



Building bright futures

RENEWING FUTURES

Powerful HR Solutions for the Renewable Energy Workforce

IEA-RETD Workshop

Thursday, September 27th, 2012

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Funded by the Government of Canada's
Sector Council Program.



About the Electricity Sector Council

- ESC was founded in 2005 as a not-for-profit partnership between business, labour, education and government and industry.
- The Council provides human resource and workplace development support to workers employed by the electricity and renewable energy industries.

About the Electricity Sector Council (cont..)

ESC's Vision

- We help keep the lights on in Canada by enabling a world-class workforce for the entire electricity industry.

ESC's Mission

- To strengthen the ability of the Canadian electricity industry to meet current and future needs for a highly skilled, safety-focused, diverse and productive workforce.
- **ESC's Value Proposition**

The ESC is Canada's most trusted source of objective human resources information and tools to help the Canadian electricity industry match workforce supply and demand.

Areas of Focus

Research/Industry Consultation

- *Labour Market Information*
- *National HR Strategy*
- *Situational Analysis of Powerline Technicians*
- *National Conferences and bi-annual forums*

Training and Skills Development

- *National Occupational Standards*
- *Skills Profiles for Renewables*
- *Training, Learning and Development Initiative*

Recruitment and Retention

- *Succession Planning*
- *Knowledge Management*
- *Aboriginal*
- *Bright Futures*
- *Foreign Trained Workers*

Ultimate Objective

- Is to articulate the labour market intelligence the Renewable Energy Industry needs to pro-actively develop its human resources strategy.
- *Renewing Futures* will enable each sector to understand the dynamics of the workforce, and create the groundwork for labour mobility between different economic sectors.

The Main Sectors

- Marine
- Solar
- Storage
- Wind
- Biomass
- Geothermal
- Hydropower

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First, *Renewing Futures* will conduct a **COMPREHENSIVE** nationwide analysis sector study of the Renewable Energy Sector to develop in depth knowledge of anticipated skills and human resources management requirements.

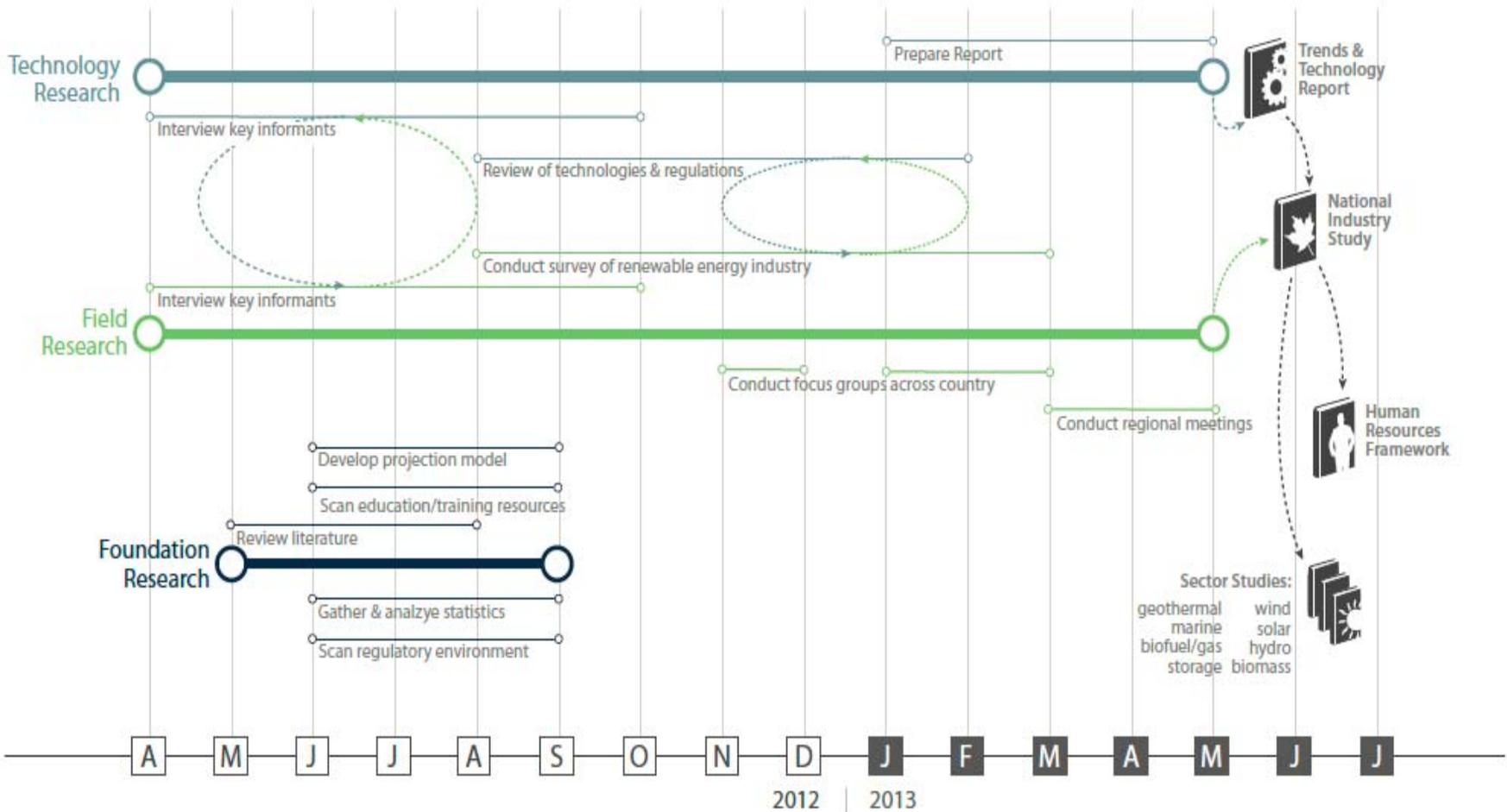
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Second, *Renewing Futures* will **IDENTIFY** and **DOCUMENT Emerging Trends And Changing Technologies** in both the traditional side and renewable side of the industry-and their impact on the current and future human resources and skills requirements in the renewable energy sector.

3 Third, *Renewing Futures* will **ARTICULATE RECOMMENDATIONS** specific to each sector to meet current and future needs for a skilled and competitive workforce in the broader electricity and renewable energy industry in Canada.

Renewing Futures National Research Programme

 Major research stream
  Research task
  Connection between components



Anticipated Outcomes

- A clear understanding of what skills and competencies are required in the current and future workforce for each renewable energy sector;
- The creation of human resource strategies that would result in a sustainable workforce, which allows for transferability of skills and enhanced workforce mobility in the renewable energy sector;
- A better understanding of the regulatory environment and the challenges and opportunities it presents;
- A better understanding of labour market and skills issues in the renewable energy industry which will guide future work in this area as well as inform industry workforce planning; and
- A better understanding of emerging trends and technologies impacting the industry.

Industry Drivers

1. [ATCO Electric Capital Projects Division](#)
2. [Canadian Hydropower Association](#)
3. [Canadian Ocean Renewable Energy Group \(OREG\)](#)
4. [Canadian Solar Industries Association \(CanSIA\)](#)
5. [Canadian Wind Energy Association \(CANWEA\)](#)
6. [Environmental Careers Organization of Canada \(ECO Canada\)](#)
7. [Canadian GeoExchange Coalition](#)
8. [Hydro Ottawa](#)
9. [IBEW Construction Council of Ontario](#)
10. [Lakeland College](#)
11. [Natural Resources Canada \(NRCan\)](#)
12. [Nova Scotia Community College](#)
13. [SNC-Lavalin](#)
14. [Toronto Hydro](#)
15. [Waterfall Group](#)
16. [Waterwood Communications](#)



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Canada 

Methodology – the Canadian Context

Economic and demographic conditions focus on skills and human resource planning:

- Low unemployment and extensive skill shortages were common prior to the 2009 recession
- Labour constraints were concentrated in engineering, technical occupations and skilled trades
- Construction, in particular, had led industrial activity for a decade
- Baby Boomer generation dominates the workforce, has a large share of human capital
- Boomers begin retiring in large numbers in this decade creating;
 - Loss of skills and experience
 - with limited growth in the younger population

Methodology - the Canadian Context

Economic / energy policy constrained by labour market conditions

- An industry/policy focus on innovation, productivity and investment was constrained by skills shortages
- Major investment in apprenticeship, college and university programs targeted adding to the skilled workforce
- Electricity utilities faced a particular challenge
 - An infrastructure gap related to delays in refurbishments
 - A human resources gap related to overall demographics and a hiring gap in the 1990s

Methodology - the Canadian Context

National and industry driven approach to human resource planning is needed

HR related initiatives focus on:

- training
- occupational standards and certification
- drawing non-traditional populations into training and the workforce
- focus on labour force mobility, immigration

The Electricity Sector Council developed a detailed labour market analysis and HR planning tool for the conventional industry

Methodology - the Canadian Context

Energy policy reacting to environmental challenges and conversation

- Major investments are underway to transform the conventional electricity sector
- Deploying renewable energy technologies faces these economic and demographic realities
- Benefits related to the environment are primary
- Employment impacts have been examined in most provinces for most sectors
- The Renewing Futures approach focuses on labour and skill requirements and
- Creating the needed workforce

Methodology in the RETD – Employ Framework

- The Renewing Futures (RF) approach is very much microeconomics and labour market focused
 - In the context developed in the “Review of Approaches” paper our work is
 - “Gross Employment Approach”
 - No plans to track “net” or displacement effects
 - No application of IO or macroeconomic models measuring indirect or induced effects
 - Includes “Employment Factors, Supply Chain Analysis, Dynamics”
 - RF approach will focus on Canadian HR and labour impacts by sector
 - Span of analysis across the supply chain will vary by sector
 - Dynamic analysis will focus on labour market conditions for detailed occupations

Methodology in the RETD – Employ Framework

- **Renewing Futures approach focuses on;**
 - Breadth and depth of skills needed by sector
 - Capacity of employers to recruit and train the needed workforce
- **Analysis built on;**
 - Technology Review
 - Reviews current policies and plans
 - Reviews current and emerging technologies
 - Assesses the market potential and needed investment
 - Employer Survey
 - Identifies key employers and their HR needs and plans
 - Adds depth to occupational characteristics
 - Assesses the impact of current labour market conditions (Compensation, competition for skills, recruiting strategies, internal training and HR development)
 - Labour Market Model
 - Links investment and generation / distribution operations to employment
 - Tracks labour supply and related occupations
- **Focus on Human Resources Planning and Developing Required Skills in the Workforce**

Renewing Futures Research Plan:

- Literature / Regulatory Review
- Review of Technologies in Six Sectors
- Employer Surveys covering detailed occupational skills requirements
- Review of Training Programs
- Development of Labour Market Models by occupation and region
- Reports on technologies and labour markets and human resources planning
- National Human Resources Development Strategy

Conclusions

- The Renewing Futures approach comes from a Canadian context and focus on changing technology and skills shortages
 - Benefits related to environmental improvement and energy efficiency are drivers – not impacts
 - RF approach will reveal elements of a national HR plan that targets
 - Efficient labour markets
 - National approaches to training, occupational standards and certification
 - Collaboration among employers, trainers and government

Questions/Comments