SPARK 2019: Scaling Cleantech in Alberta Discussion

Key Take Aways

In conjunction with the SPARK Conference, Emissions Reduction Alberta (ERA), GLOBE and The Delphi Group, supported by Energy Efficiency Alberta (EEA) and Foresight Cleantech Accelerator, hosted a breakfast of key stakeholders from the Alberta cleantech ecosystem with an interest in scaling and growing cleantech companies. Approximately 30 representatives from funding agencies, cleantech companies, government, accelerators, financial institutions, cleantech industry associations, research organizations and corporate partners participated.

The objective of the session was to discuss how to leverage investments and successes to date in supporting earlier stage cleantech development, with a view to framing next steps and actions that could enable the acceleration of technology commercialization, market penetration, company scale-up, and growth. Alberta has the opportunity to leverage the significant investments It has made to date in technology development, demonstration and first-of-a-kind deployment to help meet global economic and environmental performance goals through the establishment of profitable cleantech companies that are deploying technologies the world needs.

The breakfast session focused on how to enable cleantech companies to deploy the "second to the hundredth" projects and beyond, on the road to commercialization and profitability. Though the discussion touched on currently available measures and financing vehicles to support the scaling of clean technologies and companies, a summary of these measures were more fully covered in a public SPARK session. Despite existing financial vehicles and other support, once past initial technology validation and a first-of-a-kind deployment, many cleantech companies struggle to deploy their technologies at scale, achieve market penetration and grow their businesses and revenues. This was the starting point for the breakfast discussion.

The particpants were asked to consider the follow discussion questions:

- Within Alberta, what (if any) vehicles/mechanisms are missing from the technology scale-up and growth spectrum?
- Technology scale-up and growth often face unique challenges in Alberta (e.g. large capital requirements, difficulty finding a suitable industry partner/development site). What are some potential solutions that could begin to remove barriers to growth and scale-up?
- Recognizing that we can't do this alone and that sustainability is a team sport, what collaboration or trusted partnership can you identify/start today in order to begin to move toward the action space?

The following summarizes the key takeaways from the 3 table discussions.

1. Current Gaps and Challenges

Whereas financing for scaling up and growth is most commonly mentioned as the biggest gap, cleantech companies face a number of challenges at this stage of growth. Table 1 summarizes the main themes with respect to gaps and challenges discussed across the 3 tables.

Table 1: Summary of Gaps and Challenges for Scaling Cleantech

Risk	Finance	Skills & Business Acumen	Market Pull and Technical	Regulatory and Policy
• Inadequate consideration of risk tolerance beyond pilots • Buyers (and some investors) more risk adverse than sometimes warranted	• Financing for $100 million & up installations is missing • Too early for commercial banks • Distribution of capital across early stage companies impacts the provision of appropriate support for growth ready companies	• Scale up not the same skill set as start up • Lacking pay it forward culture and mentors for scale up • Business readiness gets less attention than technical readiness	• Canada is a small market • Long timelines for tech development (15 years+) • Demand pull levers beyond regulation inadequately employed	• Regulatory and policy uncertainty impact investment • Carbon pricing and accounting differs by jurisdiction

2. Potential Solutions

Along similar themes to current gaps and challenges, participants also suggested a variety of measures that could address some of these, and support scaling cleantech and companies, as summarized in Table 2 below.

Table 2: Summary of Potential Additional Measures and Solutions for Scaling CT

Risk	Finance	Skills & Business Models	Market Pull and technical	Regulatory and Policy
• Work with investors to allow for longer time horizons	• Sovereign fund syndicates for large scale deployment of solutions to other markets • A new financial vehicle between current government banking and commercial banks – role for government like US DOE or pension funds?	• Mechanisms to attract successful entrepreneurs to scale up efforts (board, C suite) • Think about system constraints and opportunities • Build consortia of innovators, buyers, investors, sales distribution & technical support capacity • Enable company to company learning • Concentrate on the small number of companies at the scale up stage - each has unique needs and challenges	• Large corporates can support commercial deployment & diversification of business lines through operational know how and financing, through early stage involvement to better match the solution to needs, and through first buyer procurement support • Aggregation of buyers	• Programs that support investing in emerging tech like market – based programs, tax incentives and credits for: 1: early investors and, 2: for adoption of scale up tech • Public policy must give long term vision and its stability • Government procurement can help overcome first buyer challenges

3. Collaboration Opportunities

The discussion around collaboration identified that in the last few years, collaboration between government funding organizations, government banking and export organizations, private investors and industry, and other key players like accelerators and cleantech industry associations has deepened and is resulting in better support for companies working on growing

and scaling. A repeated suggestion regarding enhancing collaboration focused on getting greater involvement from large corporations in the process, because of the operational experience, potential testing facilities, and financing capabilities large corporates can bring to bear that can significantly benefit cleantech companies. A potentially powerful model to engage corporates and their partners in these kinds of collaborations is to take into account the full value chain in an industrial sector, and how engaging the key players in all of the parts of that chain could lead to hitherto unheard of collaborations and potential solutions. This is further linked to not only learning from but working with other sectors where horizontal common challenges and potential solutions could be addressed and advanced.

Concluding Thoughts and Next Steps

Whereas Canada is increasingly attracting attention for having the right conditions for start ups across technology types, the struggles in scaling and growing Albertan and Canadian companies are not unique to the cleantech sector[1]. Alberta, as well as other jurisdictions with heavy industry and natural resource-based economies, face greater challenges in accelerating the pace of development, deployment and market penetration of clean technologies due to long development lead times and relatively higher capital intensity of projects. While increased financing options and supporting measures for cleantech companies, and increased collaborations, are creating better enabling conditions for companies to scale and grow, some key financing gaps and collaboration opportunities remain. Through identification of some key support levers and actions that can address these gaps, Alberta has the opportunity to leverage significant public and private sector investments in cleantech development and first-of-a-kind deployment across all sectors to contribute to realizing global environmental and economic benefits.

Partner Action Items

As key players in the process of supporting companies to scale and grow, the following participants are committed within their own mandates to take the following actions. We encourage all participants to consider potential actions within their own mandates they could pursue to advance the scaling of cleantech companies, and share amongst the group. ERA and GLOBE/Delphi will report back to all participants if provided permission to do so.

[1] See https://www.cnbc.com/2019/11/12/why-canada-is-becoming-a-start-up-mecca-rivaling-silicon-valley.html And https://www.bot.com/Portals/0/NewsDocuments/WTC_scaleup_rpt_FINAL_LR.pdf

Emissions Reduction Alberta is committed to:

- Identifying technologies, projects and/or companies within its portfolio that are approaching this critical "scale-up" stage;
- Helping to understand the next steps that need to be undertaken, barriers that need to be overcome, and potential partners required to deploy these technologies broadly and/or scale-up these companies;
- Continuing the Scaling-Clean Tech in Canada dialogue and developing concrete actions at GLOBE Forum 2020.

Energy Efficiency Alberta (EEA) delivers programs and services designed to accelerate the adoption of energy efficinecy, microgeneration and clean technologies. EEA is committed to:

- Helping to create demand for emerging technologies through information, programs and services that reduce risk for building owners and operators; and
- Continuing to contribute to the Scaling-Clean Tech In Canada dialogue, with a focus on identifying supports needed to create market demand for emerging technologies, and foster increased capacity to design, procure, capitalize, install and effectively operate these innovations as they grow to scale.

Foresight is committed to:

- Engaging and working with our broad network of early-stage entrepreneurs in Western Canadian to identify areas of opportunity to provide feedback on how to improve complementary funding programs for SMEs currently offered by government
- Reviewing feedback from Western Canadian stakeholder groups to identify new or unique programming opportunities that drive capital into Canadian cleantech SMEs
- Connecting with partners from the finance sector to identify ideas and recommendations on policy or tax credit programs that could improve the investment landscape in Canada
- Continuing to support and be a champion of promising cleantech start-ups to ensure they start early in developing strong relationships with a diverse group of funding partners

GLOBE and Delphi are committed to:

- Continuing to convene conversations amongst key stakeholders that can lead to tangible outcomes in advancing the commercialization of clean technologies and companies
- Continuing to reach out and identifying other practitioners and stakeholders that have support and financial mechanisms that can support scaling clean technologies and companies, and supporting their growth and export opportunities
- Updating the *Flowing Investment to Scale Cleantech* Report to reflect new information and knowledge, and the evolution of mechanisms and solutions, for the benefit of the cleantech ecosystem

AT GLOBE 2020, ERA, GLOBE and Delphi, supported by Foresight, RBC and others will be taking the conversation to a broader and multinational stakeholder group, with a view to informing next steps for scaling cleantech. Join us on Thursday, February 13th, 2020 for the GLOBE Advance session Scaling Cleantech: What next for Canada?