



**Joint ecoETI & CEF Projects Workshop**  
**“Short-Rotation Afforestation and Agroforestry**  
**Systems for Energy Purposes and GHG Reduction”**  
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**Social Sciences Approaches to Examining**  
**Development and Deployment Issues**

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## Presentation outline

1. Team members
2. Background
3. Studies for the 2008-2011 period
4. New study for 2011-2012





## 1. Team members

- ✦ Sylvain Masse, Analyst, Forest Economics
- ✦ Pierre P. Marchand, Research Officer, Social Sciences
- ✦ Jennifer Ardiel, Policy Analyst
- ✦ Jeanne Guillemintot, Graduate Trainee, U. of Guelph
- ✦ Claude Delisle, Research Officer

And several partners and collaborators



## 2. Background

**Mainly a follow-up of a focus group study on the perception of the four systems by landowners:**

- ✦ For Quebec and the three Prairie Provinces
- ✦ 80 landowners met through focus groups
- ✦ 50 perceived issues:
  - **Technical, financial**, policy, environmental & others
  - Deal with the devel. and/or application of the systems
  - 80% of the issues common to more than one system
  - Need to be specified and validated by experts





### 3. Studies for the 2008-2011 period

1. A survey of experts on the perceived issues identified in the focus group study
2. An analysis of incentives for SRWC in Europe and USA

**For each study:** objectives, approach, planned activities vs progress for 2010-11, overview of results, activities planned for 2011-2012





## 3.1 Survey of experts on the perceived issues identified in the focus group study, in order to:

1. Clarify the perceived issues if necessary
2. For each of the four systems, evaluate the relevance of addressing the issues in the short term (0-5 years)
3. Evaluate if the relevance of addressing the issues will change over the medium term (5-10 years)
4. Identify other relevant issues
5. Formulate recommendations for the benefit of various stakeholders





## The use of a 2-step approach reflects 4 initial assumptions:

1. Landowners can identify adoption issues relevant for the development and application of the four systems.
2. Their perceptions have to be taken into account by researchers, policy makers, program managers and the conversion industry for successful application and deployment of the systems.
3. Experts can clarify, validate and prioritize issues perceived by landowners, and can identify other relevant issues that landowners may not perceive.
4. Risks can be perceived differently by landowners and experts.





- ✦ The first attempt to assess with experts the relevance of addressing development and application issues perceived by landowners for short-rotation afforestation and agroforestry systems in the Canadian context.
- ✦ Found only one similar study: Workman et al. 2003 for agroforestry in Alabama, Georgia and Florida



## General approach for the expert survey:

- ✦ 11 partners: experts on key types of issues to specify the approach, identify respondents, and participate in result analysis and drafting of a journal article
- ✦ From a list of 44 issues, respondents select issues they believe they have sufficient expertise to comment on
- ✦ Respondents have the possibility to add other issues that seem relevant to address in the short term





## Planned activities vs progress for 2010-2011

1. Implementation of survey (Completed)
2. Data collection and treatment (Completed)
3. Analysis of results and production of a journal article (Ongoing)





## Overview of results and conclusions for 2010-2011

- ✦ 174 eligible experts contacted
- ✦ 72% response rate
- ✦ Average of 5 issues commented on per respondent
- ✦ Respondents come from different types of organizations:  
42% gov., 20% univ., 18% Co-op, NPO, 11% private sector
- ✦ Main activity areas: 67% R&D, 12% TT, 9% operations
- ✦ Higher degree of schooling: 40% Ph.D., 30% Master's



***“Based on your previous answers, and for each of the four systems, how relevant is it to address this issue in the short term (0-5 years) in Canada?”***

A four-point scale:

- Very relevant (3)
- Relevant (2)
- Not very relevant (1)
- Not relevant (0)

**Main indicator of relevance for an issue:**

Average rating for each of the four systems



## Do the experts confirm the relevance of addressing the issues perceived by the landowners?

**Indicator:** Number of issues with average rating  $\geq 2.5$  for at least one system

Yes for 89% of the perceived issues

Confirms our first initial assumption





## How generic are the issues?

**Indicator:** For each issue, the number of systems with average rating  $\geq 2.0$

No. of systems	No. of issues	Percent
4	26	59%
3	5	11%
2	7	16%
1	4	9%
0	<u>2</u>	<u>5%</u>
	<b>44</b>	<b>100%</b>





## What are the most relevant generic issues to address in the short term?

**Indicators:** Average rating for the 4 systems  $\geq 2.5$  and at least 10 respondents for each system

**12 issues** presented in the form of actions:

- ✦ Identify and document the characteristics of the available willow and hybrid poplar clones (Tech.)
- ✦ Ensure an adequate supply of cuttings from the clones that are suited to the application areas (Tech.-Other)
- ✦ Identify measures for controlling competing vegetation, insect pests and diseases (Tech.)





## What are the most relevant generic issues to address in the short term? (Cont.)

- ✦ Specify the yields and production costs in an operational context (Fin.-Tech.)
- ✦ Determine the carbon sequestration potential for various scenarios (Fin.-Env.)
- ✦ Develop models for assessing the profitability of the systems according to various scenarios (Fin.)





## What are the most relevant generic issues to address in the short term? (Cont.)

- ✦ Specify the effect that the cropping systems will have on wildlife habitats and biodiversity (Env.)
- ✦ Assess the environmental risks related to the introduction of exotic species (Env.)
- ✦ Assess and propose incentives (policy, technical and financial assistance) (Pol.)
- ✦ Clarify the legal status of the crops (agricultural, forest, energy) (Pol.)





## What are the most relevant generic issues to address in the short term? (Cont.)

- ✦ Set up demonstration sites (Info.-TT)
- ✦ Produce extension information and step up technology transfer efforts for the benefit of various stakeholders, including landowners (Info.-TT)



## Examples of other relevant issues specific to a type of system

**Indicators:** Average rating  $\geq 2.5$  and at least 10 respondents

### Afforestation systems

- ✦ Draw up an inventory of producers and users, and encourage networking between these two groups
- ✦ Identify and assess arrangements that could permit the cultivation of crops on abandoned farmland, given the current agricultural zoning constraints





## Examples of other relevant issues specific to a type of system (Cont.)

### Agroforestry systems

- ✦ Specify the decrease in non-point source pollution that could result from the systems, as compared with conventional farming
- ✦ Identify the effect that the systems have on adjacent crops



## New issues identified by the experts:

- ✦ **Seven issues identified only once**

Ex.: Specify the role of the systems in a landscape integrated management context

- ✦ **One issue identified by eight experts:**

*“Set up a national genetic improvement network for hybrid poplar and willow clones”*

Reflect a different perspective

The small number of new issues confirms the relevance of the issues perceived by landowners



## Activities and deliverables planned for 2011-2012:

1. Finalize analysis of results
2. Complete production of a journal article
3. Present results in workshops and conferences



## 3.2. Analysis of incentives for SRWC in Europe and USA

- ✦ Governmental approaches that can have an impact on both the demand for and supply of SRWC biomass
- ✦ For a sample of countries and states
- ✦ Objectives: identify incentive measures, evaluate their impacts, and make recommendations to Canadian policy makers and program managers



## Planned activities vs progress for 2010-2011:

1. Identification of descriptive parameters (Completed)
2. Selection of countries and states (Completed for Europe: The United Kingdom, Germany and Sweden)
3. Data collection and analysis (Completed for Europe)
4. Production of internal reports and of a journal article (Internal report for Europe completed)





## Main descriptive parameters:

- ✦ Implementation context
- ✦ Key motivations
- ✦ Principle and particularities
- ✦ Eligible criteria
- ✦ Complementary measures
- ✦ Area of influence (demand or supply)
- ✦ Expected impacts
- ✦ Results
- ✦ Lessons for the SRWC sector





## Overview of results of the European component

### Main SRWC specificities and corresponding policy recommendations

SRWC Specificities	Recommendations
A renewable energy source	Gradual elimination of subsidies for fossil and nuclear fuels
An emerging technology	Targeted measures rather than open competition between renewable energy sources
Requires a long-term vision of development	Continuity of incentive instruments, e.g. regulations, taxes, programs
Involves multiple stakeholders along complex supply chains	Several coordinated measures rather than a single measure
Linked to energy, agricultural and forestry sectors	Harmony between sectorial measures
Can lead to different environ., social & economic outcomes	Guidelines and criteria to ensure sustainable production and utilization
Can have a significant local impact	Focus on local decision-making





## Overview of results of the European component (Cont.)

Several types of incentives with positive impact, including:

- ✦ Establishment grants
- ✦ Feed-in tariffs
- ✦ Taxation
- ✦ Investment subsidies (to consumers or industries)
- ✦ Legal framework

Impact varies according to several factors, e.g.:

- ✦ Level of support
- ✦ Complementary measures



## Key tasks for 2011-2012

For the US component:

- ✦ Implementation
- ✦ Production of an internal report

For the US and European components:

- ✦ Production of a journal article



## 4. New study for 2011-2012 under the CEF:

**A forecast of the large-scale deployment of SRWC systems in Canada for bioenergy generation and other uses**

To assess:

1. The medium (5-10 yrs) and long-term (beyond 10 yrs) deployment
2. The main factors that will influence the deployment
3. The governmental support required



## New study for 2011-2012 (Cont.)

**Approach:** the **Delphi method**, a systematic, interactive, forecasting method that relies on a panel of experts

### Key tasks:

1. To adapt the method to the study context
2. To secure the participation of experts on the main issues to be considered
3. To implement the method
4. To analyze the results and prepare a journal article





Thank You!

