Closing Plenary

Reports on the activities that took place within each set of parallel sessions were given by “reporters” who attended and noted the proceedings in each case.

A report on Strand A, Driving Innovation through Canada’s natural resources advantage, was provided by Debbie Lawes, a contributing editor to RE$EARCH MONEY. She noted that the group started with a number of different challenges, but when it came to solutions quickly converged on a single one: what is an effective solution for increasing the capacity of the Canadian innovation system for understanding industry needs and pain points. The essence of the proposed solution was collaboration, which sounds simple but can be difficult to achieve in practice in any way that achieves sustainable results. One way of ensuring a positive outcome is to engage stakeholders as early as possible, perhaps even before any kind of research program has been established. “You want to engage with all the key stakeholders, which would be academia, big companies, small or medium size companies, communities, and government,” she said. “You want all the players at the table, all as equal partners defining what the problems are and defining the pathway that’s needed to find solutions. One group described this as a networked solution team, pulling them together to identify the needs of industry.” She added that such interactions not only require careful listening by the participants, but tangible resources such as time, money, trust, and generosity.

Such collaboration can be jump-started by exercises such as speed-dating, Lawes noted. These simple events make it possible for outsiders to get a quick and effective overview of an institution’s research thrusts and expertise. Various institutions such as granting agencies have built up working models for deeper collaboration between academic and industry partners, but she cautioned that there is no one-size-fits-all approach that will work in every instance. “You have to be incredibly flexible with these models because every industry is different,” she said. “Not only industries, but technologies are also different in terms of how long they take to get to the commercialization stage.”

A report on Strand B, Investing in Natural Resources Innovation, was provided by Ottawa-based science and technology writer Tim Lougheed. He described how the first day's exchanges reduced a list of some 12 varied conceptions of key challenges in this area down to a core of three distinct ideas: linking academic and government resources; addressing receptivity of a conservative set of industries to innovations in their field; aligning interests between the working cultures of various participants in the innovative process. On the second day the panels served as the presiders of a "feasibility pit", where representatives of three discussion groups put forth their bid to solve each of these challenges. With regard to linking academic and government resource, it was observed that this challenge is being met through NSERC's industry collaboration programs, which put forward problems proposed by industry — along with research funding — for university researchers who might be interested in pursuing these problems. Even when such efforts succeed, however, they invariably do so at small scale; for a practical, commercial solution such solutions must be demonstrated at the scale where industry operates. With additional support on the order of $60 million, then, this group concluded that a facility for such scale up demonstration could be established.

Lougheed noted that the second presentation, which dealt with the problem of making innovative ideas more attractive to the natural resources sector, met some obstacles because of the fundamental conflict between innovation fostered by the federal government on behalf of Canadian interests and industries that operate in a largely global context often with little or no nation-specific interest. This difficulty was resolved by the third presentation, which proposed the establishment of a demonstration site representing a braintrust based in Canada, made up of private resources, where problems within industry are tackled with an industry-specific focus. In principle any country could create their own such braintrust, but if Canada dedicates itself to do the best job in this regard, companies from around the world would come here to participate in this work. Nor would the innovations being considered by such a braintrust necessarily be of Canadian origin; discoveries and technologies from around the world. could be brought here for review and potential commercialization.

Ted Hewitt then offered his own concluding observations on the conference, starting with his enthusiasm for the dynamic interactions that took place and concrete solutions that emerged. He noted that he was regularly reminded of the need to conceive of the innovative process as either an end-to-end or a 360-degree model. "All along that continuum are a variety of factors that contribute to the success or failure of a product, service or whatever in the marketplace," he said. "So what belongs on that continuum? The value-added elements that are or should be incorporated within the conceptualization of the research and development and delivery process: design, marketing, knowledge-based capital, community research." He expanded this list further to include skills, structuring and managing collaboration, as well as pointing to

innovative government-industry collaboration models, such as the Business-Led Networks of Centres of Excellence program and various initiatives led by Quebec. “We have to stop thinking about that research — those critical insights — as the cherry on the sundae,” he concluded. “We have to start thinking about how to make the blizzard. Blend it in, straight through, beginning to end, always available to you.”

Mario Pinto framed his own set of concluding remarks around the image of a Möbius strip, which has no beginning or end and only one side. “We should stop being preoccupied about where innovation begins, and where the spark comes from,” he said. “It really doesn’t matter. It’s the fluid dynamic between different sectors that’s going to make it work. So let’s just get on with it.” He suggested that the next step should be to determine what various organizations do best. In the case of NSERC, he acknowledged that its contribution is a necessary part of innovation but not sufficient on its own. “We need all of you, and we need to combine forces, and we have to do it at the outset, so there’s no push and no pull — you’re working together from the beginning,” he maintained. “NSERC would like to be that facilitating body that initiates all those first states and hopefully leads to more productive relationships.” Above all, he argued, the real value proposition was one of sharing risk so that all participants could make better progress.

He then described how NSERC has been building relationships with other R&D-centred organizations across the country, so as to minimize redundancies and take advantage of synergies. “This is the model we’re going forward with in the spirit of true collaboration, where we leave our respective egos at the door, leave our fiefdoms at the door,” he observed. “It means we’re each going to have to give up something; I don’t have much problem with that. At the end of the day, if the gain is worth more than what you give up, it’s much better.”

Pinto then listed NSERC’s investments in three key natural resource sectors. With regard to forestry and food, he pointed to 129 industrial partners and 296 NSERC-funded professors working in this area. “That’s a force that you have to tap into,” he stated, noting that NSERC support also goes to students who go on to work in these industries. He portrayed this significant network of human capital as a structure that can be built up to foster R&D activities and ultimately innovation. Likewise in the oil sands and heavy oil sector, a similar series of networks and human resources has been assembled through NSERC. “If Canada is going to the land of small and medium enterprises, let’s embrace this, let’s celebrate it, and let’s do it well.”