first larger island to become carbon neutral, and I think that should be the goal of all societies. There are international mechanisms which help to basically receive the technology when it comes to developing countries or even to make the market larger for some of these technologies when it comes to industrialized countries. And I think it should be a two-pronged approach for the US. It should attempt to become carbon neutral in its own terms, and it should join efforts of the international community, and not necessarily by promoting nuclear power.

MD: I think many of you know that I wrote my thesis about Stephen Douglas and Abraham Lincoln and the period in which America was rolling into a civil war. The debate that took place in the generations-long effort to end slavery, the slave trade in the Atlantic and the slaves on land in the Western Hemisphere didn't get resolved quickly. I mean, the anti-slavery abolitionist movement began in Britain in the 1770's and it didn't really end to 90% of the world's slave trade until the 1860's. That's 90 years. Now the 30 year period since we've begun to think seriously about carbon is, in one sense, of major social change, a relatively short period. The catch is that the planet doesn't necessarily operate at that level. You could have millions of people in slavery and have human pain, but the

planet still survived. In our case, it's not just a matter of individual human pain, even at the millions level. It's at the billions level, so we need to act faster. The lesson which was kind of interesting was that somebody like Abraham Lincoln could be having a debate with somebody about whether the Bible did or didn't agree with slavery, and what Lincoln would do is he would put a silver dollar, about an inch and a half around, on a copy of the Bible and say, "No man can see the word of justice when it's covered by a silver dollar." And his point was, as long as people have vast economic stake in the existing infrastructure, the hope that for morality alone they would abandon it and decide to walk away from it was unlikely. And therefore the lesson I draw from that, if anything, is that we need to make it profitable to clean up, not just moral to clean up. But we need to do something which sets up the world so that people do well by doing good, and that we need to create that as something which then filters through to the incentive system. The path to doing that involves some intricate things: enforcement, identification, registration of carbon emissions and financial penalties that go there. But it is a path that I think has to be done and worked and given, and I've got some hope that we can make progress toward that. The stimulating things, for example, Hurricane Katrina. I thought that a situation in which some people said, "Climate change means more intensity of tropical storms," other people said, "No, it doesn't," and then the next year one of America's most famous cities got wiped out, would be a society-changing movement. My guess is it changed about 10% of society, but we need to change 40% to make that happen. And it may be that we just need to live through a few more lumps before we get near the path to economic stimulus for clean-up put into place. Other thoughts, reactions? Jack, did your hand go up?

AM: No, I was just scratching my ear.

TB: Actually, can I just add one more . . .

MD: Yes, Tracy you can go first and then that guy in the back.

TB: Just a week ago Wednesday I had the opportunity to hear Robert F. Kennedy Jr. speak. And he has a new book out, and the resounding theme, I mean it's got one of these long titles that basically, to be summed up, says "I hate the current administration", so there is

the election piece. But I think that the deeper theme is that, getting back to your question about how is the US different, I think what he really points out in a more deliberate fashion is the way in which capitalism and democracy, the overlay in the United States, has been really taken to a point of where corporatism is infecting our democratic institutions. I don't see that as much in Europe. I mean, I think of friends that I spend time with in the Netherlands, one of the most corporatist, I would say, countries in the EU, and yet there's a sense of social accountability, and that is not what is going on in our country. So that's one trend, and I think separating that more clearly, and I urge you all to think about that and then to use your divine right of election and voting to make that change.

AM: A two-part question, first for Mr. Dworking and then for Mrs. Bach, speaking of the economy. To follow from your example and to look at it negatively, do you, Mr. Dworking, think that there's any way that, for example, if oil were valued differently, what presently seem to be profits wouldn't actually be profits? So in addition to making people feel that they can make profits by going green, making people feel that they're not profiting now. And similarly to Mrs. Bach, are there any economic principles that you think, if understood in the inter-generational rule, could lead to more productive results than if they're understood on the intellectual level, much the way the sky trust does that in the legal principle.

MD: I guess I would be very precise and say that I don't think that merely changing the economic debate in ways that say we should internalize external costs and that if we did oil would be more expensive and the producers would have to pay more costs and have less of a margin when they sell it. It won't do any good as long as it is a bunch of academics agreeing with each other. It needs to be turned into a set of individual profit incentives for individual actors based on individual daily decisions. So the notion of internalizing the external costs, to use the jargon, works if, and only if, those get transmitted to the marketplace where they affect decisions. And, if so, they will make people a little more aware of the cost of using energy, but I think there's two other things that are needed too. One is, at the current point about a third of the cost of energy is actually covered by tax subsidies and depreciation allowances. So it's not just that we

don't face some costs. There are other costs which we actively subsidize to encourage people to use more energy, and facing that part is at least as important. Finally, though, I have to say, I'm not sure that price, in fact I'm sure that price alone will not do it. The simple fact for a standard American household is they pay something like \$14,000 a year for the levelized cost of housing, something like \$14,000 a year for the health care, something like \$14,000 a year for having two cars and maintaining them, and what it pays for electricity and natural gas and heating is \$1400, one tenth of it. And people's behaviour is driven by the big ticket items, not by even a doubling of energy prices. We saw a 50% increase in gas prices last year. It led to essentially no change in behaviour. I don't think that price alone will do it. We're going to have to go beyond that.

TB: No, and that's in part, just to build on that, that's where you can look at Europe, because it's not just price alone. I mean gas is, I'm not sure what it is these days, but in France, the last time I was there, was at least \$8.00 a gallon, the equivalent. So that affects behaviour, but there's government policy as well. I mean, we put this much into Amtrak and train transit in the United States. That's very different in Europe. So there's policy choices being made at the governmental level at the same time as the market. So Michael _____ to be, on making the exogenous internalize, that would have been my argument within the market. I think the other point too is, well, actually I'd recommend reading a book that Summer Staller wrote part of, Lisa Heiserling and I forget Ackerman's first name, Professor Ackerman, he's an economist, she's a professor at Georgetown, and they wrote a book called "Price Lists" on knowing the price of everything and the value of nothing. And they would argue that there are certain things that you can't place a price on in cost benefit analysis, and natural resources, or many of them, are one of them. So that's a concept we could pass on.

MD: It's 2:00. We should break soon. I'm going to take one more question, but just to make sure we don't lose it as we break, I want to say a thank you to a couple people that helped bring us together. Jane DiAntonio did a lot of the nuts and bolts work; so did Maurya, Maurya Sodalino. And I wanted just to remind people that one of the real reasons we're together this weekend is actually to try to move forward with writing a book. Having an open lunch was just a kind of side thing while we had folks here and the Energizers, the

research team for the Institute of Energy and Environment, are going to help us a little bit with that. We've got a small bit of help, I think, perhaps from a Canadian embassy grant, but mostly at this stage we owe some thanks to our institutions for just paying our salaries so we can do this kind of book stuff without any major grants until we move it to the next stage. So there are some thank you's that are really there, that I don't want to go without noting, but I now want to return to the point you want to make.

AM: I was just going to make a comment going off of the presentations and discussion. I think that what it comes down to fundamentally is kind of this juxtaposition between different values and cultures. I mean, we have three different representatives up here: one from Canada, the US and Europe. And I think that if you look at that and you can compare how different cultures look at the challenge of climate change and how they react to that, that's fundamental and key to our response. I've talked to this about Tracy, but with Europe, we look at them as being, you know, these mature, sagacious type of individuals where they've moved from unrestrained economic growth into kind of a quality of life concern. Whereas in America, you kind of think of it as, you know, we still have this "pull yourself up from the bootstrap" ethic, and in order to do that, in order to succeed we look at our economic growth or how much money we have. And looking at it in that perspective, we don't really look at it from the environment or externally how it's going to affect the planet or the world. So I think that if we can come together kind of cohesively and understand that there are all these different kind of cultures interacting and all these different values, on the first level, and get our head around that and then make policy decisions based on that value system and on how to defer that, you know, it's difficult as that seems, but if that's the first step I think that progress will be much more fluent and much more great.

MD: On that score it's probably worth noting that the set of people that come from North America and Europe is a pretty small sub-set of the world as a whole, and one of the real challenges for us in going forward would be to figure out how to integrate that into world conversations, but also how to integrate it into the kind of writing that we do as we try to write and work together. Because it's pretty easy to see how the world looks if you're surrounded by people that have had a very similar life and not much else. Final things?

MG: Just a quick comment. But keep in mind that even within the European Union alone there are very different cultures, so an Estonian or a Brit might have very different approaches to, for example, economic liberty or compartmentalized national economies than, for example, a German or a Frenchman. So, yes. While I'm on the microphone I just wanted to mention that I'm also here to represent the Centre for International Sustainable Development Law based at the McGill Law School, and I've got some brochures for people who might be interested in our work. So please feel free to pick a leaflet up and or talk to me.

MD: We'll hang around for awhile at the end before we shift down the wall to actually pull out our yellow pads and get working on outlines, but I just wanted to leave a final thought. There are three questions that I have on my mind as I think about this, one of which is: What is reality? Subtopics: What are the facts? What is the Situation? What matters? Second question is: What is virtue? Which really is this question: What do we regard as good or bad? Considering the future or considering the neighbour, or considering both? Considering the individual freedom or the social good? There are a lot of disputes that people work on out of here. So question number two is: What is virtue? What is reality, what is virtue? And you need to deal with both of them before you get to question three, which is: What is to be done? We kind of quickly leap to prescriptions for what people should do: more renewables, more efficiency, less coal. I believe deeply in every one of those. But I think you don't get there automatically. You get there by seeing reality and seeing a set of values. So it seems to me that the most useful thing to do is to walk away asking yourself, What is reality? What is virtue? and, What is to be done? And seeing where you come out on that as a guide to the steps that then lead you to the nuts and bolts of being a lawyer who puts together the rivets of trade policy and the intricate appeals of separate subsections that are necessary to take the broad questions into a day-to-day working reality. I am tremendously pleased that so many of you came today. I take it mostly as a sign that these issues are going to be with us for a very long time and that our hopes, which I think we all have, that they will be worked by good people, not just for the next five years but for the next five decades after that. So I would like to thank you for strengthening my faith in that possibility. Take care, all of you.