Écotech: enhancing its role as a facilitator of entrepreneurship in Québec's cleantech sector[1]

Painting: Clean technologies (Painting by Ekaterina Turkina)

It was lunch time, and Victoria Smaniotto, Director of Branding & Internationalization at Écotech, Québec's cleantech cluster, stepped out of the office to get some food and fresh air. She was in a very good mood because her morning meeting with the Écotech team went very well. Two important reports were discussed: one about Écotech's potential as an organization, and another about the international exposure of its companies. Both documents presented significant strategic recommendations at the end, and Victoria felt that her team managed to get some good ideas on how to bolster Écotech's role as a cluster organization and to help its companies with their internationalization process. Right after the meeting, she received

[1] IGC research assistants: Meaghan Girard, Andriana Hnatykiw, Bazhena Ivanova; IGC linguistic editor: Meaghan Girard

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another report about entrepreneurship conditions in Montréal, Québec and Canada, more generally. Victoria made a copy and decided to review it over lunch. She was quite impatient to see if it contained some useful ideas on how to improve Écotech's role as the major mediator and facilitator of entrepreneurship in the cleantech sector.

Photo 1: Victoria Smaniotto, Director of Branding & Internationalization, Écotech Québec

Victoria walked through the busy streets of Montréal, stepping on the occasional ice-crisped puddles. She decided to have a quick lunch at Mandy's salads, an innovative business launched by two sisters. Mandy's salads became the darling of the Montréal public due to their freshness, quality and ingredient combinations. The company is also known for its use of environmentally friendly materials, such as compostable bags and biodegradable utensils. While waiting in the line to place her order, Victoria kept thinking that the focus of Écotech's next team meeting was specifically on entrepreneurship, so the new report was very timely. Moreover, in three days, Écotech would be giving a workshop on entrepreneurship for new start-ups and Victoria was hoping to use some information from the new report for the workshop. Entrepreneurship is generally considered to be one of the key drivers of economic development. Many studies indicate that a growth in entrepreneurship is positively associated with GDP growth. Since over 90% of Écotech's companies are small- and medium-sized enterprises, understanding entrepreneurship and ways to enhance it is critical for the whole cluster.

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Écotech as a cluster association[2]

The first organization of its kind in Canada, Écotech Québec brings together businesses and organizations wishing to mobilize and make Québec one of the world's leaders in the clean technology sector. These businesses and organizations include:[3][4]

- Innovative companies
- Centres for research and development or technological transfer
- Large end-user companies
- Companies in the financial sector
- Training and professional development organizations and institutions
- Trade unions
- Cleantech industrial associations and organizations

From a sustainable development perspective, Écotech Québec provides businesses with the most favorable conditions for development and business growth, and stimulates users in order to increase the deployment of clean technologies.

Regionally and globally, Écotech is a major player in the development of the cleantech industry, which is growing rapidly and is recognized as an engine of wealth creation and prosperity.[5]

Écotech's 4 main lines of actions are:

- **KNOWLEDGE:** Grow specialized knowledge and expertise about needs and trends in both the national and international realms
- **NETWORKING:** Increase the breadth of networking amongst industry players in order to generate more opportunities and partnerships
- **POSITIONING:** Boost recognition of Québec's cleantech, both at home and abroad
- **PUBLIC POLICY:** Encourage industry leaders to take action in order to accelerate development and facilitate the commercialization of clean technologies in Québec

[2] Information taken from Écotech, 2016, Annual Report

[3] http://www.ÉcotechQuébec.com/en/about-us/#sthash.n30omsjT.dpuf

[4] Cleantech is classified by sectors of activity in Québec: air, energy efficiency, green chemistry, renewable energy, residual waste, soil and groundwater, sustainable mobility and water.

[5] Écotech, 2016, Annual Report

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Écotech Québec is the first cleantech cluster association in North America to receive a certification of Cluster Management Excellence. It is a member of the CanadaCleantech Alliance and International Cleantech Network (ICN), an exclusive network of cleantech clusters in the world's leading cleantech regions, aiming to generate new business opportunities, enhance competitive advantages and create value for companies, knowledge institutions and local authorities across cluster regions.[6] Denis Leclerc, President and CEO of Écotech, is also the chairman of the International Cleantech Network, as well as the chairman of the CanadaCleantech Alliance.

Écotech's revenues come from the private sector (membership fees and other donations) and the three levels of government (local, provincial and federal). The portion of private funding (42%) compares very favourably with that of the technological clusters internationally.

Benefits of Écotech Québec Membership:[7]

- Obtain a direct access to a unique ecosystem (ordering parties, financial institutions, researchers, cleantech developers)
- Generate business opportunities with players of this ecosystem during networking activities
- Increase the company's online visibility with the company's own marketing fact sheet on Écotech website
- Identify business opportunities more rapidly during meetings with international buyers reserved exclusively for Écotech members
- Obtain privileged information on the most recent national and international clean technology trends and developments
- Contribute to ongoing industry representation within public institutions
- Participate in Écotech's different task forces on topics such as taxation, financing, branding, innovation and commercialization, internationalization, and human resources
- Participate in the realization of projects that will benefit the cleantech ecosystem
- Attend workshops offered by renowned experts
- Save 25% of the cost of activities such as the Annual Cleantech Forum or the Summit on Parliament Hill
- Obtain rebates on registration fees for events on the national and international scene
- Contribute to develop Écotech Québec's position parliamentary committee

[6] http://internationalcleantechnetwork.com/members/Écotech-Québec/

[7] http://www.ÉcotechQuébec.com/en/members/why-join-us/

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- Propose a candidate for Écotech Québec's board of governors

Membership Fees[8]

Employee Number	Membership Fee
Less than 25 employees	$250
25 to 100 employees	$500
101 to 500 employees	$750
More than 500 employees	$1000

See Appendix A for the full membership list. To obtain information on how to become a member, please visit: http://www.ÉcotechQuébec.com/en/members/become-a-member/.

Écotech's members—companies and organizations—come from the following cleanteach sub-sectors: air, green chemistry, water, eco-mobility, energy efficiency, renewable energy, waste, soil and groundwater, and enabling technologies. For more information on each sector, please explore: http://www.ÉcotechQuébec.com/en/clean-technologies/sectors/.

Écotech also created an elaborate interactive map of all the cluster stakeholders.

[8] http://www.ÉcotechQuébec.com/en/members/become-a-member/

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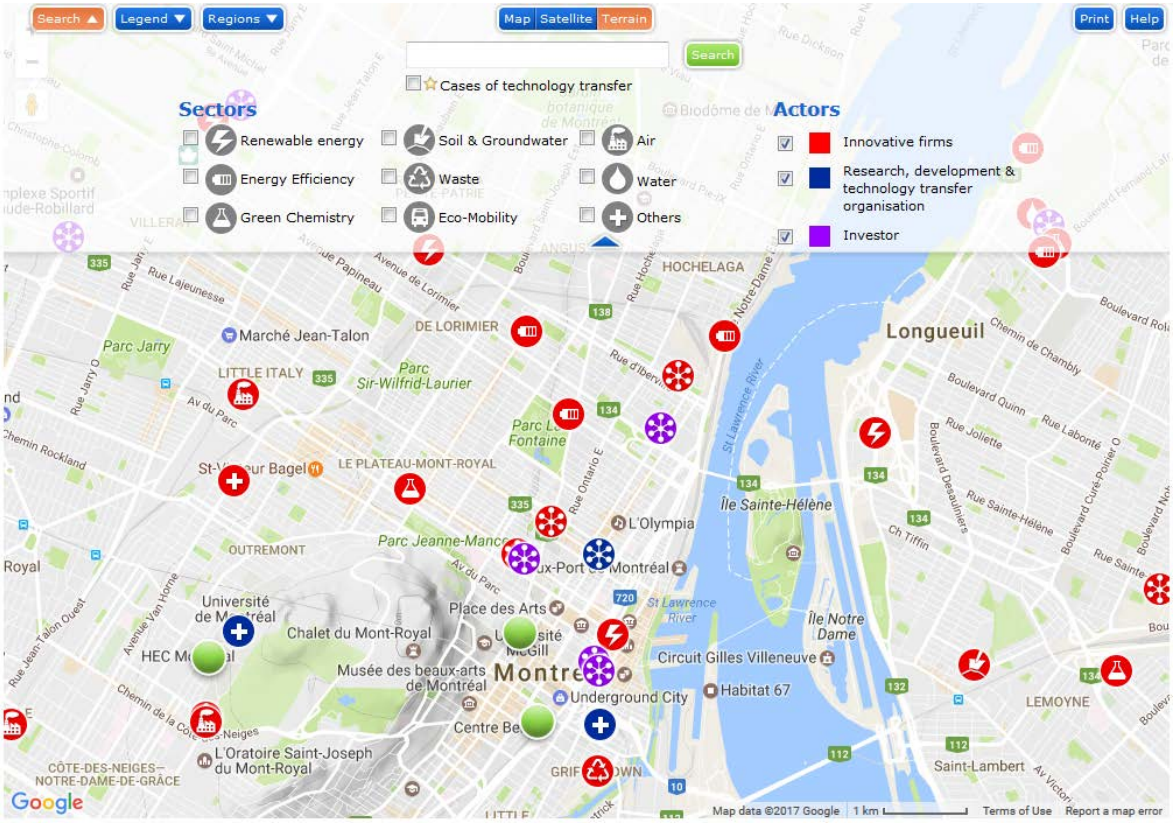

To explore this interactive map in detail, please go here (click the icon at the left side of the page): http://www.ÉcotechQuébec.com/en/members/why-join-us/.

Écotech as an industrial cluster

Cluster lifecycles

Écotech is not only a cluster association. Taken as a whole, it is a very complex system called an industrial cluster, which is defined as a geographic concentration of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions, linked by commonalities and complementarities (Porter, 1998, in Dalum et al., 2002).

In Québec, there are approximately a thousand organizations linked to cleantech, including over 500 innovative companies and 200 public research groups.[9] 94% of Québec cleantech

[9] http://www.ecotechquebec.com/en/clean-technologies/cleantech/

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companies are SMEs and over 70% are active on international markets.[10] They provide over 30,000 jobs and boast total revenues of over $11 billion.[11]

The entrepreneurship report that Victoria was looking through had a good overview of the studies that analyzed the phenomenon of agglomeration economy or, in other words, industrial clustering. Many studies mention that clusters have life cycles similar to product and industry life cycles (Porter, 1998; Menzel and Fornahl, 2007; Sölvell, 2008): from the birth (or emergence), growth (or evolution) and sustained (mature) phases to decline (i.e. museum stage). It is important to note that these changes are unrelated to any number of years, nor is there necessarily a linear relationship between stages (Menzel and Fornahl, 2007). Birth can be traced to historical circumstances; unusual, sophisticated or stringent local demand; prior existence of supplier industries, related industries, or even entire related clusters; or one or two innovative companies (i.e. a "hero", Sölvell, 1998) that stimulate the growth of others (Porter, 1998). This stage is characterized by a small number of entrants (Sölvell, 2008). It is also important to note that clusters in the birth or emergence phase are only so identified in retrospect, once the cluster has progressed to the growth or evolution phase (Sölvell, 2008). For a cluster to pass from the emergence phase to the growth phase, there must be some form of momentum that leads to the creation of an institutional environment to frame the activity, as well as an increase in firms and business entrants that leads to a critical mass, namely by exploiting sufficient diversity and a synergy that will not only lead to innovation, but will also encourage a multitude of new entrants to join, bringing with them their own sets of skills and competencies (Sölvell, 2008; Menzel and Fornahl, 2007, Porter, 1998; Dalum et al., 2002). Once clusters begin to form, a self-reinforcing cycle promotes its growth, especially when local institutions are supportive and local competition is rigorous (Porter, 1998). This phase is characterized by a large number of entrants, which explore different aspects a technology and thereby inject a great deal of heterogeneity into the cluster—a key concept for cluster health, as too much heterogeneity prevents the development of synergies, but too little can bring the cluster to decline.[12] It is also at this phase that the cluster more firmly embarks on a given development (or technological) path (Menzel and Fornahl, 2007). Clusters may eventually broaden to encompass related industries. It may take a cluster a decade or more to develop real competitive advantage (Porter, 1998).

As the cluster expands, so does its influence with government and public/private institutions (Porter, 1998). This is due not only to the direct effects of the clusters' quantitative (size) and

[10] Grey matter for green economy, Québec Cleantech Cluster, 2016

[11] ibid

[12] This explains why cluster development is often particularly vibrant at the intersections of clusters, where insight, skills and technologies from various pools of competencies merge and spark innovation and new businesses (Menzel and Fornahl, 2007).

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qualitative (diversity) advantages, but more significantly due to the qualitative and quantitative systemic effects, which in part explain the greater dynamic and complex relationships and processes observed in clusters. The quantitative systemic effects account for the fact that a large grouping of firms and institutions in a given area are not only able to achieve a critical mass with all the inherent beneficial linkages, but moreover able to rely on this size to possibly arrive at a collective project and yield a greater influence among high-level decision and policymakers (i.e. lobby government) and shape the region's economy in its image. As for the qualitative system effects, in an optimal cluster, these ensure the firms and institutions are able to make use of (i.e. absorb, build on, commercialize) and influence the diversity found both inside the cluster as well as outside the cluster (i.e. create bridges with related clusters), notably through networks that are both open and flexible (Menzel and Fornahl, 2007). These systemic effects are moreover key to defining cluster boundaries. (Menzel and Fornahl, 2007); in other words, it is the systemic effects that differentiate a cluster from another form of agglomeration with a different set of advantages (e.g. economies of scale) (Sölvell, 2008). In the report, Écotech Québec was categorized as an expanding cluster. The report also noted the critical importance of entrepreneurship for growing and expanding clusters.

The sustained (or mature) phase is reached when the cluster begins to focus on taking advantage of economies of scale and its development path. There are fewer new entrants, and existing firms tend to consolidate in a smaller number of key players, both horizontally and vertically (Sölvell, 2008); in other words, the cluster's firm gravitate to the centre and direction of the rest of the industry (Menzel and Fornahl, 2007). While the cluster's network remains somewhat open and flexible, though much less than before, innovation becomes occasional and incremental in nature. The cluster can remain in the phase for long periods of time, and will either exit this phase to go in decline if the cluster becomes too focused and exhausts its technological and/or development trajectory, and something (e.g. from a new hero to a substantial crisis) can alter or renew the cluster's development path and propel the cluster into another growth phase (Menzell and Fornahl, 2008) (i.e. "renaissance" (Sölvell, 2008)).

Finally, clusters can lose competitive edge due to both internal and external forces, such as technological discontinuity or disruptions,[13] shift in buyers' needs (e.g. the Detroit automotive cluster was for a long time shielded from mounting external pressures calling for more energy efficiency technology, and therefore fell in decline when it was no longer able to keep up with the energy efficient technologies developed overseas), internal rigidities (overconsolidation, mutual understandings, cartels, regulatory inflexibility, groupthink among cluster participants),

[13] For more information on the impact and processes of technological disruptions, see *Technological Life Cycles: Regional Clusters Facing Disruption*, by Bent Dalum, Christian Pedersen and GertVillumsen, 2002.

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and other restraints to competition that undermine local rivalry. (Porter, 1998) The cluster is said to "die," leaving behind only a museum (Sölvell, 2008).

The cluster life cycle is distinct—though connected to—industrial life cycles, though the terminology with respect to the stages themselves can be used interchangeably as well (Menzel and Fornahl, 2007), and has tremendous implications for strategy. Specifically, "clustered firms outperform non-clustered firms at the beginning of life cycle and perform worse at its end" (Menzel and Fornahl, 2007, 1).

Clusters are also distinct from other types of agglomerations due to their capacity to learn. Specifically, the local dynamics and close proximities can result in short cognitive distances (i.e. firms and institution's ability to absorb learning from one another). When there is low cognitive distance between different actors, a certain amount of knowledge and competencies are shared, and can consequently be built on. However, as with heterogeneity, too little cognitive distance translates into a more finite pool of possible learning. The short distances are quickly absorbed, and without new input, the potential for innovation stagnates. However, too much cognitive distance (e.g. as in between the actors of different clusters) reduces the ability of actors to learn from one another. Though the input from the other actors would be beneficial for the cluster, the gap is too wide, the trust too fragile, the common ground too little, they are unable to learn from one other (Menzel and Fornahl, 2007).

In other words, these spatial proximities allow clusters to take advantage of opportunities for direct, indirect or and social interactions (e.g. interaction with cluster actors and indirect (monitoring firm activity, taking advantage of buzz [Steiner, 2006]).

And herein lies one of the benefits of cluster-specific institutions: namely, they can further facilitate and intensify learning processes, and both technological proximity and larger absorptive capacity of clustered firms are responsible for dynamics of regional clusters (Menzel and Fornahl, 2007).

Benefits of clusters

Clusters affect competition in three ways: 1) increase productivity of companies based in the area; 2) drive the direction and pace of innovation; 3) stimulate formation of new businesses within the cluster. "A cluster allows each member to benefit as if it had greater scale or as if it had joined with other formally—without requiring it to sacrifice its flexibility" (Porter, 1998). In addition, not only do companies in clusters have a better window on market than isolated companies (due to buzz [Steiner, 2006], information communications [Sölvell, 1998], etc.), they also provide capacity and flexibility to act rapidly. Innovation can be harder to achieve in vertically integrated companies, especially in those that face trade-offs if innovation erodes the value of in-house assets or if current products or processes must be maintained while new ones are developed (Porter, 1998).

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There are also benefits in terms of business formation—namely, there are lower risks for new entrants, as stakeholders can perceive gaps in products or services. New business formations are part of a positive feedback loop, where an expanded cluster amplifies all cluster benefits (increases collective pool of competitive resources, which benefits cluster members)—which underscores the importance of having policy that upgrades cluster (or business environment) as a whole (Porter, 1998). In general, as noted by many studies, thriving entrepreneurship is one of the keys to a cluster success.

Cluster location is also key. Specifically, cluster theory suggests that the location requires certain characteristics for a cluster to grow and perform well, starting from good infrastructure and sophisticated suppliers and ending with active local institutions that promote innovation and competition. Additionally, to capture maximum benefits from co-location, companies must actively participate in cluster-level events and collaborate on different projects. Though there is a minimum threshold of benefits to be achieved by presence alone, an active presence—which includes upgrading health of local business environment—maximizes benefits for all, rather than, as old management logic would believe, benefit the competition (Porter, 1998).

The quality of the local business environment is key, as it gives companies access to high-quality transportation structure, well-educated employees, advantageous regulatory environments, etc., as the case may be.

Québec and Montréal's business environment

There are many positive aspects about Québec economy, which is showing steady growth thanks to its abundant and accessible natural resources, world-class universities, cultural wealth and creativity, and outstanding quality of life.[14] As far as Montréal is concerned, Quacquarelli Symonds (QS), global higher education analyst, has recently named Montréal the world's number-one student city.[15] Montréal jumped from last year's seventh place to overtake Paris, now the world's second-place student city after four years in the top spot.[16] Montréal's improvement in the ranking reflects gains in two of the five traditional composite indicators—Affordability and Employer Activity. "The Employer Activity score reflects Montréal's recent economic progress, which is outpacing that of Canada as a whole... QS's metric takes into account a city's unemployment rate, as well as how favourably international and domestic

[14] Allied for Prosperity, 2010-2013 Platform of the Québec Employers Council

[15] http://publications.mcgill.ca/reporter/2017/02/qs-to-release-top-cities-for-students-rankings/

[16] http://publications.mcgill.ca/reporter/2017/02/qs-to-release-top-cities-for-students-rankings/

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employers perceive graduates of a city's universities. Montréal jumped 11 places in this category."[17]

As far as economic progress goes, Montréal is doing very well in the service sector, as well as in high-tech sectors such as aerospace, biomedicine, information technology with its world-class clusters such as AeroMontréal, Écotech, etc. Montréal has also developed a concentration of expertise in the area of artificial intelligence (AI) and Montréal's AI cluster is becoming a global leader. Such tech giants as Google and Microsoft opened their artificial intelligence labs in Montréal and made considerable investments in research institutions such as MILA (Montréal Institute for Learning Algorithms). [18]Element AI, conceived as world's largest applied artificial intelligence lab, thrives in Montréal.

At the same time, not everything is bright and cheery as there are important challenges for entrepreneurs. Unfortunately, entrepreneurship rates in Québec are lower than those in the rest of Canada.[19] For example, figures from Statistics Canada show that over the last decade, the number of businesses with employees increased more slowly in Québec (3.4%) than the Canadian average (9.4%).[20]

Entrepreneurship demands favourable conditions to thrive. As far as conditions in Montréal are concerned, in the annual CFIB/FP 2015 Entrepreneurial City Rankings, the city ranked rather low on a list of 120 urban centres, based on data compiled from member surveys and Statistics Canada information. [21] Rankings use 15 indicators to assess a city's entrepreneurial environment based on three factors: policy, presence and perspective. Montréal ranked the worst among big Canadian cities for policy. For instance, in Montréal, business property taxes are four times that of residential buildings. Montréal residents (and Québec residents in general) are among the most heavily taxed in North America and face highly progressive rates. Not only are personal income tax rates higher than elsewhere in Canada, but the top marginal rate comes in at a lower income in Québec than anywhere else in the G7 countries.[22] Québec

[17] http://publications.mcgill.ca/reporter/2017/02/qs-to-release-top-cities-for-students-rankings/

[18] http://www.cbc.ca/news/canada/Montréal/Montréal-institute-learning-algorithms-1.3859460

[19] http://www.concordia.ca/cunews/main/stories/2014/05/07/why-Québec-needsmoreentrepreneurs.html

[20] Obstacles to Entrepreneurship, Economic note

[21] http://business.financialpost.com/entrepreneur/small-business/Montréal-ranks-as-the-worst-city-to-run-a-business-in-canada

[22] http://www.theglobeandmail.com/report-on-business/rob-commentary/its-time-for-Québec-to-slay-the-tax-beast/article29139418/

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has the highest tax rates on capital gains.[23] "A heavy burden on capital gains has a particularly harmful effect, deterring entrepreneurial effort as well as support for new businesses from investors providing venture capital."[24]

Another problem is administrative delays and fees that can be extremely costly to the small business owners. The city can also impose extra burdens, e.g. it installed a mandatory water meter in one of the buildings belonging to an entrepreneur interviewed in the report Victoria was reading, and then charged him for it. The city also demanded that that entrepreneur hire private garbage collection because the municipality claimed he generated too much waste to benefit from municipal service.[25] A Canadian study, for example, found that "more than seven small- or medium-sized businesses out of ten considered that regulations were too complex and formed an obstacle to their growth."[26]

Many entrepreneurs in Montréal note, however, that the current city leaders have started to improve things. However, things are still not very functional: there are heavy paperwork requirements, fees, fines; and communication between the government and entrepreneurs is rather poor. For instance, when there is a change in rules, the city does not necessarily communicate it clearly to entrepreneurs. All these factors explain why Montréal ranked very low on the policy dimension.

As far as the current business environment is concerned, Montréal is somewhere in the middle of Canadian cities, and is significantly improving in the rankings from year to year. For start-ups, especially in high tech sectors, there are many opportunities. The city has a very high concentration of students, very affordable housing and funding through different accelerators such as FounderFuel, owned by seed-investment firm Real Ventures.[27] Additionally, many of the difficult regulations don't apply to start-ups because of their small staff size and most don't pay property tax because they rent office space.[28] The CFIB's low mark for Montréal's constant road construction issues is also less of a concern for start-ups as much of their business is

[23] http://www.taxtips.ca/taxrates/qc.htm

[24] Obstacles to Entrepreneurship, Economic note

[25] http://business.financialpost.com/entrepreneur/small-business/Montréal-ranks-as-the-worst-city-to-run-a-business-in-canada

[26] Obstacles to Entrepreneurship, Economic note

[27] http://business.financialpost.com/entrepreneur/small-business/Montréal-ranks-as-the-worst-city-to-run-a-business-in-canada

[28] http://business.financialpost.com/entrepreneur/small-business/Montréal-ranks-as-the-worst-city-to-run-a-business-in-canada

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virtual or focused on the international market, and they source their investors and clients globally.

The city is aware of the challenges faced by entrepreneurs and companies and has developed an action plan focused on streamlining permits, facilitating parking and public transportation, and improving infrastructure.[29] CFIB, Écotech and other organizations help to advocate for better control of municipal spending and for the city to give tax breaks to small businesses.

Entrepreneurial intentions and entrepreneurial chain[30]

Even if the actual entrepreneurship rates in Montréal have not been very high, the 2016 Entrepreneurship Index (presented by Caisse de dépôt et placement du Québec and produced in partnership with the National Bank | HEC Montréal Institute for Entrepreneurship [NBIE] and Leger) shows that entrepreneurial intentions among Québecers have tripled (to 21.0%) from when it was first published in 2009.[31] According to Michèle Boisvert, Executive Vice-President, Business Outreach at Caisse de dépôt et placement du Québec, "[t]his high rate is likely related to numerous efforts made to support a strong entrepreneurial culture in Québec; today an entrepreneurship career is not only regarded as legitimate, it has become an optimal choice, especially among young people."[32]

An increase in entrepreneurial intentions stems in large part from youth aged 18 to 34 years (a group in which intentions increased from 36.6% in 2015 to 42.2% in 2016).[33] Immigrants, not surprisingly, continue to form a high proportion of entrepreneurs, including 22.4% of Leaders, an impressive total relative to their overall 11.2% weight in the adult population of the Index respondents. [34] Further efforts clearly need to be made to support this "naturally entrepreneurial" group.

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[29] Ihttp://business.financialpost.com/entrepreneur/small-business/Montréal-ranks-as-the-worst-city-to-run-a-business-in-canada

[30] Section based on the following source of information:

http://www.hec.ca/en/press_room/releases/2016/CP_Indice_entrepreneurial_Québecois_2016_en.html

[31] http://cdpq.com/en/news-media/press-releases/Québec-entrepreneurship-index-2016-Québec-entrepreneur-four-profiles

[32] http://www.hec.ca/en/press_room/releases/2016/CP_Indice_entrepreneurial_Québecois_2016_en.html

[33] http://www.hec.ca/en/press_room/releases/2016/CP_Indice_entrepreneurial_Québecois_2016_en.html

[34] http://www.hec.ca/en/press_room/releases/2016/CP_Indice_entrepreneurial_Québecois_2016_en.html

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Women demonstrate only a modest presence in the entrepreneurial chain. Particularly surprising is the fact that there are so few Québec women in the Leader profile (22.9%), which is dominated by entrepreneurs with higher education. The fact that there are far more Québec women with advanced university degrees than men would lead one to expect more women "Leaders." The shortfall is in part due to a lower propensity among women to take risks. Therefore, strong support for this group is crucial, as women form a large "reserve" which represents the future of entrepreneurship in Québec.[35]

Québec entrepreneurial chain in 2016

	TOTAL QC	18-34 years	Men	Women	Immigrants
INTENTIONS	21.0%	42.2%	25.9%	16.3%	32.3%
START-UPS	9.8%	15.1%	12.3%	7.4%	17.5%
OWNERS	7.8%	5.1%	10.4%	5.3%	8.3%
CLOSURES	12.6%	5.4%	15.6%	9.7%	15.1%

Entrepreneurship and cleantech sector

Environmental legislation in Québec is not very progressive and many companies in cleantech sector have difficulties with respect to product development and finding market for their products. As one cleantech company representative mentioned, "the regulation here does not favour the use of clean technologies. For example, for ozone-depleting substances (ODS), we have [in Québec] a regulation for 90 substances. In Ontario there are 300 of them regulated, and in New York there are 1100."[36]

Another important challenge is that though the cleanteach sector is very innovative, it is also heavily regulated, and the government is often slow and does not catch up with the important developments and innovations. For example, an innovative start-up developed powerful hydro turbines for cleaning rivers, but since in the government regulatory documents made no mention of the possibility of placing such turbines in the rivers, the company could not advance. After waiting and waiting for permits, it decided to offer its product to European markets and found high demand there.

[35] http://www.hec.ca/en/press_room/releases/2016/CP_Indice_entrepreneurial_Québecois_2016_en.html

[36] Master's thesis by Christophe Marriage-Beaulieu, HEC Montréal, 2016

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Therefore, due to the rigid environmental legislation and the breadth of cumbersome regulations mentioned above, in combination with the relatively small size of the domestic market, many companies are forced to seek for international markets upon their inception. Only 43% of Canada's cleantech revenues are domestic. The remaining 57% are international—34% from the U.S., and 23% from the rest of the world, even though the industry is mostly represented by small- and medium-sized enterprises.[37]

Another major challenge is financing. Kate Ballotta, spokesperson for the Canadian Bankers Association, says the clean technology sector presents specific challenges for Canadian banks:

"it can be challenging to provide debt financing to firms who do not yet have balance sheets that banks can use as security, or the cash flow to be suitable for traditional debt financing," she says. "These companies are typically in the early stage of the business life cycle and are more suitable for equity financing—a market which banks do not actively finance."[38]

In order to assist innovative start-ups, Cycle Capital Management launched Ecofuel in 2014, a new accelerator for startup companies in clean technology.[39] The purpose of the accelerator is to help prepare entrepreneurs to build globally competitive companies. In addition to the financial and logistical support from Cycle Capital Management, Ecofuel is also collaborating with Écotech Québec and Sustainable Development Technology Canada (SDTC). Moreover, a seed-stage cleantech investment fund was created, following the presentation of the Government of Québec's 2016-2017 budget. The Government of Québec joined private-sector investors by contributing up to $30 million to the new fund.[40] The contributions of these private-sector partners and the government are slated to reach up to $45 million earmarked to cleantech seed-stage startups.[41] These developments are in line with Écotech Québec which, based on its analysis of the Québec cleantech funding chain, has long called for the creation of a seed fund to develop startups. Ecofuel, already positioned at the seed stage with its accelerator and its financing solution, will become a natural ally of this new fund and contribute together to the development of a green economy in Québec by supporting companies that are helping to improve our environment and fight climate change. Moreover, the Québec government has promised to significantly diminish the fiscal burden of innovative corporations

[37] http://www.canadianbusiness.com/innovation/canadas-cleantech-industry-is-bigger-than-you-think/

[38] http://www.canadianbusiness.com/innovation/canadas-cleantech-industry-is-bigger-than-you-think/

[39] http://www.newswire.ca/news-releases/cycle-capital-launches-ecofuel-accelerator-515744881.html

[40] http://www.newswire.ca/news-releases/cycle-capital-launches-ecofuel-accelerator-515744881.html

[41] http://www.newswire.ca/news-releases/cycle-capital-launches-ecofuel-accelerator-515744881.html

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and encourage manufacturing companies in commercializing products using patented technologies developed in Québec.

Examples of Écotech activities focusing on entrepreneurship and related policy

One of the major activities steered by the Écotech cluster association is helping Québec SMEs to grow and cooperate with bigger industry players in other sectors that need clean solutions. For instance, Écotech matched a small innovative cleantech company called Carnot Refrigeration with a big Canadian company, Bell. Carnot Refrigeration developed green ventilation systems for Bell's data rooms. This technology is now used throughout Canada, and Carnot Refrigeration has many customers and is growing fast.

With the objective of increasing the presence of start-up companies, Écotech Québec also collaborates intensely with the Ecofuel accelerator mentioned above. Through its communication tools, Écotech Québec promotes calls for applications from the accelerator and also disseminates the "wins" of Ecofuel's companies.

Écotech also has special conditions for start-ups in terms of a free annual membership. Additionally, it has organized a series of workshops for start-ups where entrepreneurs can make a presentation on their technology and get feedback on the next steps of their business plan.

As far as policymaking is concerned, Écotech Québec, a key player in the positioning of Québec's clean technologies sector, is frequently asked to participate in public consultations prior to the development of several public policies. Speaking on issues directly related to the ecosystem and the business conditions of the sector, Écotech Québec presented some capacity-building proposals. In January, Écotech Québec was pleased that the Government Sustainable Development Strategy wanted to provide better incentives for clean technologies, thus contributing to the development of a green economy. As part of its brief, Écotech Québec proposed elements that would help support the government in the implementation of its strategy. Not only can the clean technology sector contribute to the achievement of government objectives, but the strategy itself can also have a real impact on the growth and competitiveness of this sector. In October, the new strategy was unveiled and included several measures to increase the use of clean technologies. In October, Écotech Québec was invited to present its proposals to the advisory committee on regulatory and administrative relief led by Lise Thériault, Minister responsible for Small and Medium Enterprises, Regulatory Streamlining and Regional Economic Development. The mandate of this committee is to advise the government on the measures to be taken to alleviate the regulatory and administrative burden on businesses, to identify problems and needs, and to suggest priority regulatory and administrative areas. In September, Écotech Québec was invited by the Committee on

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Transportation and the Environment to submit its recommendations on the green paper entitled *Modernizing the Environmental Approval Scheme of the Environment Quality Act*. The objective is to provide Québec with a clear, predictable and effective regime. It is interesting to note that several of Écotech Québec's proposals, which were sent during the pre-consultation phase, were already included in the green paper for consultation. At the invitation of the Committee on Transportation and the Environment, Écotech Québec participated in the special consultations and presented its position on the consultation paper entitled Québec's 2030 Greenhouse Gas Reduction Target. On October 21, Écotech representatives presented the main recommendations to the members of the Committee to increase the contribution of innovative companies to help Québec meet the GHG reduction target by 2030. Finally, Écotech Québec's representations to the Québec Taxation Review Commission were also well received. Indeed, Volume 1 on Québec's tax reform recommends, among other things, the introduction of fiscal measures to support the commercialization of research and development results for SMEs. This was one of the flagship measures introduced by Écotech Québec.

Écotech also helps its member companies to internationalize. Among other things, it organizes events, called Rendez-Vous, to showcase the potential of new markets. For instance, knowing that the City of Hong Kong, an excellent gateway to penetrate the Asian market, has to invest several billion dollars in the green economy (waste treatment, green building, energy efficiency, water treatment), Écotech Québec jumped on the opportunity when Hong Kong stakeholders were passing through Montréal. Last June, a Rendez-Vous was organized for Québec and Hong Kong company representatives in collaboration with the Hong Kong Canada Trade Association (ACHKC). The objective was to explore business opportunities and meet partners to help companies start or accelerate their efforts in this region of the world. The speakers shared the secrets to entering the Hong Kong market and exchanged with participants during the mesh activity.

Écotech Québec has also been involved in two trade missions organized by the Board of Trade of Metropolitan Montréal and the World Trade Center. During the mission to Japan in February, participants had the opportunity to participate in the Kansai-Canada Greentech Forum in Osaka to present and showcase their expertise to potential partners. The mission then traveled to Tokyo to participate in the World Smart Energy Week, a world-renowned fair. The second mission, led by the Mayor of Montréal, Denis Coderre, took place in China in November. Écotech Québec offered companies a special clean technology program that included a day at Eco Expo Asia (Asia's largest trade fair for environmental technologies and green buildings), which led to structured, personalized with the Consulate of Canada. In addition, thanks to its partnership with the China Yixing Industrial Park for Environmental Science and Technology, Écotech Québec has offered companies the opportunity to meet potential partners. Using this chance, Dagua Technologies found a great new business partner. For more information on this innovative Québec company, please visit http://www.dagua.com/.

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INNO+ is another important initiative designed and created by Écotech Québec. It is a simple and effective formula for the emergence of more business opportunities between Québec's technology-based SMEs and potential users of innovative solutions. As part of this initiative, in partnership with the Québec Association for Energy Management (AQME), the Québec Council for Environmental Technology Enterprises (CETEQ) and Réseau Environnement, Écotech Québec organized a series of workshops. The objective of these workshops is to present the solutions of innovative SMEs to an audience composed mainly of municipal sector representatives. Écotech Québec was selected as part of the PRAM-Est program of the City of Montréal, funded by the Ministry of Municipal Affairs and Land Occupancy. Three INNO+ workshops were organized on the topics of soil decontamination, energy efficiency and process optimization. These workshops were conducted in partnership with local chambers of commerce, industry associations and local development centers. Nearly 200 participants attended the workshops. In addition, a microsite has been developed to allow those who have not been able to attend the workshops to have access to the innovations that were presented.

Finally, Écotech Québec collaborated with the MISA Group (Mining Expertise Network) in order to better inform the mining industry about innovative solutions contributing to its vitality and sustainability. Solutions were presented in relation to the various challenges and challenges in the mining environment.

Conclusion

Victoria skimmed the entrepreneurship report while eating a wonderful organic Endless Summer Salad served with miso and tamari dressing, mixed greens, kale, quinoa, avocado, tempura onions, pumpkin seeds, carrots, tempeh, red peppers, fresh cilantro and fresh basil. She realized that the report will be very useful to help Écotech develop new ideas on how Écotech can further enhance entrepreneurship in Montréal and in Québec. She thought it would be good to discuss some points with her colleagues right away when she got back from lunch.

Task:

1. Analyze Montréal and Québec entrepreneurship landscape.
2. Propose a strategic plan for Écotech that would allow it to enhance entrepreneurship in Montréal and in Québec and to help innovative cleantech SMEs grow.

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REFERENCES:

BIBLIOGRAPHY

Ashiem, Bjorn T., and Lars Coenen. "Contextualizing Regional Innovation Systems in a Globalizing Learning Economy: On Knowledge Bases and Institutional Frameworks." In *Journal of Technology Transfers* Vol. 31 (2016): 163-173.

Audretsch, David B., and Eric E. Lehmann. "The Role of Clusters in Knowledge Creation and Diffusion: An Institutional Perspective."

Bathelt, Harald, Anders Malmberg and Peter Maskell. "Clusters and Knowledge: Local Buzz, Global Pipelines and the Process of Knowledge Creation." In *Progress in Human Geography* Vol 28, No. 1 (2004): 31-56.

Cowan, R. et al. "Knowledge Creation, Knowledge Diffusion and Network Structure." In *Economics with Heterogeneous Interacting Agents* Vol. 71, No. 5 (2004).

Dalum, Bent, Christian Pedersen and GertVillumsen. "Technological Life Cycles: Regional Clusters Facing Disruption." Paper presented at the DRUID summer conference on 'Industrial Dynamics of the New and Old Economy—who is embracing whom?', Copenhagen/Elsinore, June 6-8, 2002.

Gordon, Ian R., and Philip McCann. "Industrial Clusters: Complexes, Agglomerations and/or Social Networks?" In *Urban Studies* Vol. 37, No. 3 (2000): 513-532.

Martin, Ron, and Peter Sunley. "Deconstructing Clusters: Chaotic Concept or Policy Panacea." In *Journal of Economic Geography* Vol. 3 (2003): 5-35.

De la Maza-y-Aramburu, Xabier et al. "Where is the Value of Cluster Associations for SMEs?" In *Intangible Capital* Vol. B, No. 2 (2012): 472-496.

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Menzel, Max-Peter, and Dirk Fornahl. "Cluster Life Cycles: Dimensions and Rationales of Cluster Development." Paper presented at the DRUID-DIME Academy Winter 2007 PhD Conference on 'Geography, Innovation and Industrial Dynamics', Skoerping, Denmark, January 25-27, 2007.

Porter, Michael E. "Clusters and the New Economics of Competition." *Harvard Business Review* Vol. 76, No. 6 (November/December 1998): 77-90.

Rugman, Alan M. and Alain Verbeke. "Multinational Enterprises and Clusters: An Organizing Framework." In *Management International Review* Vol. 43, Special Issue (2003): 151-169.

Sölvell, Örjan. *Clusters: Balancing Evolutionary and Constructive Forces*. Stockholm, Sweden: Ivory Tower Publishers, 2008.

Steiner, Michael. "Do Clusters 'Think'? An Institutional Perspective on Knowledge Creation and Diffusion in Clusters." In Asheim, Bjorn et al., ed. Clusters and Regional Development: Critical Reflections and Explorations (New York, Routledge, 2006):199-217.

Wolman, Harold, and Diana Hincapie. "Clusters and Cluster-Based Development Policy." *Economic Development Quarterly* Vol. 29, No. 2 (2015): 135-149.

Appendix A:

Écotech's members and areas of expertise:

3R MCDQ - Waste
AEPONYX-Energy Efficiency - Enabling Technologies
Aéronergie-Energy Efficiency - Air
Airex Énergie-Green Chemistry - Waste
Alliance Magnesium - Enabling Technologies - Energy Efficiency
AquaRehab -Water
AQUARTIS - Water - Energy Efficiency
Aquatech, Societé de gestion de l'eau - Water
architecture R&D - Energy Efficiency
ADICQ – Green Chemistry - Energy Efficiency

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AQT - Others
AQME - Energy Efficiency
Atis Technologies - Energy Efficiency

Bell - PARTENAIRE DE PRESTIGE

BioFuelNet Canada

Biothermica Technologies - Air - Renewable Energy
Bourse de croissance TSX / Bourse de Toronto – Others
BXA Innovation - Waste - Enabling Technologies
C3E - Others - Energy Efficiency
Carboniq - Renewable Energy - Air
Carnot Réfrigération - Energy Efficiency
CCTT – Optech - Others
CelluForce - Green Chemistry

CRIQ - Others

CTTÉI - Others

CÉPROCQ - Green Chemistry - Others

CNETE
CCI Française au Canada – Others
Chambre de Commerce Italienne au Canada - Others
Chimie ParaChem - Green Chemistry
Ciment McInnis - Air - Energy Efficiency
Confédération des syndicats nationaux - Others
CETEQ - Others - Waste

CRIBIQ – Others

Coop Carbone - Air
Corporation Larvatria - Green Chemistry - Air

Créneau ACCORD Bio-industries environnementales - Renewable Energy – Waste

Cycle Capital - PARTENAIRE DE PRESTIGE – Others
Davies - PARTENAIRE DE PRESTIGE - Others
DDI Heat Exchangers - Renewable Energy - Waste
DEL Innovation Design - Energy Efficiency
Derichebourg Canada - Waste - Others
Développement économique Longueuil - Others
E2Metrix - Water
Ecofuel - Others

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École de technologie supérieure - Others
École Polytechnique de Montréal - Others
Écopoto - Green Chemistry
Ecosystem - Energy Efficiency - Renewable Energy
Ecotuned Automobile (ex GranTuned) - Eco-Mobility
Effenco - Eco-Mobility - Energy Efficiency
Electrochem Technologies & Materiaux Enabling Technologies - Green Chemistry
Énergère - Energy Efficiency - Renewable Energy
Enerkem - Green Chemistry - Renewable Energy
Enviro-accès - Air - Others
EnviroCompétences - Others
Éocycle Technologies - Renewable Energy
ECPAR - Others
Ethanol GreenField Qc - Renewable Energy
Export Development Canada – Others

Fédération des Caisses Desjardins du Québec - PARTENAIRE DE PRESTIGE

FilmOrganic - Green Chemistry - Others
Fondaction CSN - PARTENAIRE DE PRESTIGE - Others
Fonds de solidarité FTQ - Others
FPInnovations - PARTENAIRE DE PRESTIGE - Others
Gaz Métro - PARTENAIRE DE PRESTIGE - Energy Efficiency -Renewable Energy
Gazoil Doux - Waste
GCM Consultants - Energy Efficiency - Air

Génome Québec

GHGSat - Air
Groupe Briom - Water - Energy Efficiency

Groupe Robert

Idénergie - Renewable Energy

Inno-3B - Energy Efficiency

Innofibre - Waste - Renewable Energy

Innovaserft - Green Chemistry

Innoveox Canada - Waste – Water

INO – Others

Inocucor Technologies

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Island Water Technologies

Kosmos Innovation - Waste – Water

LEKLA - Energy Efficiency - Renewable Energy

Les Systèmes Nordry - Energy Efficiency – Air

LITO Green Motion

Montérégie

Mabre Canada - Renewable Energy – Air

Manufacturiers et exportateurs du Québec – Others

Marmott Énergies - Renewable Energy - Energy Efficiency

Mogile Technologies - Eco-Mobility - Enabling Technologies

More Technologies et Industries - Waste - Renewable Energy

Nanophyll - Green Chemistry - Energy Efficiency

Northex Environnement - Soil & Groundwater – Others

Nova Bus - Others

Odotech - Air - Energy Efficiency

Polystyvert – Waste

Pompaction - Water

PRÉCICAD - Eco-Mobility - Enabling Technologies
Prima Québec (Nano Québec)
Produits Chimiques Magnus - Green Chemistry - Water
PureSphera (Recyclage ÉcoSolutions) - Waste - Air
Pyrobiom Énergies - Renewable Energy - Green Chemistry
PyroGenesis Canada - Renewable Energy - Waste
Pyromaitre - Energy Efficiency
Pyrowave - Waste - Renewable Energy
RBC - Industries des sciences et des technologies - Others
RD Capital
Réseau Environnement - Water - Soil & Groundwater
Ressources Dragon Nippon - Soil & Groundwater
SADC de la Région de Matane - Others
SAQ - Others - Waste
Section du Québec du CBDCa - Energy Efficiency - Others
Service aux Entreprises - Commission Scolaire des Affluents - Others

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Sherbrooke Innopole - Others
Sigma Energy Storage
Suncor Énergie
Swiss Business Hub Canada
Sysgaz - Renewable Energy - Waste
Systèmes Lyko - Renewable Energy – Others
Tandem Expansion - Others
Technologies du développement durable Canada - Others
Technologies ECOFIXE - Water
Technologies et Service OXX - Ro Poirier - Air - Water
Technologies Propres TGWT - Green Chemistry - Water
Technoparc Montréal - Others
Technopole Maritime du Québec - Others
TM4 - Eco-Mobility - Renewable Energy
Trigo Energies - Renewable Energy - Energy Efficiency
Ubios - Energy Efficiency - Enabling Technologies
Université de Sherbrooke - Others
Université McGill
UQAM - Faculté des sciences - Others
Varitron - Energy Efficiency
Vertal - Waste - Air
Ville de Montréal-Est – Others
Ville de Varennes - Others
Viridis Environnement - Waste
VIZIMAX - Renewable Energy
Volts Energies - Energy Efficiency - Renewable Energy
WaterShed Monitoring - Water
Xebec Adsorption - Renewable Energy – Air

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