



Reimagining Closure

SUMMARY REPORT

January 26, 2022

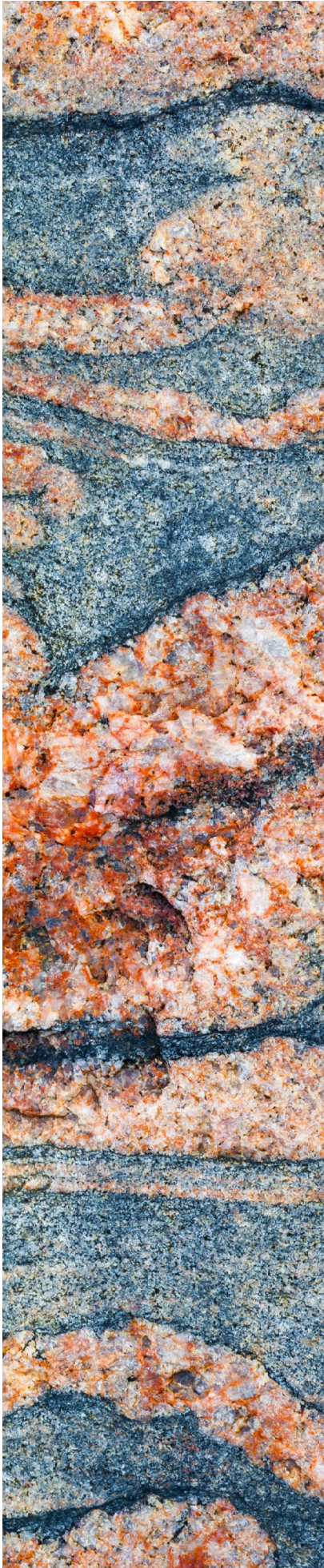


DE BEERS GROUP

RioTinto

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ABOUT REIMAGINING CLOSURE

Reimagining Closure is a joint initiative that aims to engage interest holders in a collaborative process of exploring innovative ways of how the closure of mines can be used to benefit future and ongoing socioeconomic interests and opportunities in the Slave Geological Province (SGP).

The Northwest Territories (NWT) is undergoing a major economic transformation. In the NWT, production from the existing diamond mines is currently scheduled to cease by 2031. At least 29% of the Gross Domestic Product (GDP) of the NWT comes from diamond mining, and changes in this GDP are already having impacts on our communities, businesses, and people.

Reimagining Closure was initiated by De Beers Group (De Beers) and Diavik Diamond Mines Limited (Diavik), with the support of the sustainability consulting firm, Environmental Resource Management (ERM). Coeuraj, a co-design and facilitation group, was retained by ERM to design and facilitate the interest holder engagement process as an arms-length, third party organization.

An Organizing Committee has been formed to provide oversight and resources to advance the progress of the project and includes representatives from De Beers, GNWT, Diavik, with additional government participation. To learn more, visit: www.reimaginingclosure.com

The project was initiated in 2020 and initial interest holder engagement was undertaken by De Beers and Diavik in 2021. Extensive engagement took place over the summer and fall of 2021, with a diverse group of interest holders and governments that included First Nation governments and communities, northern and Indigenous industry participants, Yellowknife, Territorial and Federal governments, and mining companies.

About This Report

A milestone of this initiative was a collaborative design session titled “Reimagining Closure, Together” hosted virtually on December 6 & 7th with approximately 40 participants who gathered together to:

- Develop a shared understanding of the regional socio-economic influence of diamond mining and the range of impacts of planned mine closures.
- Identify common ground for potential alternative uses or re-purposing of the assets.
- Identify opportunities for more focused collaboration beyond this session and how to take this work forward.

Facilitators in each of the breakout sessions and the plenary space over the two days captured the key points on a virtual whiteboard to ensure participants could see what was being recorded. This Summary Report aims to capture and synthesize the key ideas and common ground, as heard by the facilitators, that was produced by the participants in order to drive the next steps forward in 2022.



Fig 1. Opening scribe from December 6-7th Co-Design Session, artist: Silvia Alba

REGIONAL AND GLOBAL CONTEXT

The Slave Geological Province (SGP) and the NWT

While the existing and potentially new mines will play a key role for many years to come, the reality is that right now, all four diamond mines (Snap Lake, Diavik, Ekati, and Gahcho Kué) are scheduled to close over the next decade (gradually by 2030). Currently (as of 2021), 29% of the territorial GDP is related to diamond mining. The closure of these mines could be considered a challenge, or it could be an opportunity: Reimagining Closure aims to work together to influence our collective futures as these mines close to leverage the human, social, intellectual and physical capital created over the lifecycle of each mine.

Ensuring that closed mines do not pose risks to the environment is a given. However, ensuring the environment is protected is not mutually exclusive of looking for creative ways to use mine closure as a mechanism to contribute to economic and social benefits that endure long past the actual closure of a mine. Whether it be through co-development and local partnerships, there are a number of ways to transition a former mining operation with regional development in mind.

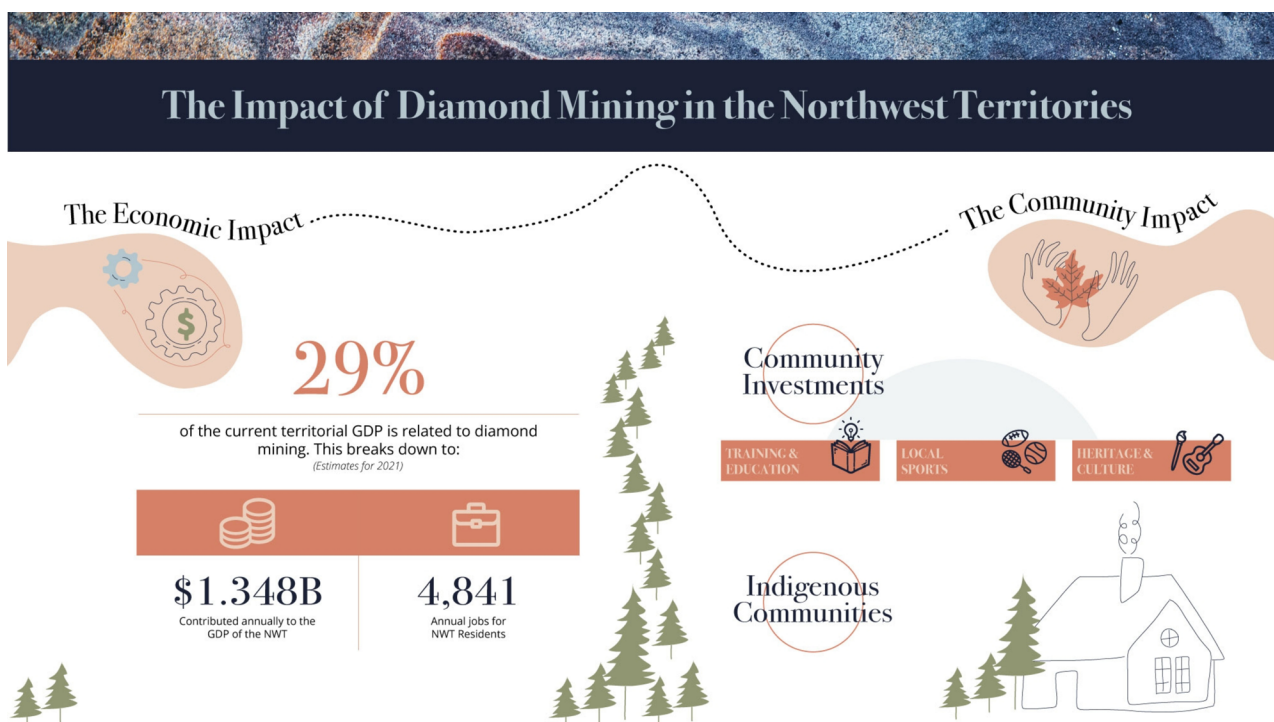


Fig 2. Summary of economic impact of diamond mining in the SGP. Retrieved from the [Reimagining Closure site](#).

The Global Movement

Across the globe, companies and communities have begun to explore what it truly means to close a mine. Whether it is the industry overall, through organizations such as ICMM, leading research consortiums like the one established through the University of Queensland, or mining companies like De Beers and Rio Tinto, there is a global movement to focus as much on the transition as the ‘end’ of the mine.

As governments, communities, and mining companies begin to look at closure differently, they are looking at how mine closure can contribute to the region more broadly. There is an opportunity to ask – “what can we now do with the assets these mines have created that otherwise we could not?” That could mean reusing or repurposing some of the assets, using the knowledge and experience that has been generated for another purpose, or building on the relationships that have formed to support some of the key issues and priorities that exist in the region.

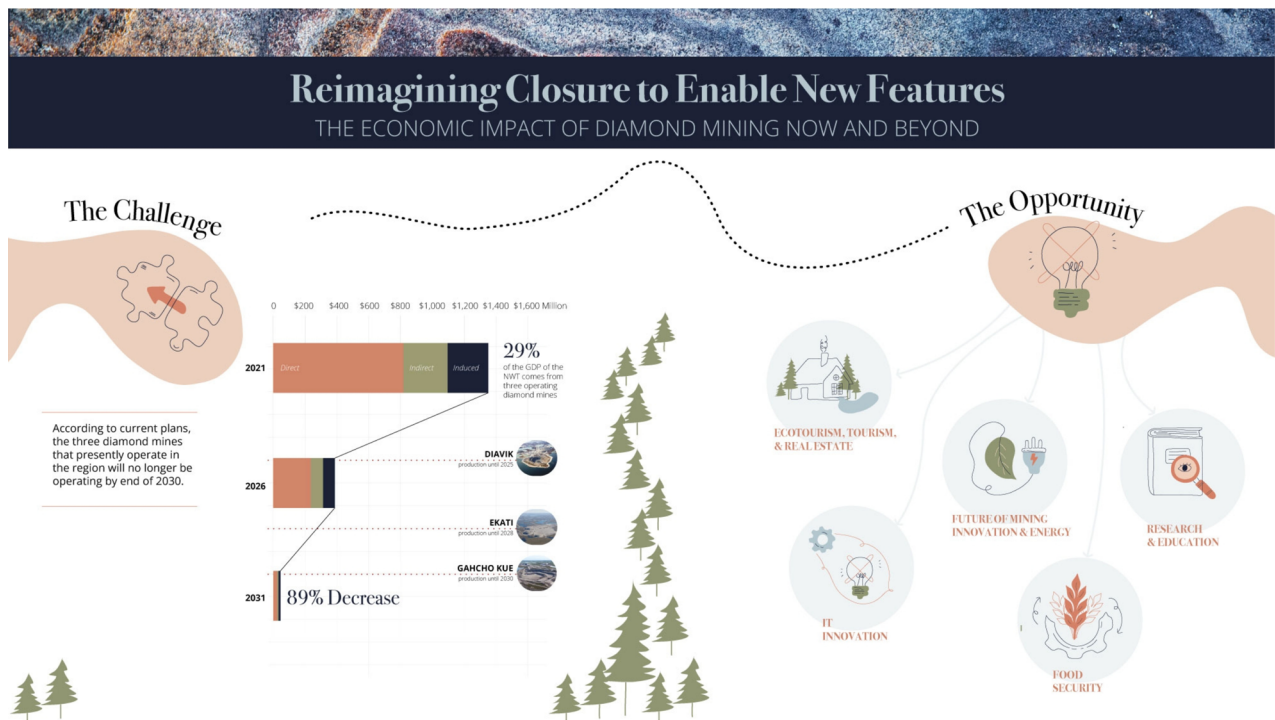


Fig 3. Summary of economic impact of diamond mining now and beyond. Retrieved from the [Reimagining Closure site](#).

Examples of Reimagining Around the World

Around the world there are big and small examples of mine closure being reimagined; regardless of the size, all of these transitions have made a difference. In every case, each was only made possible by different communities and organizations working together collectively.

Some big examples of mine closure being reimagined:

- **Former Sullivan Mine in British Columbia-** One of the world's largest lead and zinc mines that operated for almost 100 years. With deliberate planning, today, Sullivan has transformed the Town of Kimberly into a major resort town.
- **Former Homestake Mine in Nevada-** At one time, it was the world's deepest underground mine. Today, this former mine is one of the world's leading scientific research facilities. As there is no interference from the earth's surface, there are experiments underway to help explain some of the deepest secrets in space.

Some more modest transitions:

- **Former Elizabeth copper mine in Vermont-** Where the former mine tailings area has become the site of a solar energy project that provides low cost energy to neighbouring residents of about 1,300 people. Without the mine, the project would not have been economical.
- **Examples of transitioning the mine assets-** Whether it is buildings that were repurposed at the Glencore Gaspé Mine in Quebec, or the potential repurposing of mining equipment at De Beers Victor Mine in Ontario for use in community road-building.
- **Sometimes transitions do not occur immediately-** Former mines may still be able to contribute to future ventures long after they have closed. The former Nanisivik Mine is one example. Two decades after its closure, we may soon see a military port established at the site.

There are more global examples as illustrated by a paper produced by Arctic 360 focused on the Northern context. The Canadian Arctic Reinvestment Options Paper: Imagining alternatives to conventional mine closure in the Canadian Arctic, was commissioned for the Reimagining Closure project and can be found in its entirety [here](#).

The Assets We Have in the SGP

Within the four mines in the SGP region we have a number of different types of assets that we can draw upon.

For the purpose of this project, we have defined both physical and capital assets across the four mines and have compiled an extensive list of each, including:

- **Physical:** infrastructure or built capital (e.g., dorms, meteorological equipment, trucks/vehicles)
- **Capital:**
 - » **Human:** such as human talent, knowledge, skills, capabilities (e.g. first aid trainees, apprentices/ships, coaching experience)
 - » **Social:** including relationships, shared norms, values and understanding (e.g. committees, lessons learned from committees)
 - » **Intellectual:** such as data and intellectual property (e.g., intellectual property around how to build an ice road, TK and scientific knowledge of wildlife behaviours and successful mitigation measures)

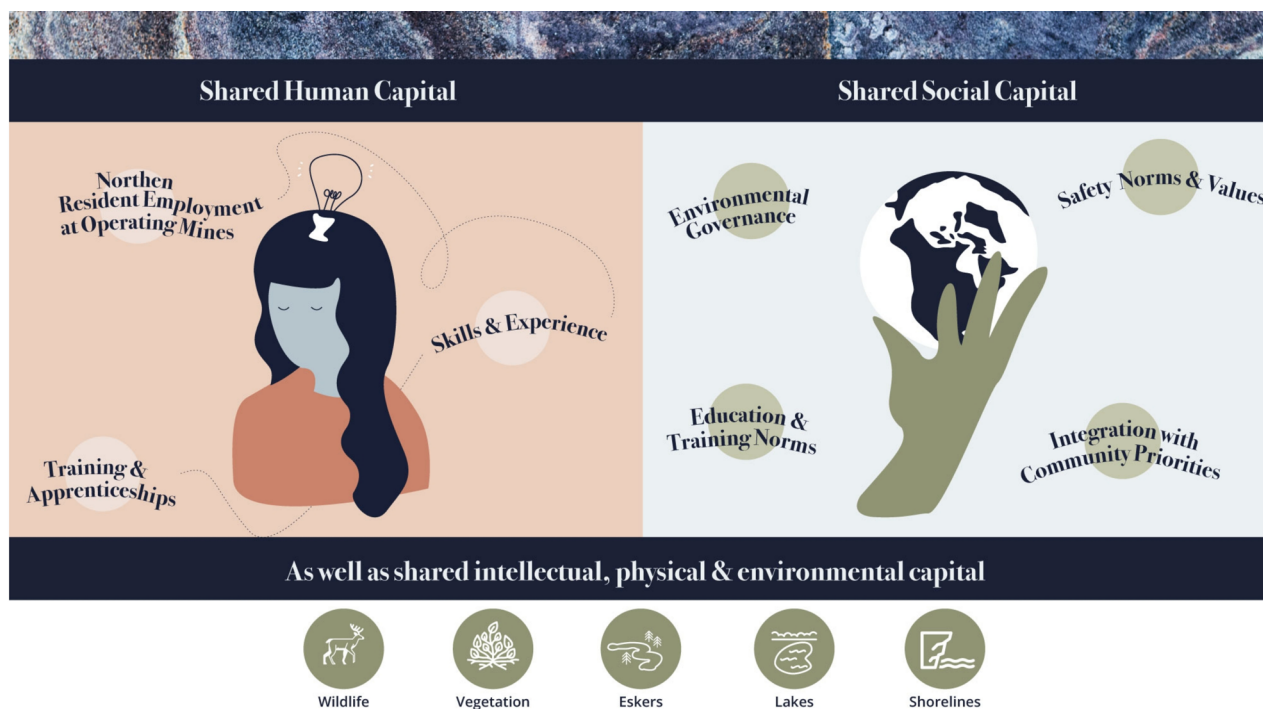


Fig 4. Summary of select assets at all four diamond mines.

Summaries of all these assets have been created and can be found [here](#).

SUMMARY OF KEY IDEAS GENERATED IN DEC 6-7TH SESSION

With over 40 participants contributing, a focus of the co-design session was to explore what possibilities, ideas and opportunities might exist to contribute to the future of the SGP. Over the course of two days participants went through a number of iterations on ideas, playing with the big ideas and small alike to see where there was potential and shared interest.

The following is a review of the ideas that were discussed and where common ground was found

DRAFT IDEAS: As participants worked over the two days at least 40 unique ideas across 11 different categories were generated. These draft ideas are captured on the infographic below:

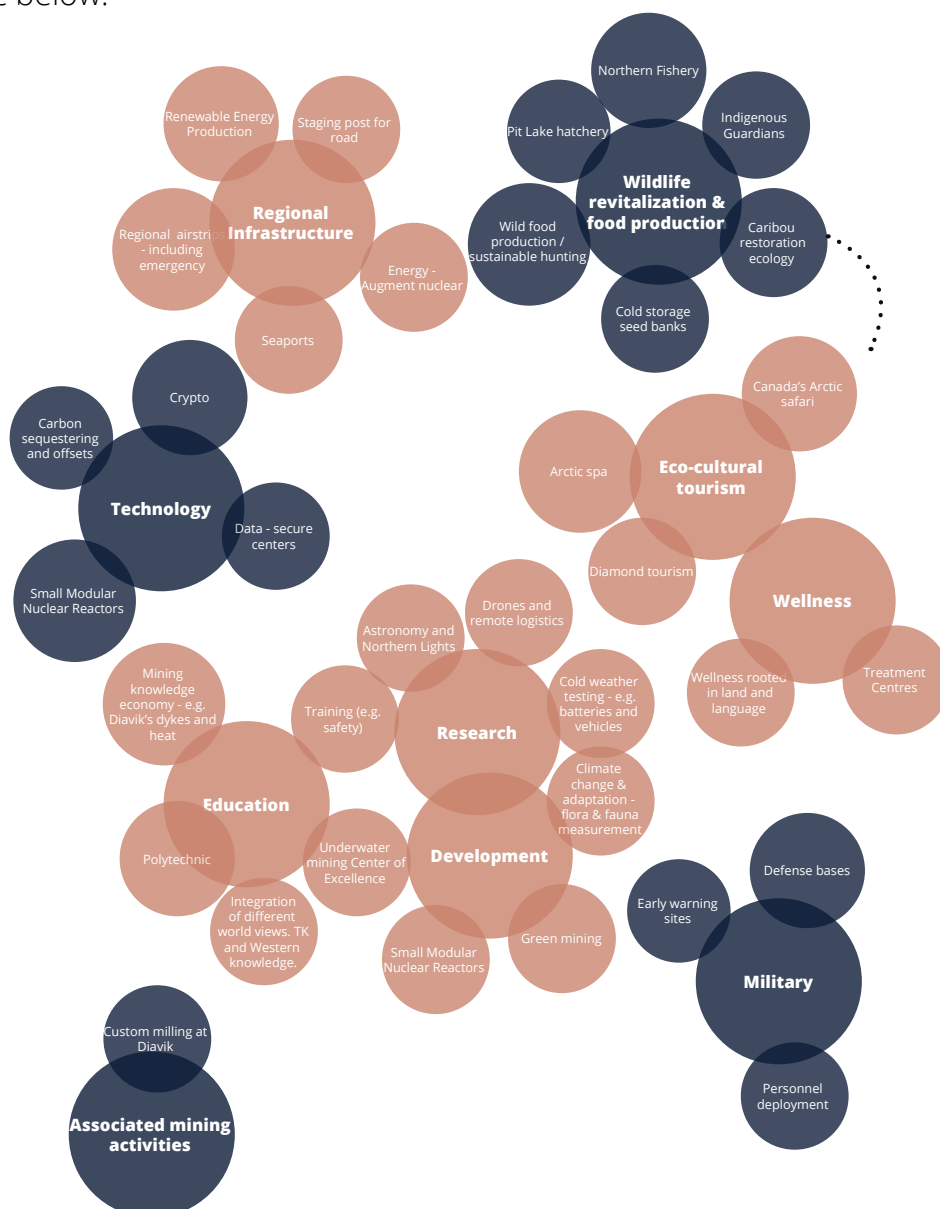


Fig 5. Draft ideas captured from the Dec 6-7th co-design session.

DESIGN PRINCIPLES: Key characteristics of what ‘good’ ideas needed to include were identified by participants in the co-design session. These can be considered ‘Design Principles’ – statements that guide the future design of Reimagining opportunities.

1. We need to consider the region as a collection of assets. There is greater opportunity and leverage in considering the region as opposed to individual mine sites in isolation.
2. We need to explore multi-purpose / multi-use opportunities for these mine sites and their assets. Diversified economies are essential.
3. We need to address the false dichotomy between protecting the environment and socio-economic development: both are important. Economic development is essential for the future of the NWT and a foundational condition still exists that lands, regardless of future use, are left in an environmentally stable condition.
4. We need to leverage and redefine our challenges as strengths. With this view, the harsh climate and geographic remoteness can be seen as strategic advantages- considering possible climate migrations in future years and opportunities for unique research and development.
5. We need to look to reuse anything before we waste it – including non-physical assets like knowledge or training gained through the mining life cycle. By seeing things differently, potential resources are everywhere - gravel and rock piles are resources.
6. We need to collaborate over competing on potential Reimagining opportunities to create greater value for everyone involved.
7. We need to prioritize co-development with Indigenous groups and public/private partnerships.
8. We need to recognize the strength we have in our diversity and respect each other’s experiences and history as we come to each opportunity on our own terms. Both science and TK must be honored through this process.
9. We need infrastructure to include Nation-Building and Northern Sovereignty opportunities.
10. We need collaboration across private and public sector, including mining companies and various levels of government (Indigenous, Federal, Territorial) to facilitate action.

COMMON GROUND: After the key ideas were identified we focused on where to find common ground. Areas of common ground ranged from incremental re-purposing of assets to the incubation of big ideas for systemic change. Multi-purpose transitions across a range of categories were emphasized as key to success.

These areas of common ground listed below are not exhaustive of all of the ideas discussed, but where there was alignment from a broad set of participants.

- **Re-purposing of assets and the different forms of capital needs to take place.**
 - » There was an acknowledgment that Snap Lake is in the final stages of the regulatory process and De Beers has initiated work to begin execution of the final closure plan. Through existing IBA agreements the re-purposing or transfer of physical assets will be actively explored.
- **Initial research, and eventually pre-feasibility studies are all still possible for the mines still in operation** to further develop multi-purpose big ideas, including:
 - » A central-Arctic R&D facility to understand the impact of climate change on the region and the potential mitigating actions such as sequestering of carbon and small modular nuclear reactors. This facility could complement CHARS and focus on the specific central-Arctic research that is missing in understanding the North. Research focus and activities could include:
 - A refuge and research station for caribou in the region and their relationship with human activities.
 - A cultural education and hunting hub to conduct active caribou management for food security, integrating with the Indigenous Guardians program.
 - Native plant research augmented with nurseries to meet the closure demands in the region.
 - Northern Fisheries augmenting research.
 - A testing center for new automation technologies for mining, low environmental and climate impact technologies, and cold climate technologies.
 - » The R&D facility was generally perceived to have the greatest positive impact for the least amount of effort.
 - » The transition from mining to research could take place concurrently with mine closure and wouldn't have to wait until the mine site was actually closed.
 - » Over time the facility would be augmented and used to pilot tourism lodges creating Canada's "safari industry".

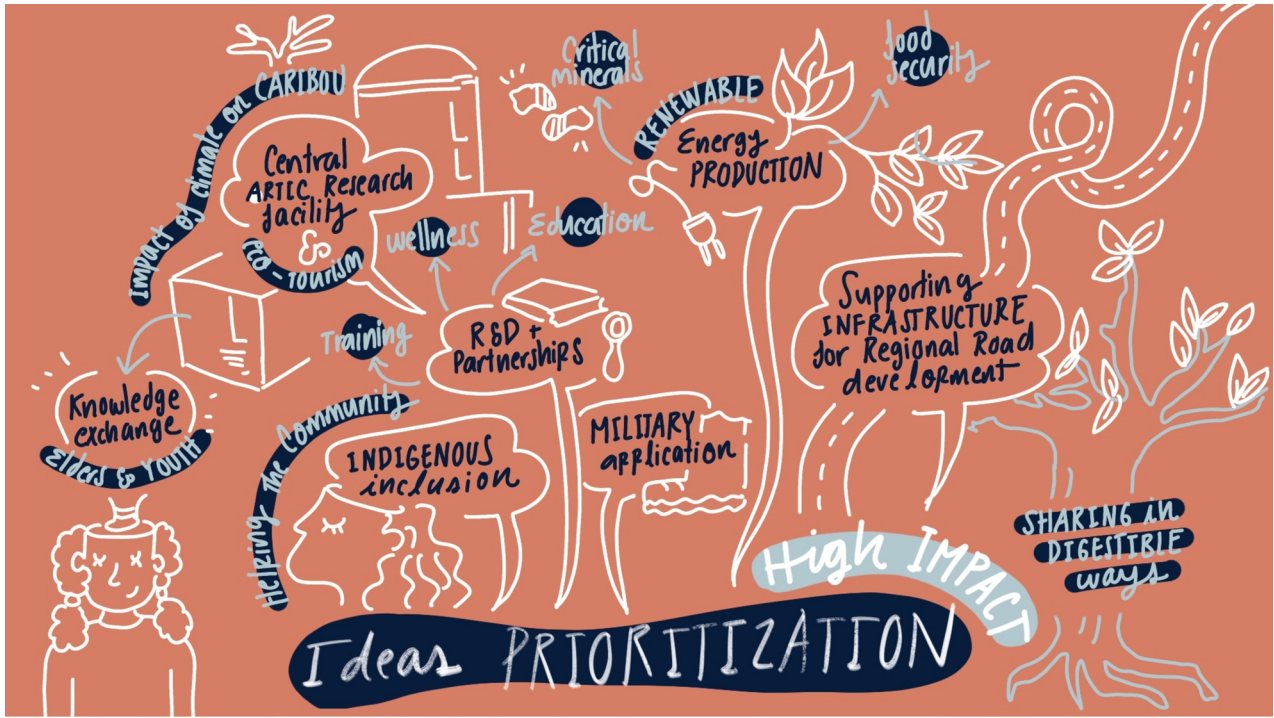


Fig 6. Synthesis scribe from Dec 6-7th session, artist: Silvia Alba

THE ASSUMPTIONS WE CHALLENGED

In both generating new ideas and unpacking the context of mining in the Slave Geological Province a range of long held assumptions were challenged throughout the Reimagining Closure process.

‘Closure’ is the mining companies’ business to take care of.

One could take the view of mining companies as the mechanism by which to extract the diamonds in the ground and convert them into economic benefit for the peoples of a region. Therefore, the assets that have been built on these sites can also be considered to be available as ‘public’ assets too. A conversation with the public about what to do with these sites is important, as opposed to a default position of removing the assets.

The land will be returned to its original state.

Returning the land to its original state is incredibly challenging, both technically and practically. All participants agreed the importance remains for regulatory standards to achieve physical and chemical stability of the sites. Yet, plenty of time, effort and money will be spent relinquishing and re-mediating the land and it will still be forever changed. How we can create new opportunities with these changes and redefine future uses of assets and lands is a conversation worth having in light of this.

Closure is the end as opposed to a transition.

There’s a global movement that is tackling the boom to bust lifecycle by treating closure as a transition as opposed to an end. New mines are being designed with the end in mind and co-creating end of life opportunities that extend beyond extraction of resources in the ground. Recognizing that there are assets- both human and physical- that have been created over the life cycle of a mine, industry, communities, and governments have an opportunity to take part in the discussion with a view that mining could be one activity in a 100-200 year lifespan of a region or site.

WHERE TO GO FROM HERE

Reimagining Closure aimed to engage interest holders in a collaborative process to explore innovative ways of how the closure of mines can be used to benefit future and ongoing socioeconomic interests and opportunities in the Slave Geological Province. The initiative has been met with high levels of engagement and initial ideas have been generated to take forward. This is the first of many steps in a multi-year journey to develop new opportunities and establish infrastructure to support the next 100 years and beyond in the NWT and the North.

The Organizing Committee is meeting to ensure the conditions are set for these conversations to continue and to drive forward tangible actions and next steps. There continues to be exploration with mining companies and the Government of Canada and GNWT as to how they might participate to support the incubation of these innovative ideas.

Whatever comes next for the SGP, it's the bold and visionary thinking about the region that will create both new opportunities and leverage the assets generated through diamond mining in the region. The work of Reimagining Closure continues to collaboratively determine how to best use these assets and create the new relationships and partnerships required to seize the opportunities in front of us.

For further information, please visit <https://reimaginingclosure.com/>.

APPENDIX: DRAFT IDEAS

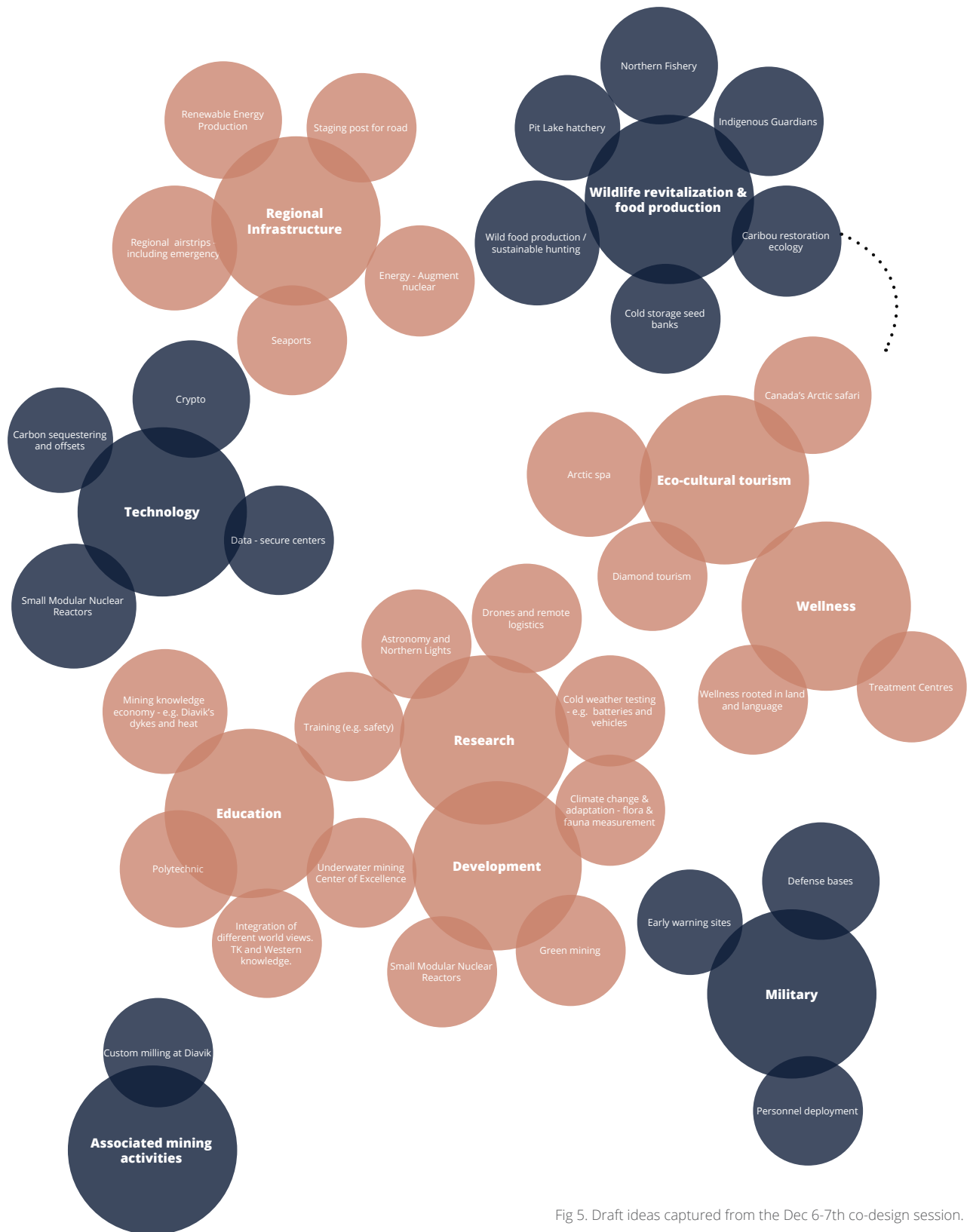


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