



Regulatory Governance Brief

Regulatory Governance Briefs

Regulatory Governance Briefs present analyses, case studies, opinions, and current issues pertinent to regulatory governance. They are written by scholars and practitioners within the Regulatory Governance Initiative (RGI) network, as well as RGI staff. They are designed to be accessible to a broad readership as well as in workshop and classroom settings. RGI Briefs are peer reviewed.

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Policy Priorities for the Sustainable Use of Forest-Based Bioenergy

Results from a *Critical Conversation*

Introduction

The Regulatory Governance Initiative (RGI) held a workshop on the future of bioenergy use from Canadian forests at Carleton University (Ottawa) on November 26, 2009. The event was co-hosted by the Ivey Foundation, the Canadian Forest Service (CFS) and the Forest Products Association of Canada (FPAC). The purpose of the event was open debate among a diverse group of informed opinion leaders on the following question:

What should the Canadian approach look like when it comes to the use of bioenergy from forests?

In response to this question, we aimed at compiling a ranked list of *priorities* and *principles* from the perspective of policy makers, regulators, industry, non-government organizations, and subject matter experts. A *priority* was characterized as an action item that is simultaneously important, urgent, and feasible. A guiding *principle* was characterized as a lesson learned (in particular from the agricultural bioenergy context), an ambition, a standard, or a constraint.

Workshop Approach

The workshop took the form of a Critical Conversation[®]: think-tanks that aim at pushing the boundaries of current thinking on policy and regulation around challenging issues. These half-day events are designed to promote discussion and knowledge transfer among participants. They bring together a mix of invited senior managers,



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opinion leaders, and experts from government, industry, non-government organizations, and academe. Speaker presentations and the attendee list are public but the roundtable and plenary conversations are held under the Chatham House Rule (no attribution is made) to encourage free and unfettered debate.

Brief introductory speeches were provided by: ¹

- **Don Roberts**, Managing Director, CIBC World Markets Inc.
- **Martin von Mirbach**, Advisor, Forests and Climate, World Wildlife Fund Canada (WWF)
- **Avrim Lazar**, CEO, Forest Products Association of Canada (FPAC)

Don Roberts provided an international perspective vital to the understanding of the policy and market environments within which a Canadian approach will unfold. Martin von Mirbach and Avrim Lazar provided non-governmental and industry perspectives, respectively – visions for sustainable energy use based on biomass from Canadian forests.

The workshop attracted participants from seven different federal departments, one provincial department, and a provincial energy agency, as well as a municipal agency. Also present were experts from NGOs, industry associations, and universities. All key sectors in forest bioenergy were represented – please see the **Appendix** for a list of participants and affiliations.

The forty-six participants were divided into seven roundtables of six to eight people. Seating was prearranged to achieve a diversity of views around each roundtable. Following the brief introductory speeches, roundtables were asked to identify both priorities for action and guiding principles for this process, and to underline the highest priority in each category. After the discussion, the Chairs from each table recorded their priorities and principles on flipcharts and presented their most urgent points to the plenary. Flipcharts were posted on a wall and participants voted for their top choices using up to three green dots (the collation of dots around a single choice was permitted). Participants also received one red dot to mark a point as undesired. The introductory speeches and plenary discussions were captured by two note-takers.

¹ Workshop agenda and PowerPoint presentations are available at:

<http://www.carleton.ca/regulation/criticalconversations>





Closing commentaries were provided by two senior government representatives:

- **Jim Farrell**, Assistant Deputy Minister, Canadian Forest Service, Natural Resources Canada
- **Dan Wicklum**, Director General, Wildlife & Landscape Science Directorate, Environment Canada

Setting the Scene: Introductory Speakers

Don Roberts, Managing Director, CIBC World Markets

Don Roberts' presentation set out the international financial context that surrounds the discussion about forest bioenergy. His first and most essential point was that for capital markets to invest in forest bioenergy projects they must be environmentally sustainable. If the project is not environmentally sustainable then it will not receive financing from lenders. Eventually, food, fuel, and fibre markets will converge and be traded on the basis of their energy equivalence. This convergence could also lead to greater insecurity and land use conflicts, and a rise of the price of forest land in Canada as demand outstrips supply.

Mr. Roberts went on to give an overview of bioenergy markets. Bioenergy markets currently attract investment and are recovering from the economic crisis. Canada, however, is late to the “biomass/biofuel game” and only represents about 2% of the global investment in bioenergy. Countries that attract most investment are the US and Brazil (biofuels sector) and the EU (biomass sector). Mr. Roberts predicts that investment in biomass will increase in the future. The primary driver of investment in bioenergy is the price of fossil fuels (the main substitute). Secondary drivers include carbon price, conversion technology, feedstock price, and public policy. Presently, all five of these variables are in a state of flux, creating uncertainty for investors. Rising fossil fuel prices are good for bioenergy but if they rise too high and precipitate a recession then all energy sectors will suffer. Conversion technologies and carbon pricing systems are still under development, which creates significant uncertainty for today's bioenergy investor.

Mr. Roberts recommended establishing long-term pricing contracts for biomass because certainty attracts investment. Within Canada there are significant opportunities to compete on cost. Eastern Canada and British Columbia in particular have comparatively low hardwood costs. The Southern US states should not be discounted as competitors, especially as they receive government subsidies. Since the EU and China also support bioenergy investment with public funds, Canada will have difficulties competing without similar policies. Canadian governments, thus, should consider the following policy instruments: carbon pricing, renewable portfolios, feed-in-tariffs/producer incentives, cost subsidies, and research & development subsidies. Mr. Roberts concluded by stating that forest bioenergy projects must be environmentally sustainable and competitive relative to other renewables to attract capital investment – decisions must be based on a systems and evidence-based approach.



Martin von Mirbach, Advisor, Forests and Climate, World Wildlife Fund Canada

Mr. von Mirbach asked participants to reflect on the premise that forest-based bioenergy should be an important and growing part of Canada’s energy portfolio. He stressed the need to compare the efficiency of using forests for bioenergy against other, potentially higher value uses. Policy must address the relative efficiency of different forest bioenergy feed stocks. Manufacturing waste, logging residues, salvage logging, logging for biomass, and plantations all have different values. The environmental impacts of forest bioenergy must also be considered (e.g., site and soil disturbance, water, nutrient or habitat degradation, reduction in forest carbon). Policy makers must assess if current regulations and standards are adequate and how new conditions, regulations, and industry incentives will impact the environment. Mr. von Mirbach concluded by showing cautionary photographs of an intense forest harvest for bioenergy purposes in Nova Scotia. In these pictures, the intensity was much higher than normal Canadian forestry practice. He stated that with environmental and social impacts in mind, using our common sense and available data, policy makers can sensibly decide what role forest bioenergy should play in Canada’s energy portfolio.

Avrim Lazar, CEO, Forest Products Association of Canada (FPAC)

Mr. Lazar’s presentation started with an examination of why the forest bioenergy discussion is even occurring: the climate change debate. There have been three generations of response to climate change: figure pointing and platitudes, slice solutions, and total systems thinking. He advocated for a smart, total systems response. This approach would look at forest carbon, carbon storage, end of lifecycle issues, and biodiversity. Federal regulation must base policies on this type of total system approach. Mr. Lazar stated that the best option is to integrate bioenergy into current forestry practice – for example by using waste wood to power a mill. The bottom line is that a smart policy approach to forest bioenergy will take a systems approach (consider different footprints, total GHG (greenhouse gas) reductions, health of communities), and should be affordable for taxpayers. Anything short of this approach will perpetuate the “cognitive error,” (i.e., not seeing the connection between individual actions and larger impacts) that has led to the larger problem of climate change in the first place.

Results from Roundtable Discussions

The following tables provide the text from the flipcharts and the number of votes. Green dots designate the priorities while red dots are votes against a proposition. Propositions that start with an asterisk (*) are the propositions that were underlined on the flip charts: the top choices of the individual roundtables (please note that only approximately half of the roundtables made use of this option). The numbers reported on top of each table is the added total of the number in that table.



Top Priorities for Action

	Green Dots	Red Dots
#1 Priority: Establish a Carbon Price	19	0
Establish a reasonable and rising price for carbon (trigger a lot of changes in the market)	14	0
Price on carbon	3	0
Establish an understandable and usable carbon monetization system	2	0
Send serious carbon price signals to drive bioenergy adoption and innovation	0	0
#2 Priority: Create a Level Playing Field Internationally and Remove Barriers to Commercialization	18	1
* Don't regulate by slice	7	0
Identify, prioritize and remove barriers to commercialization	7	0
* Policy and program dollars to support incentives to drive forward bioenergy, in relation to other countries, to other renewables, long term Canadian action	3	1
Adopt an investment lens, include the true cost	1	0
#3 Priority: Establish Clear Semantics and Standards	19	3
Establish a common vocabulary and standards for sustainable harvesting	8	0
Need a standard and transparent definition of sustainability (for public as well as practitioner)	3	2
Establish well understood and well articulated regulatory standard for feedstock harvest	2	0
Accept international standards versus creating and using out-of-step Canadian standards. Example: need for stationary engineers for small boilers	2	0
National renewable portfolio standard – all renewable	2	0
Identify (representative) sustainable bioenergy criteria/standards	1	0
Need a standard (international) agreement on LCA [life-cycle assessment] / iLUC [indirect Land Use Change]	1	1
Ensure environmental integrity – third party certification, GHG [greenhouse gas] benefit, on a lifecycle basis	0	0



#4 Priority: Develop an Overall Strategy	9	7
Develop energy strategy that incorporates bioenergy (fed/prov)	3	0
Value-proposition – alternate uses of fibre in the region (biochemicals, traditional products, etc.)	3	0
Need for policy certainty	1	4
* Need to understand and agree on an end goal (where is wood in our energy supply, where is energy in the forest product mix)	1	0
Need to make policy with as much information as possible about social, economic and environmental impacts	1	0
Inject systems thinking	0	0
Individual ownership (need public appreciation of bioenergy opportunity and risks)	0	3

Key Guiding Principles

	Green Dots	Red Dots
Principle #1: Level Playing Field	16	1
Fibre should go to the highest value (don't focus on bioenergy but take broader view, diversity of application, value both dollars and LCA)	8	0
Do not prescribe set environmental hurdles, let all compete	5	1
When creating policy be: feedstock neutral, process neutral, energy type neutral	2	0
Level the historic playing field so that renewables have same opportunities as fossil fuels have had	1	0
Market-based (where feasible)	0	0
Principle #2: Adaptive Management and Foresight	10	0
* Take into account uncertainty about future forests (climate change=stress)	8	0
* Learning, broad based experimentation, prior to scaling up	1	0
Identify and follow best practices (global inventory, Canadian context, iterative process)	1	0
Adopt existing best practices	0	0



Principle #3: System and Sustainability Thinking	10	3
Systems approach (social, economic, environmental, intersectoral)	2	0
Apply full cost accounting to all energy sources, including fossil fuels	2	0
Do this in adherence to sound forest management practices (biodiversity, soil, productivity)	2	0
A sustainable development approach (economic-social-environmental) is king	1	0
* Life cycle assessment-based, understand fibre supply sources and use LCA implications across a range of resource types (residuals, trees, chips, etc.)	1	0
Holistic approach, LCA, cradle-to-cradle approach	1	0
Stop being so transportation-centric	1	1
Take value chain approach to evaluating options	0	0
Bioproducts > Bioenergy	0	0
Need a transparent mechanism for reaching consensus on this goal (provincial then national)	0	2

In summary, based on the results of the roundtables and the subsequent voting exercise, the RGI team identified four priorities for action and three guiding principles. Note that the votes for the top three priorities and the votes for the bottom two principles were rather close:

Priorities for Action

- Establish a Carbon Price**
- Create a Level Playing Field Internationally and Remove Barriers to Commercialization**
- Establish Clear Semantics and Standards**
- Develop an Overall Strategy

Guiding Principles

- Level Playing Field**
- Adaptive Management and Foresight
- System and Sustainability Thinking

Discussion

The *Critical Conversation on the Smart and Sustainable Use of Canadian Forest-based Bioenergy* accomplished its goal of identifying priorities for action: (a) to establish a carbon price, (b) to level the playing field and remove barriers to commercialization, and (c) to establish clear semantics and standards for the policy dialogue and implementation.



The accompanying guiding principles further emphasize the importance of a level playing field. This priority does not only target subsidies (in the US, in particular), but also policy choices such as a focus on energy products (as in the title of this event). Privileging bioenergy over other bioproducts also represents a *non-level* playing field.

The identification of the “need for a carbon price” as the number one priority could be a helpful message to outsiders who may not expect this level of agreement from a multi-stakeholder, multi-sectoral and multi-disciplinary group (14 green dots = top vote and not a single red dot). While perhaps obvious, it should be helpful to have this “first thing first” message supported by an event that allowed for an open discussion and that was fairly structured in the determination of priorities. The importance of policy in the bioenergy context (over other energy contexts) was emphasized by one of the senior government officials who provided concluding remarks. This particular message is as clear as policy directions get.

The shared view of the importance of semantic clarity is interesting because it is more typical that policy makers and stakeholders are worried about tedious discussions, and delayed action, that can arise from this priority. However, we all should welcome this conclusion as it represents an essential component of a defensible and evidence-based approach to policy and regulatory development.

The need for clarity in concepts, definitions, and standards should also be seen in the context of the desire for a level playing field. Terms such as “green”, “clean”, “renewable”, “environmental”, “ecological”, “sustainable”, “GHG neutral”, “climate friendly,” (etc.) all provide different scopes that define subsets of products on the market. It is usually far from obvious what falls inside or outside of a particular concept and is even more murky why, for example, “renewable” should trump, say, “sustainable”.

In fairness, this poses a tricky problem for policy makers. For example, if they want to privilege technologies that hold promise in the climate change context – be that through grants for innovation or benefits during regulation, or even in the market place – then they will *need to name the thing*. The very act of naming a technology, a process of production, a product class, a place for use, or an individual product will dent or even tilt the playing field. In a nutshell, the goal of policy precision for environmental action can quickly come into tension with the ideal of a truly open market, a market that is governed by a completely invisible hand. Broad system and sustainability thinking should provide the appropriate lens through which concepts can be developed and balances struck – policy making has always been a complex art.

A senior government commentator described the *Critical Conversation* as a “policy speed-dating” – a fitting description of the prioritization process. Considering the competence of the participants, we believe that the emerging messages are worth noticing, pondering, and further communicating.



Appendix: Attendee Affiliations and Participants

Federal Department or Agency

- Agriculture and Agri-Food Canada
- Canadian Forest Service (NRCan)
- Canadian Wood Fibre Centre (NRCan)
- Department of Foreign Affairs and International Trade
- Environment Canada
- Industry Canada
- Office of Energy Research and Development (NRCan)
- Sustainable Development Technology Canada
- Treasury Board Secretariat

Provincial or Municipal Bodies

- IEA Bioenergy Task 31
- Ontario Power Authority
- Ontario Minister of Agriculture, Food and Rural Affairs
- Ottawa Centre for Research and Innovation

Non-Government Organizations

- Canadian Parks and Wilderness Society
- Forest Ethics
- Ivey Foundation
- World Wildlife Fund Canada

Industry Associations

- Canadian Bioenergy Association
- Forest Product Association of Canada

Industry and Consultants

- Canadian Imperial Bank of Commerce
- Delphi Group
- ENSYN
- Global Advantage Consulting Group



Academe

- Carleton University
- Carleton Sustainable Energy Research Centre
- Dalhousie University
- École Polytechnique - Montréal
- Queen's University
- University of Toronto

Participants

Kara Beckles, Douglas Bradley, Virginie Chambost, Catherine Cobden, Marlene Cummings, Bruce Dudley, Peter Duinker, Stewart Elgie, Philip Enros, Jim Farrell, Rick Fitzgerald, Rory Gilsean, Randal Goodfellow, Tim Gray, Brendan Haley, Ronnie Hayes, Chris Henschel, Trevor Hesselink, John Jaworski, Andrea Johnston, Saeed Khan, Avrim Lazar, Bruce Lourie, Warren Mabee, Alex MacLeod, Jay Malcolm, Marc McArthur, Terry McIntyre, James Meadowcroft, David Miller, Ken Montgomery, Sandra Noel, Michael Ott, Susan Phillips, Michael Presley, Jim Richardson, Don Roberts, Tom Rosser, Derek Sidders, Robin Sinha, Myron Smith, Glen Toner, Martin von Mirbach, David Watters, Rick Whittaker, Dan Wicklum.

(We list participants and affiliations separately because all attendees were asked to speak their mind as individuals rather than as representatives of a particular stakeholder group).



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The Regulatory Governance Initiative

The Regulatory Governance Initiative (RGI) at Carleton University builds on the proven track record of Carleton's School of Public Policy and Administration to develop regulatory capacity and competence through research, education, and dialogue. Its scope is regulatory policy, governance, and management. Its approach is holistic and problem-driven. The RGI assembles expertise from the humanities, social and natural sciences as needed. For most projects, practitioners in the private, public and nonprofit sectors collaborate with scholars from the RGI network.

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