Entrepreneurship & Sustainable Development: Tomorrow's Innovation

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Marie-Josée Lavoie, EMBA

President, GreenCompete Inc.

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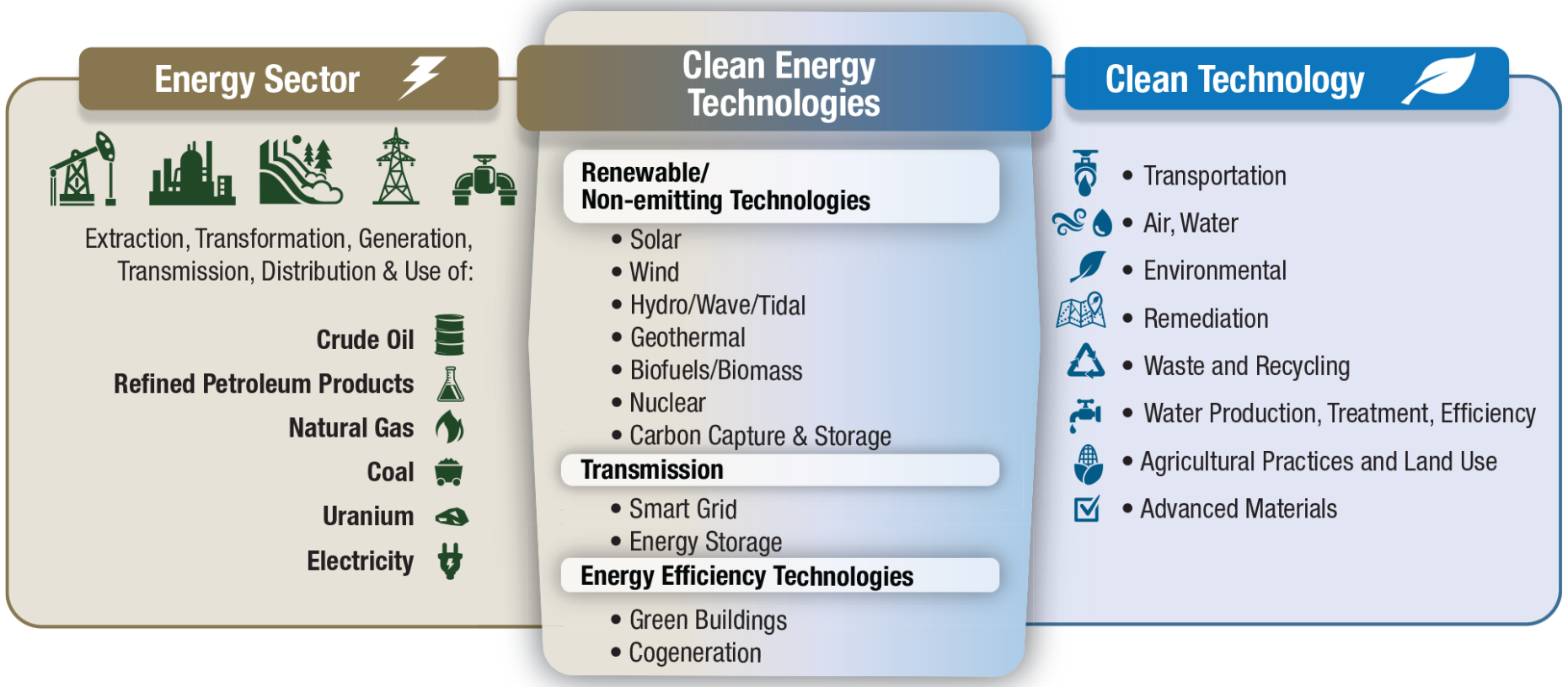
Federal Sustainable Development Strategy

- The Federal Sustainable Development Strategy (FSDS) is primary government vehicle for sustainable development planning and reporting.
- It sets out sustainable development priorities, establishes goals and targets, and identifies actions to achieve them.

Clean technology is critical to the future energy sector



Source: Natural Resources Canada

State of Canada's SD innovation and entrepreneurship

- SD is impacted from 'below' by innovators and entrepreneurs who create firms and bring new products and services to the economy.
- SD is impacted from 'above' by government policies and programs that stimulate and support innovation.
- Entrepreneurship is key for a flow of innovations with both large enterprises and SMEs.

SD metrics for innovation and entrepreneurship

- How to measure progress? Metrics include:
  - Number of new companies, jobs created
  - $ of products, technology and services sold in Canada
  - $ of products, technologies and services exported
  - Number of patents filed and standards developed
  - $ FDI attracted in key sectors
  - Number of Canadian SMEs in global supply chains

Environmental and Clean technology are Big and Getting Bigger!

Environmental and clean technology (2016):

$59.3 billion
of GDP (**3.1%** of total GDP)

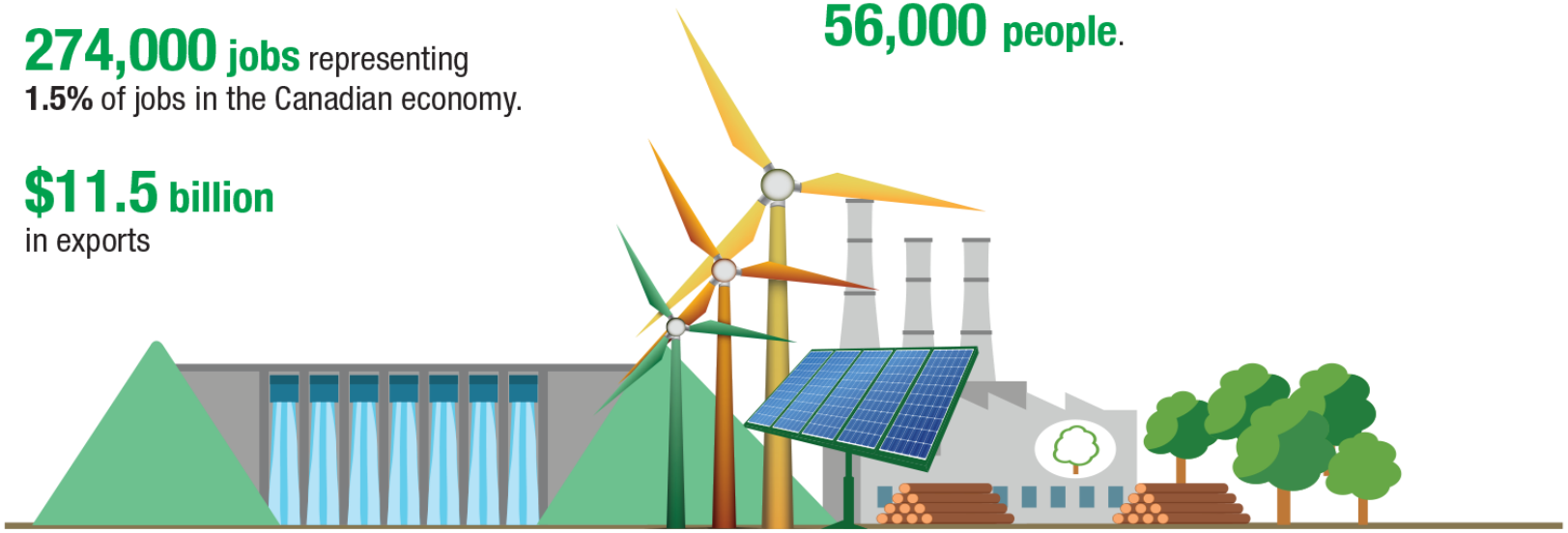
274,000 jobs representing
1.5% of jobs in the Canadian economy.

$11.5 billion
in exports

Of this, clean energy alone accounted for:

1.3% of Canada's GDP

And employed
56,000 people.



Source: Natural Resources Canada

Sustainable Development

- We need to innovate in strategic sectors in order to accomplish our goals for sustainable development that is economically viable given Canada's special nature (climate, geography etc.).

Government sustainable development/clean tech initiatives

- **Clean Growth Hub** was created in 2017 and co-chaired by Natural Resources Canada (NRCan) and Innovation, Science and Economic Development (ISED).
- Its mandate is to help clean technology producers and users navigate the Government of Canada's clean technology programs.

Clean Growth Hub

- *Budget 2017 announced more than **$2.3 billion to support clean technology in Canada and the growth of Canadian firms and exports**.*
- The Hub is a **whole-of-government focal point for clean technology which** supports companies and projects, provides advice and services, coordinates programs and tracks results.
- Services for all sizes of firms in the clean technology space and **across all sectors**.

Natural Resources Canada (NRC)

- NRCan seeks to integrate sustainability and competitiveness for the long-term benefit of Canadians.
- Mandate:
  - Ensure the sustainable development of Canada's energy resources, minerals and metals, and forests.
  - Encourage the responsible development, use and competitiveness of Canada's natural resource products.

Sustainable Development Technology Canada (SDTC)

- Sustainable Development Technology Canada (SDTC) supports Canadian companies to develop new environmental technologies that address climate change, clean air, clean water and clean soil.
- SDTC’s mission is to be a catalyst and convenor for Canada’s clean tech ecosystem.

Sustainable Development Technology Canada (SDTC)

- By the end of March 2018, SDTC-supported projects had created 10,943 new jobs (direct and indirect) attributable to SDTC-funded projects.
- Projects were generating $2.7 billion in annual revenues for Canadian clean tech companies.

Future: Must increase the number of SD enterprises and innovations strategically

- Focus on Key sectors where Canada has a competitive advantage.
- Leverage opportunities in high growth industries to achieve strong economic impact.
- Ensure innovations keep flowing in key sectors from small and large enterprises.
- Engage universities/research centers as partners.

Leverage superclusters to create new technologies

- Leverage the **superclusters** and their partners (private sector and post-secondary institutions):
  - Digital Technology Supercluster (British Columbia)
  - Protein Industries Supercluster (Prairie provinces)
  - Advanced Manufacturing Supercluster (Ontario)
  - Artificial Intelligence-Powered Supply Chains Supercluster (Based in Quebec and spanning the Quebec-Windsor corridor)
  - Ocean Supercluster (Atlantic Canada)

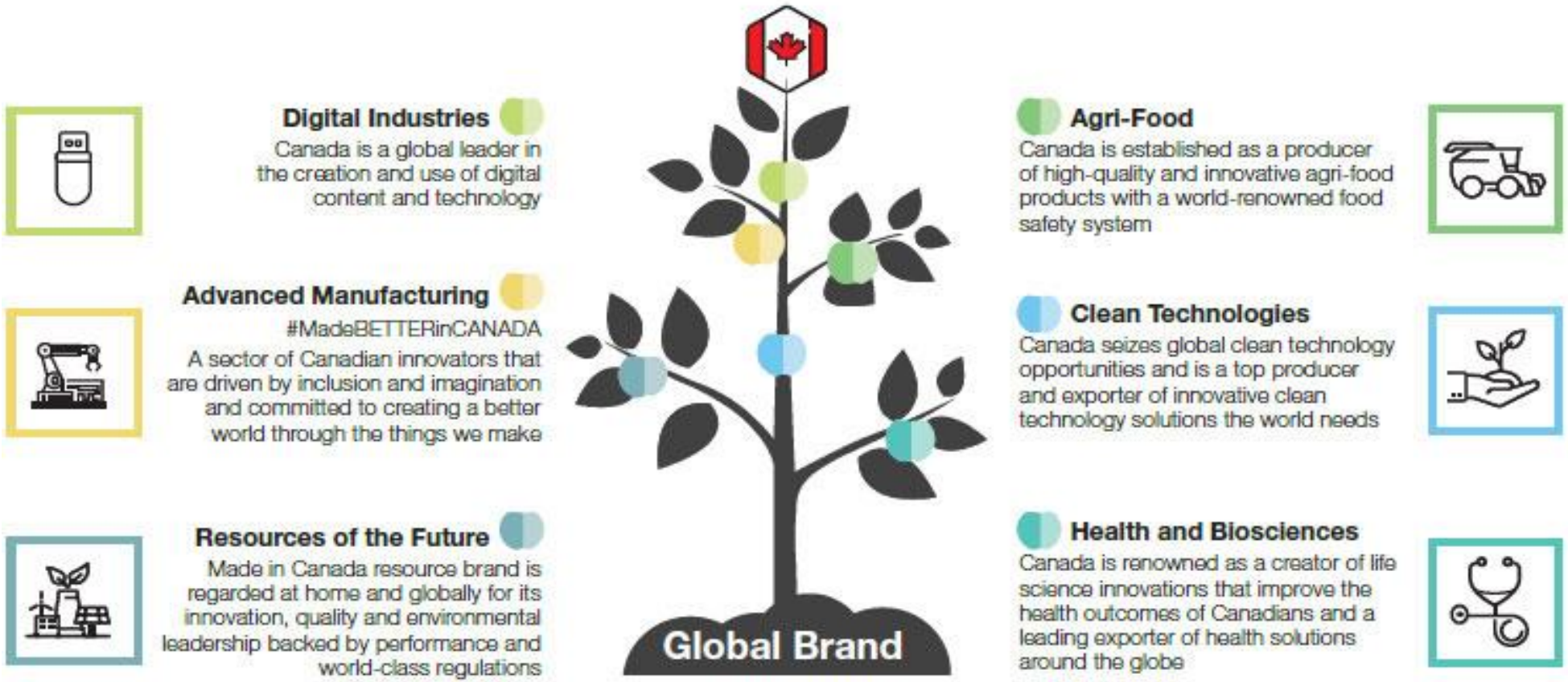
Canada’s Economic Strategy Tables

- Recent *Report from Canada’s Economic Strategy Tables: The innovation and Competitiveness Imperative*
- The Economic Strategy Tables—a new model for industry-government collaboration—were announced as part of the Government of Canada's Innovation and Skills Plan to support economic growth in six key sectors: advanced manufacturing, agri-food, clean technology, digital industries, health/bio-sciences and resources of the future.
- Six signature initiatives endorsed by all Tables.



Report from Canada's Economic Strategy Tables:

Seizing opportunities for growth: September 25, 2018



Source: Innovation, Science and Economic Development Canada

Source of SD entrepreneurs: Post-secondary institutions

- **60 university entrepreneurial hubs** (with business incubators, accelerators, and start-up programs) that help fuel entrepreneurial economic growth.
- **College & Institute campuses'** entrepreneurship centres and incubators provide specialized expertise that allows faculty and students to tap into a wealth of entrepreneurship experience and knowledge.

Source of SD entrepreneurs: Post-secondary institutions

- Post-secondary institutions are a major source of future SD entrepreneurs.
- They have a large pool of smart, innovative and ambitious students in STEM and other fields, where a lot of new ideas for innovations and businesses are created and others await to be created.
- Post-secondary institutions are the best place for students to develop ideas and get support to start a business.

Source of SD entrepreneurs: Professional associations

- Professional associations are good source of future SD entrepreneurs
- Members include ambitious young/experienced professionals looking for new challenges.
- Professional associations include:
  - Engineers Canada
  - Women in Resource Development Corporation
  - The Institute of Electrical and Electronics Engineers

Conclusion

- Increasing the number of SD entrepreneurs has to be **strategic** and include **key sectors** of economic growth.
- Post secondary institutions and professional associations/societies are excellent **sources** to recruit future SD entrepreneurs and innovators.
- SD entrepreneurs on the front line developing and selling tomorrow's innovations will drive Canada's competitiveness and economic prosperity.

Conclusion

- What can government do to stimulate and SD?
  - Strengthen capacity of supply chains in key sectors which benefit both large and small companies.
  - Strengthen capabilities in tech commercialization, IP and standards of our SMEs.
  - Strengthen capacity of post secondary institutions and research centers to work closely with industry.

Conclusion

- What can large enterprises and SMEs do?
  - Large enterprises can add Canadian small suppliers to their supply chains – this will help SMEs grow.
  - Small enterprises can recruit talent and invest in building their capabilities in tech commercialization, IP, standard certification to make competitive product/technology sellable to the world.

Conclusion

- What can post secondary institutions and professional associations do?
  - Improve curriculum and training in tech commercialization, strategic alliances, business development, sales and IP.
  - Strengthen collaborations with industry associations, professional associations, and companies to develop industry relevant curriculum to graduate strong innovators/entrepreneurs.

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Contact:

Marie-Josée Lavoie, EMBA

GreenCompete Inc.

lavoie@greencompete.com

Tel.: 1-877-366-7383 (Toll free in Canada and the U.S.)

Tel. (613) 296-5724