



Natural Resources: Major Projects Planned or Under Construction 2022 to 2032



Natural Resources
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Executive Summary

As of April 2022, there are 470 Major Projects¹ under construction or planned over the next ten years in Canada, with a combined potential capital value of \$520B. This is an increase in the overall project count from 443 projects in 2021, with a modest decline in combined potential capital value from \$541B in 2021.

There are 320 **energy projects** in the 2022 inventory with a combined value of \$427B.

- This is an increase of 15 projects since last year, and a decline of \$22B in total project capital value.
- Notable changes from last year are a larger number of projects being added to the inventory, together with the cancellation of a few large projects, including the Kitsault LNG Facility (\$34B).
- Out of the 320 energy projects in 2022, 173 are classified as using **Clean Technology**², for a total of \$113B in potential investment.

There are 124 **mining projects** in the 2022 inventory with a combined value of \$88.3B.

- This is an increase of 5 projects since last year, with a decline of \$0.5B in total project capital value.
- Out of the 124 mining projects in 2022, 59 process or extract some form of critical minerals, worth \$56B in potential investment.

There are 26 **forest projects** in the 2022 inventory with a combined value of \$4B.

- This is an increase of 7 projects since last year, and an increase of \$1.6B in total project capital value.
- Out of the 26 projects in 2022, 10 are classified as using **Clean Technology**², for a total of \$2.7B in potential investment.

Of these projects, 183 projects are classified as using **Clean Technology**², for a total of \$116B in potential investment.

- This is an increase of 13 projects since last year, and an increase of \$13B in total project capital value.

¹ For a detailed definition and scope of Major Projects, please see the Methodology Section

² See the Clean Technology Section for a breakdown of the various sub-technologies

Macroeconomic Context

Commodity Prices

Canadian natural resource producers act as price-takers in international markets. As such, they are affected by price fluctuations associated with cycles in global supply and demand. Changes in the number, value and status of major resource projects over the years are often the result of a wide range of external economic factors. The specific factors affecting investment decisions vary by sector.

Figure 1: Commodity Price Indices, January 2019 to June 2022



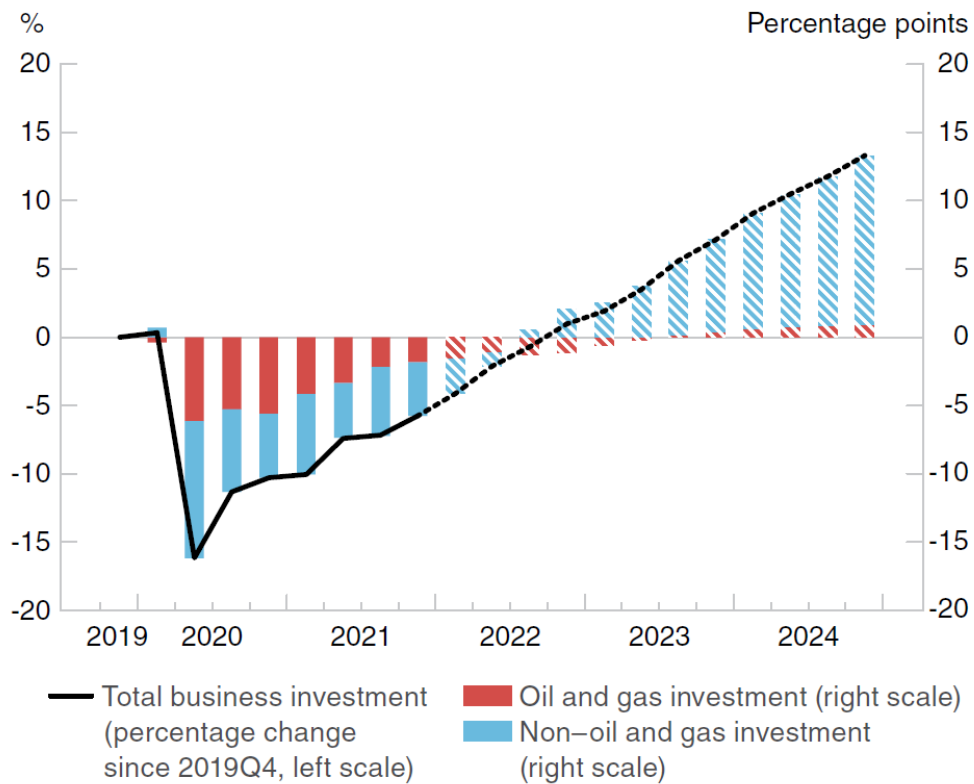
Source: Bank of Canada and NRCan calculations

Market concerns about supply disruptions caused by the war in Ukraine have led to a sharp rise in most commodity prices. Oil prices were already rising because oil demand was outpacing the growth in supply, and the war led to increased volatility. The increase in base metal prices and agricultural commodities also reflect tangential supply disruptions. Lumber prices also remain at historically elevated levels due to strong housing demand in North America and transportation bottlenecks.

Business Investment

In its recent *Monetary Policy Report (April 2022)*, the Bank of Canada noted that it expects business investment to grow strongly after pandemic lows. Investment in the oil and gas sector is anticipated to be robust due to higher energy prices, but restrained by labor shortages, ongoing uncertainty about long-term demand and the transition to a low-carbon economy. Non-oil and gas investment is forecasted to be supported by recovering demand, gradual easing of supply constraints and improved business confidence. Firms reported plans to invest in digital technologies and automation to improve productivity given rising input costs and tight labor markets.

Figure 2: Contribution to the deviation of real total business investment from the 2019Q4 level (percentage points)



Source: Bank of Canada Monetary Policy Report April 2022; Bank of Canada 2022Q1 Business Outlook Survey

National Major Project Trends

The Major Projects Inventory (MPI) is an ongoing ledger where projects enter and exit based on their status. New projects enter the inventory upon announcement and the completion of a pre-feasibility assessment where an initial cost estimate³ is determined. Projects remain in the inventory throughout the federal and provincial review processes. Projects are removed from the inventory tally when they are completed. Projects are also withdrawn from the inventory should they be put on hold, suspended, cancelled or removed due to ineligibility. See the section “Scope and Methodology” for further details.

The 2022 inventory saw more new projects added relative to 2021. At the same time, fewer projects were removed from the inventory as a result of either being completed or going inactive. This led to the increase in the overall project count. At the same time, however, a few of the projects that went inactive were relatively large, and so the combined potential capital value declined relative to 2021.

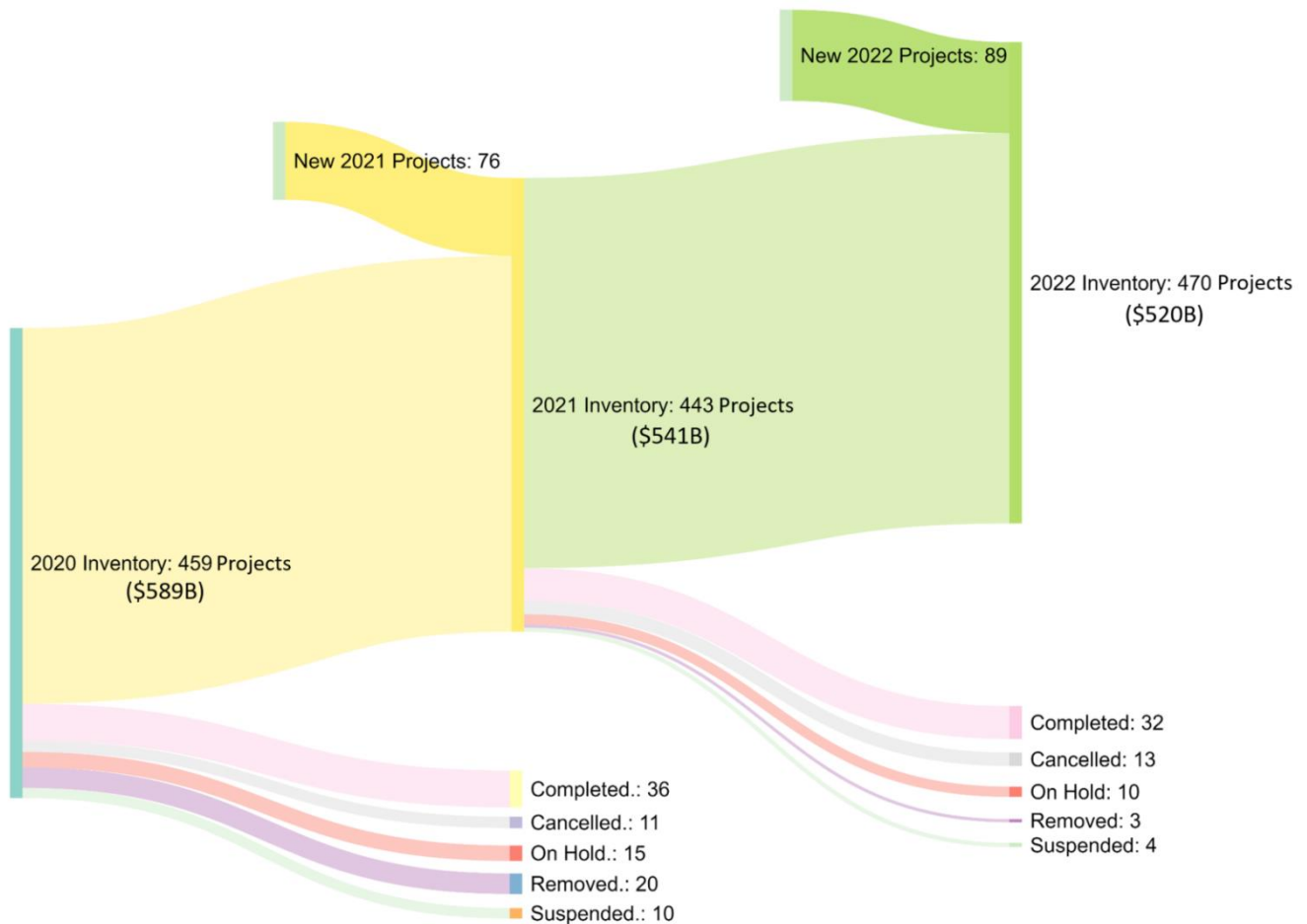
In summary,

- 89 projects were added to the inventory, representing an increase of \$57B in potential investment;
- 32 projects were removed from the inventory because they were completed and began production, representing \$15B of actual investment;
- 27 projects were removed from the inventory because they were put on hold, suspended or cancelled, representing \$86B in potential investment; and
- 3 projects representing \$98 million of investment were removed because cost revisions put them out of scope³ for this inventory.

Between 2021 and 2022, the total number of major projects in Canada increased by 27 (from 443 to 470) and the total potential value of projects decreased by \$21 B (from \$541B to \$520B).

³ Cost thresholds can be found in the Methodology Section

Figure 3: Inflow and Outflow of Projects and Value in the Major Projects Inventory, 2020 to 2022



A detailed breakdown of changes since the 2021 Report shows that:

- All resource sectors saw more additions to their totals relative to 2021 with higher potential capital values. Additions to the inventory include:
 - 61 new energy projects valued at \$45B (8 more additions than 2021, increased potential capital value of \$27B)
 - 20 new mining projects valued at \$10.2B (same additions as 2021; increased potential capital value of \$2.1B)
 - 8 new forest projects valued at \$1.6B (5 more additions than 2021; increased potential capital value of \$1.3B)

These figures include 29 new projects classified as using Clean Technology valued at \$11.5B (15 fewer additions than 2021; lower potential capital value of \$1.5B)

- 32 projects were completed and removed from the inventory, a decline from 36 projects completed in 2021.
 - These include 28 energy projects valued at \$14B and 4 mining projects valued at \$1.2B.

These figures include 13 projects worth \$2.9B classified as using Clean Technology that were completed and removed from the inventory.

- Fewer projects were made inactive in 2022 relative to last year, but their potential capital values were higher, totaling \$86B as compared to \$70B in 2021.
 - In total, 18 energy projects valued at \$73B and 9 mining projects valued at \$13B were put on hold, cancelled or suspended over the past year.

These figures include 3 projects worth \$0.7B classified as using Clean Technology that were removed as inactive.

New projects continued to come forward in all sectors. Similar to 2021, potential capital costs for the energy sector declined, mirroring a pre-2019 trend of two consecutive years of decline from 2017. Of the 61 projects added, 49 were new, 4 were previously inactive projects that were restored to the inventory, and 8 projects provided a potential capital value estimate for the first time. Out of the new 49 projects, 27 utilized Clean Technology.

In the mining sector, the number of projects added to the inventory increased while the combined capital value remained the same. Out of the 23 additions, 13 were new announcements, 9 were previously inactive projects that were restored to the inventory, and 1 project provided a potential capital value estimate for the first time.

In the forest sector, 8 new projects were added, raising potential capital investment above \$4B for the first time in this inventory. Out of these 8 projects, two projects utilized Clean Technology.

The table below summarizes the annual changes in the inventory from 2021 to 2022. The first row highlights revisions to potential investment since the previous update to account for more recent project financials. In 2022, revisions were only seen in energy and mining. Next, new projects are added to the existing tally and completed projects are subtracted. This is followed by also subtracting inactive projects to arrive at 2022 totals. Clean Technology projects have been included at each stage where applicable.

Table 1: Sectoral Changes from 2021

	Energy	Mining	Forests	Total
2021 Inventory Totals	305 (\$449B)	119 (\$89B)	19 (\$2.5B)	443 (\$541B)
<i>Potential capital revisions</i>	+\$18.9B (\$468B)	+\$3.9B (\$92.7B)		+\$23B (\$564B)
<i>Of which: Clean Technology</i>	161 (\$101B) +\$5.2B (\$106.4B)		9 (\$1.8B)	170 (\$103B) +\$5.2B (\$108B)
Add:				
New projects				
<i>Of which: Clean Technology</i>	61 (\$45.3B) 27 (\$10.5B)	20 (\$10.2B)	8 (\$1.6B) 2 (\$0.9B)	89 (\$57.2B) 29 (\$11.5B)
Subtract:				
Completed projects	28 (\$13.7B)	4 (\$1.2B)		32 (\$14.8B)
<i>Of which: Clean Technology</i>	13 (\$2.9B)			13 (\$2.9B)
On Hold; Suspended; Cancelled; or Removed	18 (\$73B)	11 (\$13.4B)	1 (\$50M)	30 (\$86B)
<i>Of which: Clean Technology</i>	2 (\$0.6B)		1 (\$50M)	3 (\$0.7B)
2022 Inventory Totals	320 (\$427B)	124 (\$88.3B)	26 (\$4.1B)	470 (\$520B)
<i>Of which: Clean Technology</i>	173 (\$113.3B)		10 (\$2.7B)	183 (\$116B)

Energy Sector

Transition to net-zero will require major investments in non-emitting electricity generation, transmission, distribution, storage, and grid modernization, in large part to meet demands from increasing electrification in other sectors. In Canada, a series of regulations, policies, deployment programs, collaborative cross-jurisdictional initiatives, and provincial and territorial initiatives influence investment decisions. Recent examples include the coal phase out by 2030, natural gas performance standards, a revenue neutral carbon tax, net-zero 2050 legislation, the upcoming Clean Electricity Standard and efforts related to EV deployment and a net-zero electricity grid by 2035. These are complemented by regional strategies, interties, provincial regulatory environments, market structures and business models, policies such as net-metering arrangements and fiscal measures like tax credits and equipment rebates.

In the current investment environment, oil and gas companies have very high cash flow levels as oil and gas prices are trading at record high levels. For 2022, the Canadian Association of Petroleum Producers (CAPP) is forecasting that capital spending in the sector will grow by \$6.0B to reach \$32.8B, an increase of 22% compared to 2021. CAPP expects investment in the oil sands to increase by 33% to \$11.6B and investment in conventional oil and gas to increase by 17% to \$21.2B.

An important current growing area of investment for Canada is new net-zero petrochemical facilities, including Dow Chemical's proposed \$10 B net-zero ethylene complex, Naticol Energy's proposed net zero methanol facility, and a proposed partnership between Petronas and Itochu Corp. to export net zero ammonia to Asia. Canada's abundant supply of low-cost and lower emitting petrochemical feedstock (e.g., natural gas) results in lower operational costs and petrochemical products life-cycle emissions, which is Canada's key competitive advantage to other petrochemical producing jurisdictions worldwide. Canada's chemistry industry avoided layoffs or shutdowns during the pandemic in light of continued demand for chemical products and plastics. Russia's invasion of Ukraine has also increased global interest in Canada as a potential future supplier of products, including petrochemicals, to displace reliance on Russian supplies.

Canada is currently a key exporter of propane to Asian markets (e.g., Japan and South Korea) and is looking to build up capacity to export other natural gas derived products including ammonia, butane, and methanol. Canada's integrated energy infrastructure affords short- and long-term options for investment to stabilize global energy supply within the context of Canada's climate framework and net-zero goals. The modification of existing pipelines or construction of new ones to carry hydrogen or sequester carbon is expected to increase in the coming years, as hydrogen markets grow and emissions reduction efforts accelerate.

In 2022, Canada is expected to increase its oil and gas exports by up to 300,000 barrels per day (2/3 oil and 1/3 natural gas) in support of Europe. Canadian energy exports have the potential to improve European energy security, reduce energy costs for consumers around the world, and support the global energy transition including the need to rapidly decrease the use of coal.

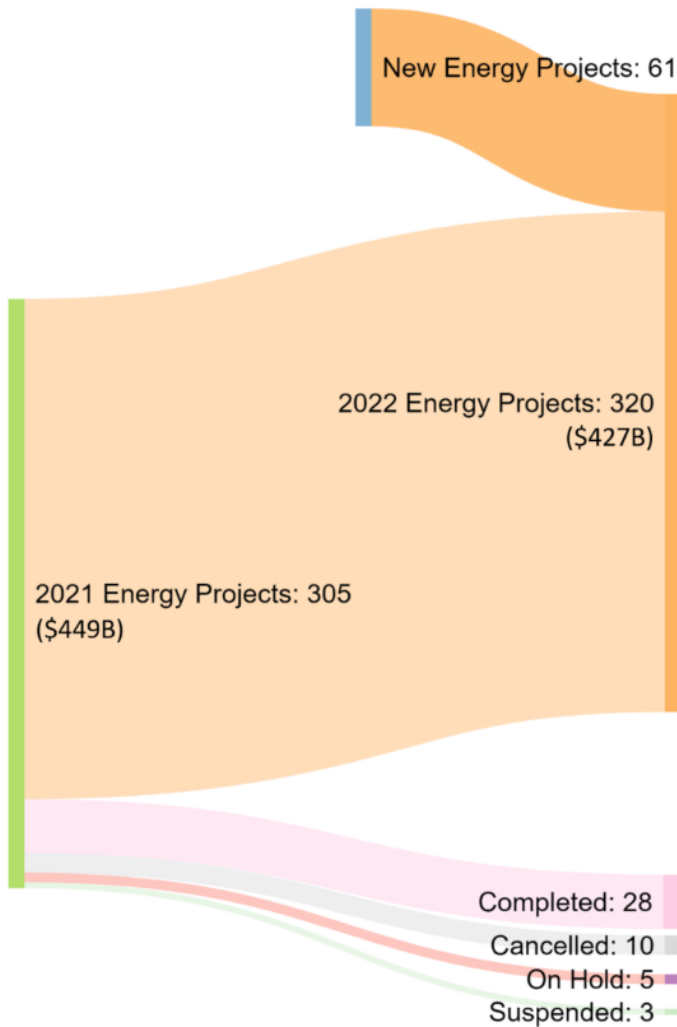
There are 320 energy projects in the 2022 inventory with a combined capital value of \$427B, up from 305 projects in 2021 and down in value from \$449B. Energy projects span many sub-sectors, including those in the oil and gas industry (e.g., oil sands, offshore, natural gas, LNG, export terminals, storage facilities, and pipelines) and in electricity generation and transmission (e.g., clean technologies, nuclear, and power lines).

Table 2: Energy Project Trends, 2020-22

	2020	2021	2022
Total Energy Projects	311 (\$504B)	305 (\$449B)	320 (\$427B)
Oil and Gas-related	128 (\$389B)	106 (\$339B)	98 (\$298B)
Electricity Generation and Transmission	169 (\$111B)	176 (\$102B)	179 (\$106B)
Other*	14 (\$3.3B)	23 (\$8.8B)	43 (\$22.5B)

*"Other" includes biomass/biofuel/geothermal production activities and some of the novel clean technologies listed in Table 5.

Figure 4: Inflow and Outflow of Energy Projects, 2021-22



In terms of potential investment, the outflow of 46 projects valued at \$86.7B offset the inflow of 61 projects valued at \$46.5B. The largest outgoing items included the Kitsault LNG Facility in BC (\$34B), Dover PetroChina in AB (\$8B) and Bear Head LNG in NS (\$8B). On the other side, the largest incoming items included Grassy Point LNG in NL (\$7.2B), Meaford Storage Project in ON (\$4.3B) and the Northern Ammonia and Methanol Facility in AB (\$2.5B).

The three largest revisions to potential investment included the Transmountain Pipeline Expansion (from \$12.6B to \$21.4B), Peace River Site C Hydro Project (from \$10.7B to \$16B) and the Bay du Nord Offshore Project (from \$6.8B to \$12B).

Mining Sector

Metals prices are likely to rise in the coming decade due to growing populations, expanding incomes in developing economies, and increasing demand for clean technology materials. In the near term, metal markets will continue to adjust following the disruptions caused by Russia's invasion of Ukraine, while metal demand is projected to exceed supply towards the end of this decade. As a result, metal prices are forecast to rise even further from their current highs.

The energy transition or decarbonisation will be the key driver of long-term metal demand and prices. Zero-emission vehicles (ZEV) will be the main driver of demand for the three critical cathode battery metals (lithium, cobalt and nickel). Over the past year, the prices of critical cathode battery materials jumped significantly. Lithium prices rose 442%. Cobalt prices nearly doubled while nickel sulphate prices increased 43%.

The gold market has experienced a dramatic period in 2022 to date. Expectations of aggressive Fed rate hikes became more entrenched amid surging inflation, causing gold to dip briefly below US\$1,800 per ounce during late January. The gold price has been capped by persistent dollar strength and, more recently the rise in nominal yields and the re-steepening of the US yield curve. Over the next decade, analysts forecast that Canada will remain the world's fifth largest producer of gold with mine openings offsetting mine closings.

In terms of non-metallic minerals, Canada is an important global producer, especially potash and metallurgical coal (used in steelmaking). In 2021, potash prices soared to thirteen-year highs. In 2022, crop prices continue to rise sharply amid fears of shortages, increasing the demand for potash as well. Russia's invasion of Ukraine has caused grain deficits – as both countries are significant exporters of wheat and corn. World metallurgical coal trade is forecast to increase from 314 million tonnes in 2021 to 343 million tonnes in 2031. Canada is projected to remain the world's fourth largest exporter of metallurgical coal over the next decade with no material additions to capacity.

There are 124 mining-related projects (e.g., mine constructions, redevelopments, expansions and processing facilities) in the 2022 inventory, representing \$88B in potential investment. Metal mines (e.g., gold, copper, nickel, zinc) account for just over two thirds of the value of major mining-related projects. Non-metal mines (e.g., potash, diamonds) and coal mines account for most of the remainder.

Table 3: Mining Project Trends, 2020-22

	2020	2021	2022
Total Mining Projects	120 (\$82B)	119 (\$89B)	124 (\$88B)
Metals	83 (\$56.2B)	81 (\$56.2B)	92 (\$66.95B)
Non-Metals	14 (\$15.2B)	14 (\$16.6B)	11 (\$12.6B)
Coal	16 (\$8.2B)	16 (\$12.8B)	15 (\$6.2B)
Other (processing, smelters, etc.)	7 (\$2.8B)	8 (\$3.3B)	6 (\$2.6B)

Figure 5: Inflow and Outflow of Mining Projects, 2021-22



An inflow of 20 projects valued at \$10.2B largely offset the outflow of 15 projects worth \$14.6B, leading to an increase in project count by five. Upward revisions to the value of existing projects stabilized the overall capital value at \$88B. The largest projects include the Jansen Potash project in Saskatchewan (\$7.5B) and the Kerr-Sulphurets-Mitchell “KSM” project in BC (\$7.2B).

Projects in British Columbia accounted for 27.8% of the combined capital costs, Quebec 18.4%, Ontario 18.2% and Saskatchewan 17.4%. The remaining projects are distributed across all provinces and territories, with the exception of Prince Edward Island.

Forest Sector

Canada's forest sector continues its post-pandemic recovery but COVID-19 variants and supply chain disruptions continue to affect the sector. Amid price volatility, record highs occurred for lumber and panels in 2021, and strong prices are expected across the wood products sector in 2022. Strong demand from the housing market in both the U.S. and Canada will also continue to support Canada's lumber producers. Similarly, high prices and demand are expected in most pulp markets, whereas the structural decline of newsprint and writing paper continues, accelerated by the pandemic.

Despite these positives, both lumber and pulp producers in Canada are challenged by continuing problems in transportation, U.S. softwood lumber duties, and fibre shortages. Transportation and fibre challenges have led to production curtailments and closures in both lumber and pulp subsectors in Western Canada. New challenges in 2022 include high-energy prices, inflation, and uncertainty in international trade conditions.

The outlook for Canada's forest sector is region-specific. In Western Canada, high prices and strong demand will help offset the challenges faced by pulp and lumber producers. In contrast, pulp and paper producers in Eastern and Central Canada continue to face structural decline in the demand for newsprint. As of the April 2022 update, there are 26 major forest projects across Canada, representing \$4.1B in potential investment.

Table 4: Forest Project Trends, 2020-22

	2020	2021	2022
Total Forest Projects	28 (\$2.7B)	19 (\$2.5B)	26 (\$4.1B)

Some of the larger projects include the Vision La Tuque biorefinery plant in QC (\$1B), a new biofuel facility in QC (\$0.9B), the restart of a pulp mill and new biomass power generation plant in SK (\$0.6B) and a new oriented strand board (OSB) mill in SK (\$0.3B).

Figure 6: Inflow and Outflow of Forest Projects, 2021-22



Since last year's update, 8 new forest projects with a combined potential capital value of \$1.6B were added to the inventory.

Of the 8 projects, the largest projects include the biofuel facility in QC (\$0.9B) and the OSB mill in SK (\$0.3B).

One project, a pellet plant in QC valued at \$50M was removed from the inventory this year.

Ten projects in Quebec account for 60 percent of the combined forest projects value. The remaining forest projects are spread across Saskatchewan (22%), British Columbia (7.4%), Ontario (5.1%), New Brunswick (2.6%), Alberta (1.8%), Northwest Territories, and Newfoundland and Labrador.

Clean Technologies

Clean power and low carbon fuels are crucial for Canada to meet climate goals. The majority of electricity generation in Canada comes from non-greenhouse gas emitting sources and Canada is a world leader in hydroelectricity, nuclear power and hydrogen. Wind and solar photovoltaic energy are the fastest growing sources of electricity in Canada, while biofuels and electric vehicles also play an important role in reducing the climate impact of transportation in Canada.

Clean technology projects included in the Major Projects Inventory are largely renewable electricity projects (e.g., hydro, wind, solar, biomass, tidal, geothermal) and non-emitting energy projects such as nuclear, biofuels, and carbon capture storage. These projects are subsets of the energy and forest sector totals, per Table 1.

Table 5: Clean Technology Project Trends, 2020-22

	2020	2021	2022
Total Clean Tech	148 (\$94.5B)	170 (\$103B)	183 (\$116B)
Hydro	60 (\$48.3B)	59 (\$39.2B)	63 (\$44.8B)
Wind	34 (\$7.8B)	39 (\$14.1B)	30 (\$12.1B)
Biomass/Biofuels	28 (\$4.5B)	30 (\$7.9B)	34 (\$9.3B)
Solar	8 (\$0.9B)	20 (\$3.2B)	28 (\$2.8B)
Nuclear	3 (\$26.1B)	4 (\$27.4B)	3 (\$26.1B)
Carbon Capture & Storage	1 (\$6B)	1 (\$10B)	7 (\$15.5B)
Geothermal	3 (\$0.3B)	5 (\$0.4B)	4 (\$0.4B)
Tidal	5 (\$0.3B)	5 (\$0.3B)	6 (\$0.4B)
Other*	6 (\$0.3B)	7 (\$0.5B)	8 (\$4.6B)

*"Other" includes novel initiatives such as micro-grid projects, battery storage projects, bioplastics, and a helium purification plant.

Larger projects include the Peace River Site C Hydro project in BC (\$16B), two nuclear refurbishment projects in ON (\$25.8B), Dow Net-Zero Polyethylene Derivatives Facility in AB (\$10B), and the Keeyask Hydro Project in MB (\$8.7B).

As of the April 2022 update, there are 183 energy and forest projects that are classified as clean technology projects, representing \$116B in potential investment.

- Hydro projects account for approximately one-third of the project count and approximately 40 percent of the potential capital value of Clean Technology projects (63 projects valued at \$44.8B).
- The remaining Clean Technology projects are primarily biomass/biofuels projects (34 projects valued at \$9.3B) and wind projects (30 projects valued at \$12.1B).

Figure 7: Inflow and Outflow of Clean Technology Projects, 2021-22



Both project counts and potential capital costs for Clean Technology projects increased in 2022.

29 projects valued at \$11.5B in potential investment were added: 10 solar, 6 biomass & biofuels, 6 carbon capture & storage, 4 hydro, 1 wind, 1 tidal, and 1 battery storage project in Ontario worth \$4.3B.

13 projects valued at \$2.9B were completed and removed from the inventory: 8 hydro, 2 solar, 1 geothermal, 1 biomass & biofuels, and 1 nuclear.

2 wind projects and 1 biomass & biofuels facility were removed from the inventory as inactive, with a combined potential value of \$0.7B.

Scope and Methodology

The Major Projects Inventory captures information on major natural resource projects in Canada that are either currently under construction or planned in the next 10 years. The inventory includes projects that increase, extend or improve natural resources production (e.g., new extraction and infrastructure projects, major processing facilities, and large expansion projects). Spending on exploration and general-purpose infrastructure projects (e.g., multi-purpose highways) is excluded.

To be included in the inventory, projects must meet minimum capital thresholds:

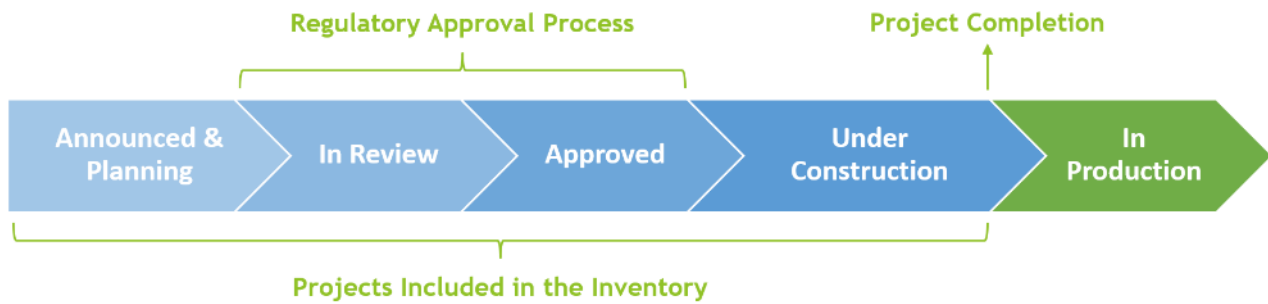
- \$50 million for projects in energy and mining;
- \$20 million for electricity and forest sector projects; and
- \$10 million for clean energy and clean technology projects.

Projects with capital estimates below the thresholds, while recognized as important contributions to overall investment, are excluded due to limited data availability. A variety of data sources are used to update the inventory, including databases maintained by Natural Resources Canada and other federal, provincial and territorial government departments, company releases, and publicly accessible websites. **The inventory is based solely on information that is in the public domain.**

The inventory includes information on the value, timing and geographic location of projects. Potential capital costs are reported in nominal annual terms. The capital valuations are validated annually by provincial and territorial counterparts in nominal terms as per project finance reporting. Projects included in the inventory are also categorized according to their stage of development. A project typically progresses through the following stages:

- **Announced & Planning:** planned projects that have been publicly announced but where regulatory approvals have not been submitted;
- **Under Review:** planned projects that have submitted applications for regulatory approvals but are still under review;
- **Approval Received:** planned projects that have received all major regulatory approvals i.e. the approvals required to start construction but for which construction has not yet begun;
- **Under Construction:** projects for which construction is underway; and
- **Post-Review Planning:** an additional stage to account for projects which have been rejected and returns to a planning phase in order to submit revised documents for further review.

Figure 8: Project Stages Included in the 2022 Major Projects Inventory



Projects are classified as having been added, completed, put on hold, suspended, cancelled, or removed since the previous annual update by the following definitions:

- **Added projects:** new projects that have been announced since the previous update or older projects that have come within the scope for inclusion based on newly available data;
- **Completed projects:** projects that have moved past the construction phase and into the production phase, or have otherwise been completed;
- **On hold projects:** projects which have been temporarily interrupted and are expected to resume progression within a short period of time, typically 2 to 6 months;
- **Suspended projects:** projects (planned or under construction) that have been delayed for a long period or officially suspended by the proponents;
- **Cancelled projects:** projects (planned or under construction) that have been officially cancelled by the proponents; and

Removed projects: projects that are no longer within the inventory's scope due to newly available information (e.g., because they no longer meet the minimum capital thresholds).

Appendix

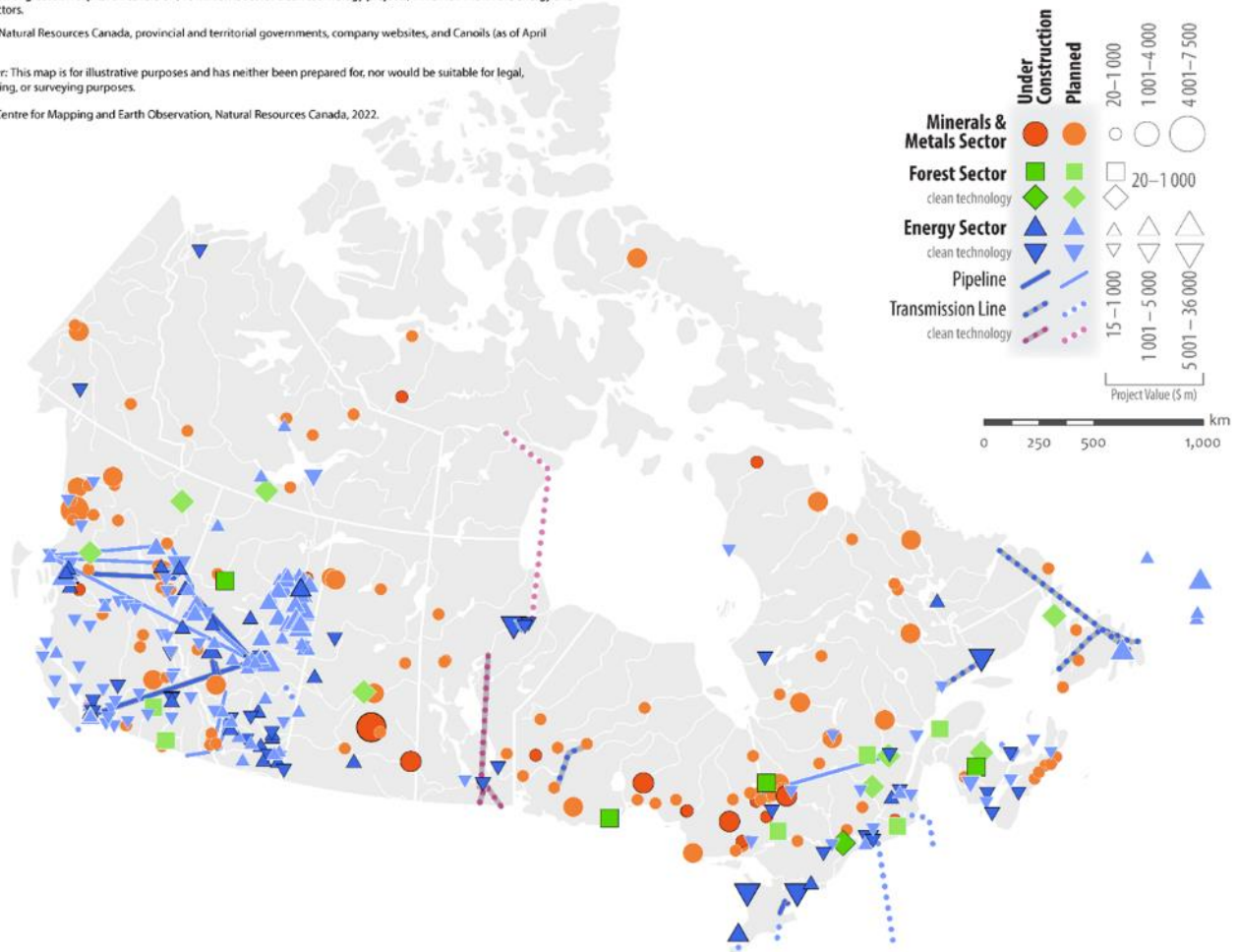
National Profile

The threshold value of \$50 million is used for energy and mining sector projects. Electricity and forest projects are valued at \$20 million or greater. A capital threshold of \$10 million is set for clean technology projects, which fall within the energy and forest sectors.

Sources: Natural Resources Canada, provincial and territorial governments, company websites, and Canolits (as of April 2022).

Disclaimer: This map is for illustrative purposes and has neither been prepared for, nor would be suitable for legal, engineering, or surveying purposes.

Canada Centre for Mapping and Earth Observation, Natural Resources Canada, 2022.



Highlights

- As of April 2022, there are 470 projects currently under construction or planned over the next 10 years, representing \$520B in potential capital investment.
- Energy projects accounted for 82 percent of the total value of major projects in the inventory, mining projects accounted for 17 percent, and forest projects accounted for 1 percent.

Table A1: Inventory Summary by Project Status, 2022

	Energy	Mining	Forests	Total
2022 Inventory Totals	320 (\$427B)	124 (\$88B)	26 (\$4.1B)	470 (\$520B)
Announced & Planning	103 (\$108.7B)	36 (\$22.2B)	19 (\$3.8B)	158 (\$134.6B)
Under Review	60 (\$85.2B)	36 (\$21.5B)	1 (\$0.1B)	97 (\$106.8B)
Approval Received	53 (\$83.4B)	34 (\$23.6B)		87 (\$107B)
Post-Review Planning	2 (\$1.3B)	1 (\$1.3B)		3 (\$2.5B)
Under Construction	102 (\$148.6B)	17 (\$19.8B)	6 (\$0.2B)	125 (\$168.6B)

Table A2: Inventory Summary by Province and Territory, 2022

	Energy	Mining	Forests	Total
2022 Inventory Totals	320 (\$427B)	124 (\$88B)	26 (\$4.1B)	470 (\$520B)
British Columbia	88 (\$156.6B)	31 (\$24.8B)	6 (\$0.3B)	125 (\$181.7B)
Alberta	126 (\$148.9B)	5 (\$2.7B)	1 (\$0.07B)	132 (\$151.7B)
Saskatchewan	11 (\$2.1B)	9 (\$15.5B)	3 (\$0.9B)	23 (\$18.6B)
Manitoba	16 (\$9.5B)	4 (\$0.7B)		20 (\$10.3B)
Ontario	18 (\$38.2B)	29 (\$16.2B)	2 (\$0.2B)	49 (\$54.7B)
Quebec	24 (\$16.6B)	23 (\$16.4B)	10 (\$2.4B)	57 (\$35.5B)
New Brunswick	4 (\$3.6B)	1 (\$0.6B)	2 (\$0.1B)	7 (\$4.3B)
Nova Scotia	8 (\$0.5B)	4 (\$0.6B)		12 (\$1.1B)
Prince Edward Island	5 (\$0.2B)			5 (\$0.2B)
Newfoundland and Labrador	10 (\$21.3B)	7 (\$2.3B)	1 (\$0.02B)	18 (\$23.6B)
Yukon	2 (\$0.05B)	3 (\$4.1B)		5 (\$4.1B)
Northwest Territories	4 (\$1.3B)	5 (\$1.8B)	1 (\$0.02B)	10 (\$3.2B)
Nunavut		3 (\$2.5B)		3 (\$2.5B)
Multi-jurisdictional	4 (\$27.9B)			4 (\$27.9B)

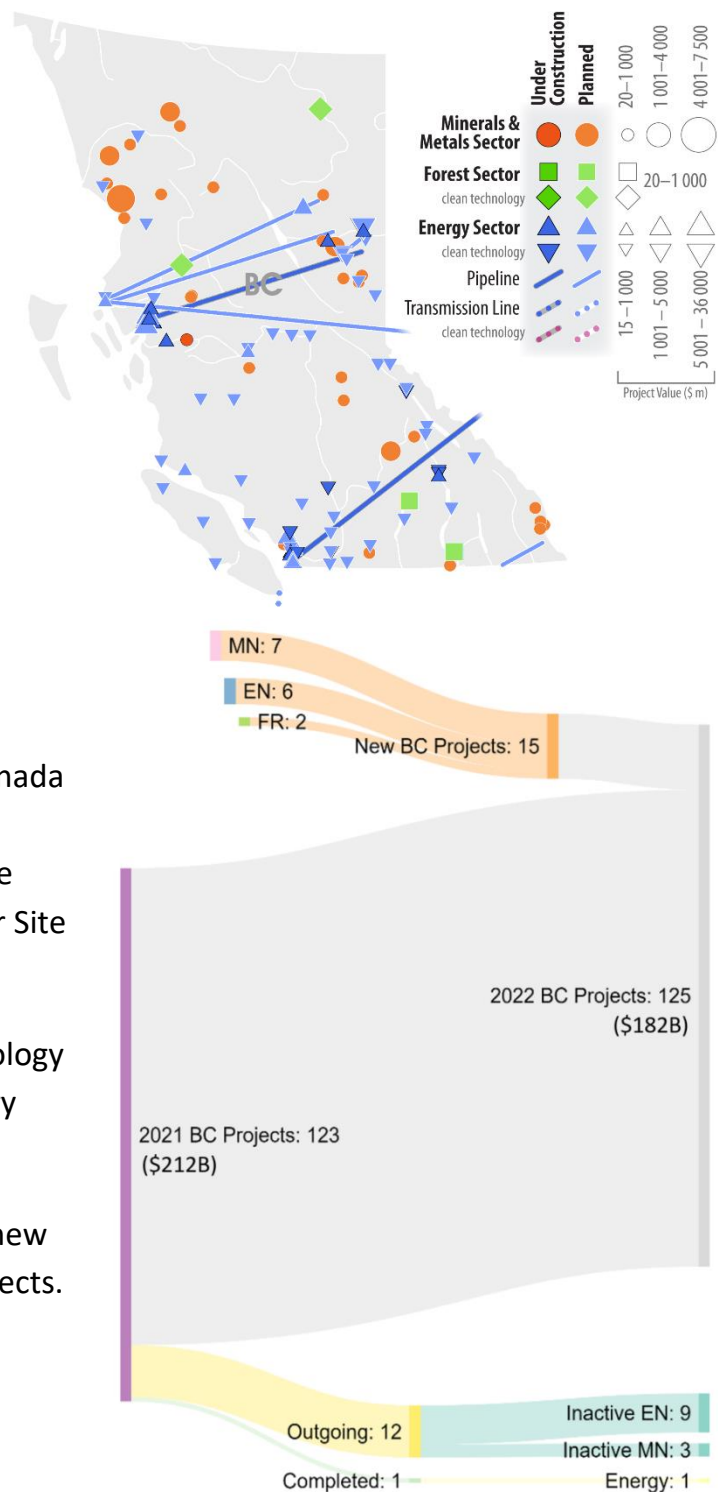
Provincial and Territorial Profiles

Individual profile sheets can be found on pages 24 - 36. These include annual highlights and maps showing project locations. Abbreviations used in the Flow Diagrams include EN (Energy), MN (Mining), and FR (Forests).

British Columbia

Highlights

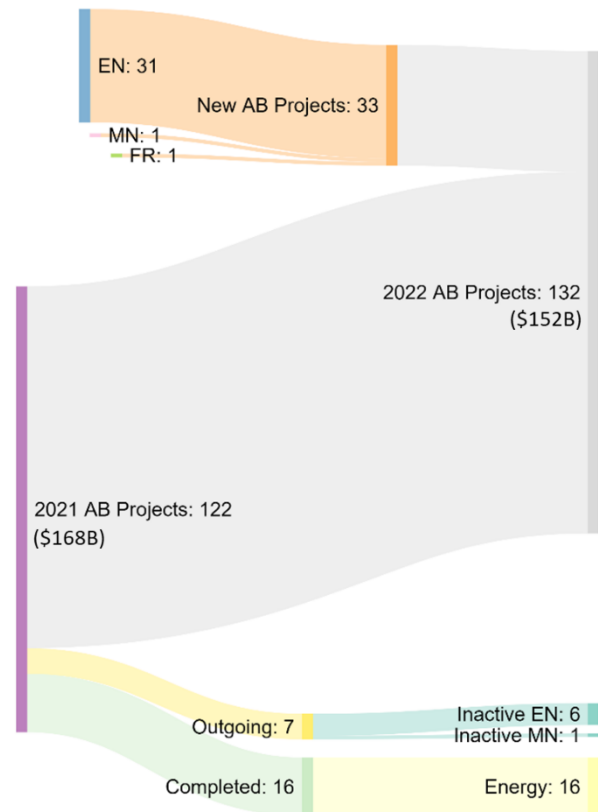
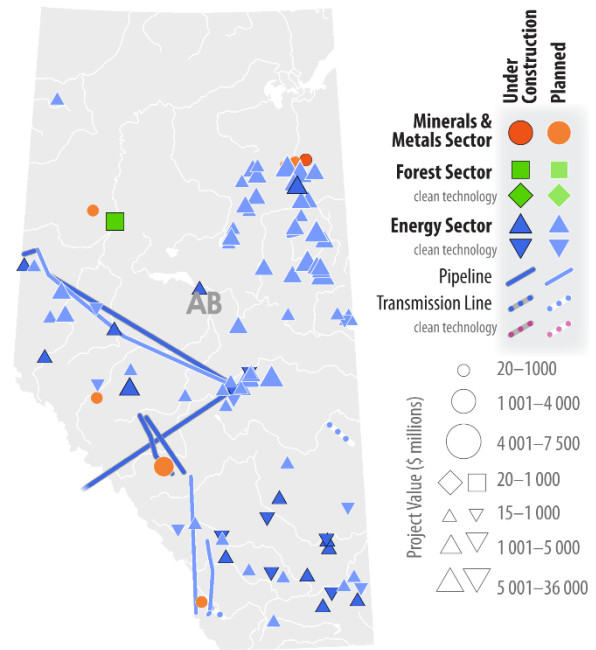
- A total of 125 projects are under construction or planned over the next 10 years in British Columbia, representing \$182B and 35 percent of total investment in the inventory.
- Energy projects are valued at \$156.6B and account for 86 percent of the value of potential investments in the province.
- The largest projects include LNG Canada Phase 1 (\$36B), Kitimat Clean Oil Refinery (\$22B), ESE Synthetic Crude Pipeline (\$18B), and the Peace River Site C Project (\$16B).
- In 2022, there were 58 clean technology projects included in the BC inventory valued at \$31.7B.
- Project count was up by two as 15 new projects offset the 13 outgoing projects.



Alberta

Highlights

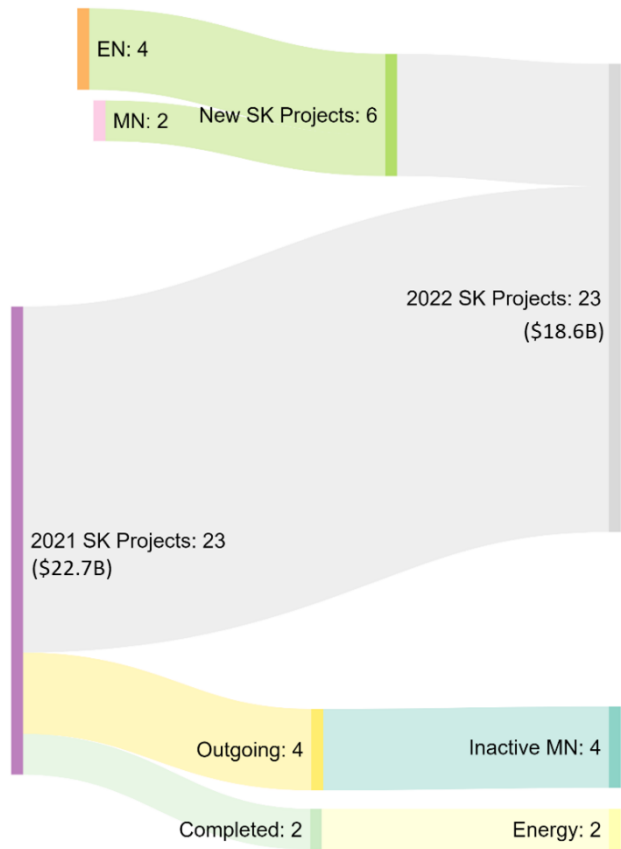
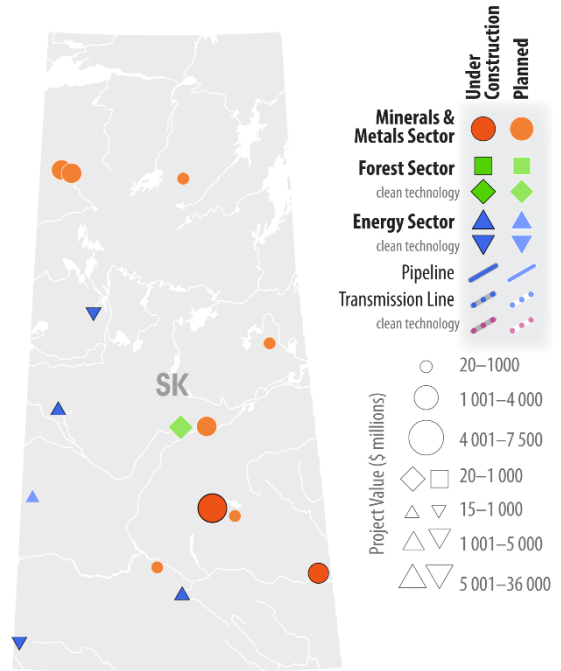
- A total of 132 projects are under construction or planned over the next 10 years in Alberta, representing \$152B and 29 percent of total investment in the inventory.
- Energy projects are valued at \$148.9B and account for 98 percent of the value of potential investments in the province.
- The largest projects include the Athabasca Oil Sands Project at Jackpine (\$12B), Dow Net-Zero Polyethylene Facility (\$10B), and the SAGD May River Project (\$10B).
- In 2022, there were 50 clean technology projects included in the AB inventory valued at \$22.5B.
- Project count was up by 10 as 33 new projects offset the 23 outgoing projects.



Saskatchewan

Highlights

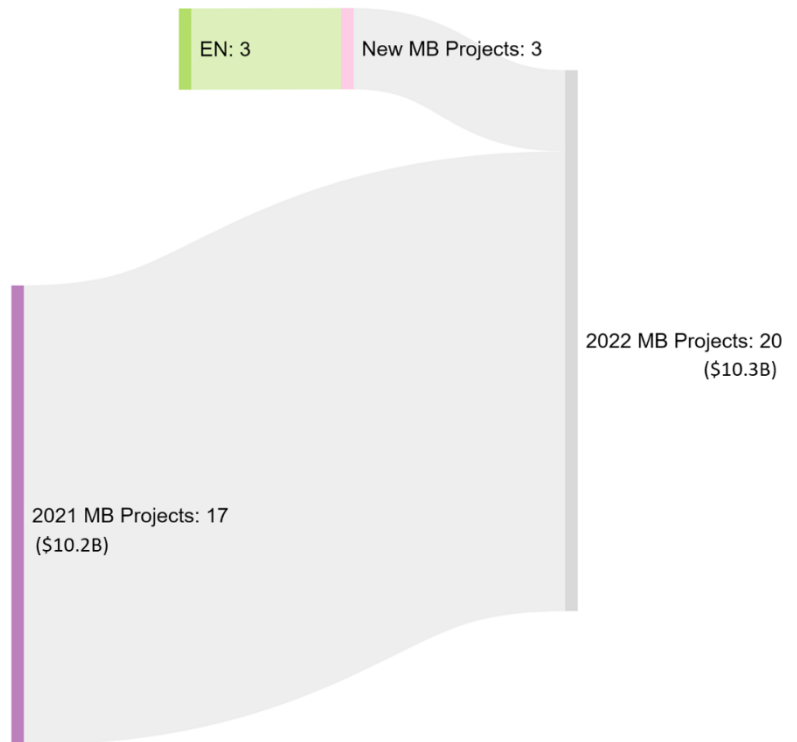
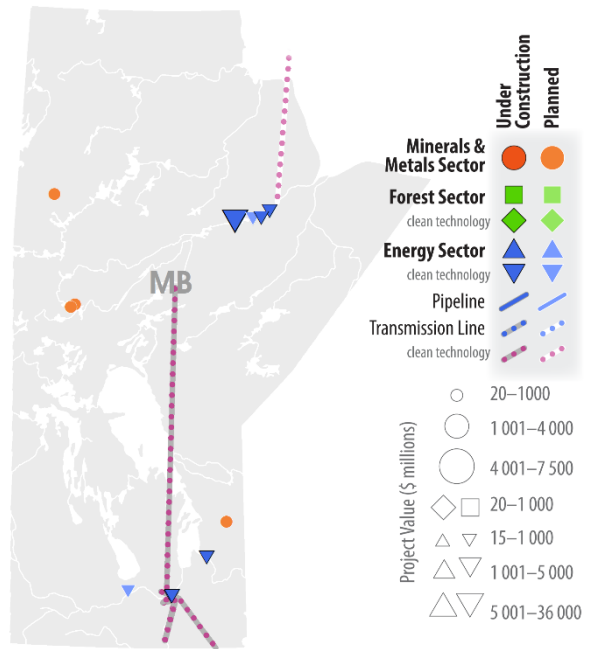
- A total of 23 projects are under construction or planned over the next 10 years in Saskatchewan, representing \$18.6B and 3.6 percent of potential investment in the inventory.
- Mining projects are valued at \$15.5B and account for 84 percent of the value of potential investments in the province.
- The largest projects include the Jansen Potash Project (\$7.5B), Esterhazy K3 Project (\$1.7B) and the Star-Orion Diamond Project (\$1.4B).
- In 2022, there were five clean technology projects included in the SK inventory valued at \$0.7B.
- Project count was stable as six new projects offset the outgoing six projects.



Manitoba

Highlights

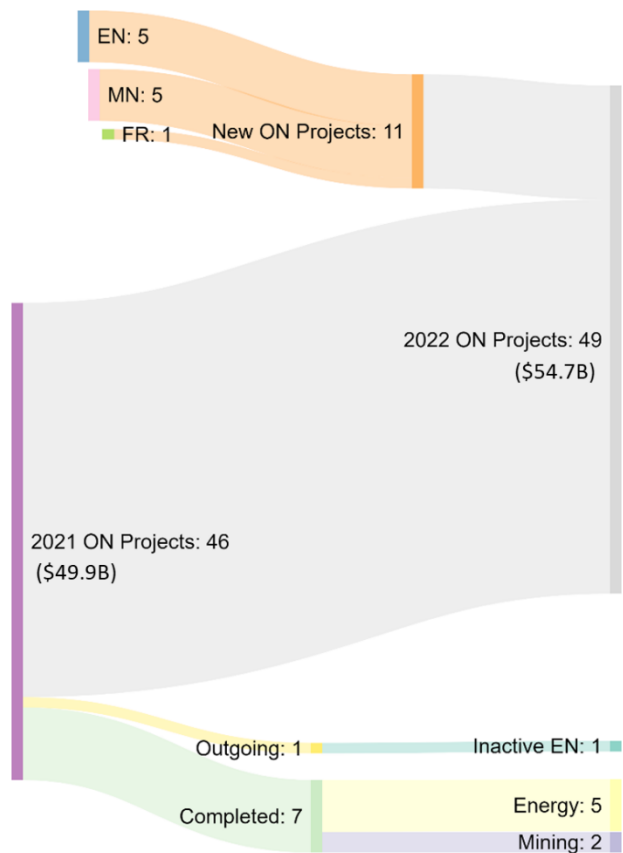
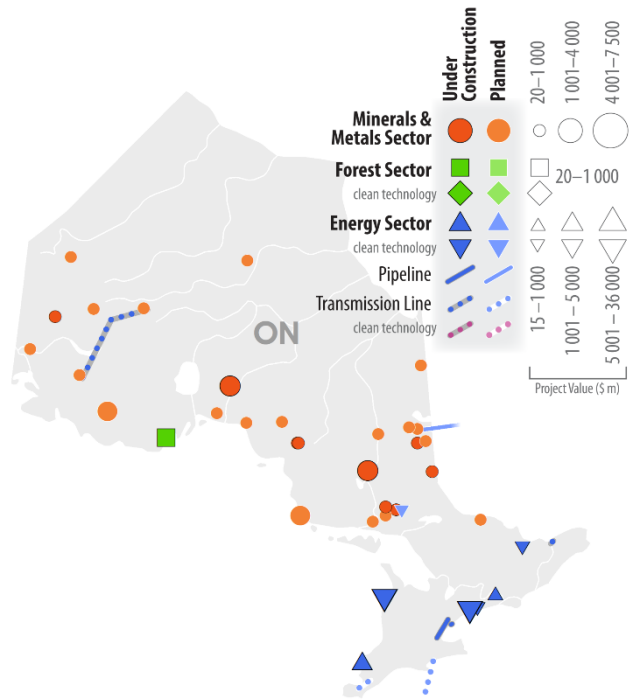
- A total of 20 projects are under construction or planned over the next 10 years in Manitoba, representing \$10.3B and 2 percent of total investment in the inventory.
- Energy projects are valued at \$9.5B and account for 93 percent of the value of potential investments in the province.
- The largest projects include the Keeyask Hydro Project (\$8.7B), Lynn Lake Mine (\$0.4B) and Portage Area Capacity Enhancements (\$0.2B).
- In 2022, there were 16 clean technology projects included in the MB inventory valued at \$9.5B.
- Project count was up by three as three new projects entered the MB inventory. There were no outgoing projects this year.



Ontario

Highlights

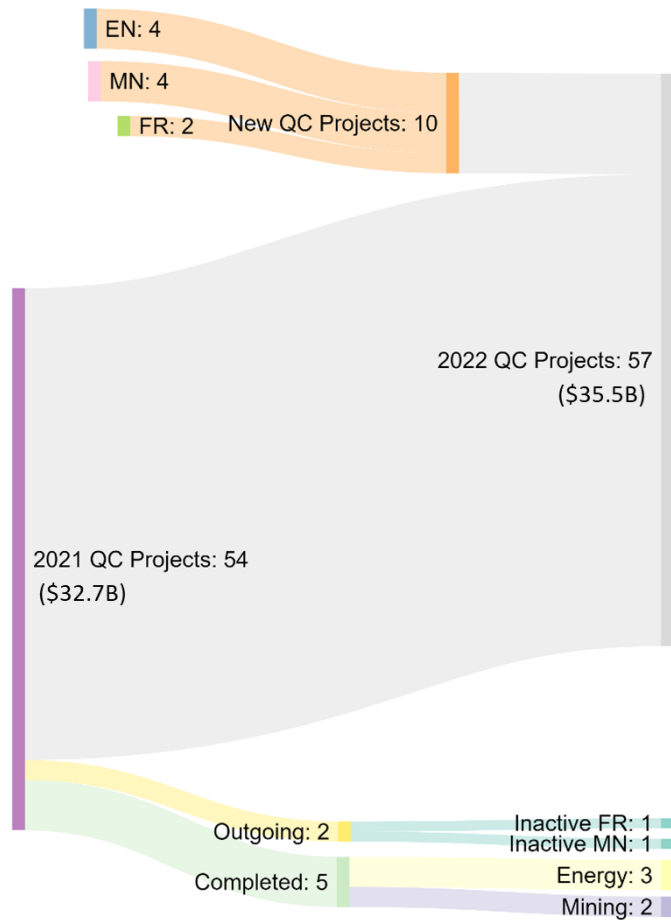
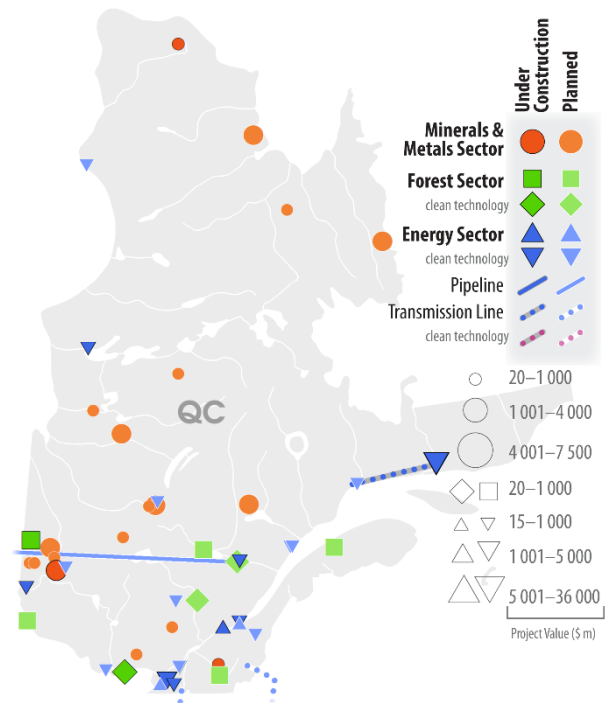
- A total of 49 projects are under construction or planned over the next 10 years in Ontario, representing \$54.7B and 10.5 percent of total investment in the inventory.
- Energy projects are valued at \$38.2B and account for 70 percent of the value of potential investments in the province.
- The largest projects include the Bruce Nuclear Refurbishment (\$13B), Darlington Nuclear Refurbishment (\$12.8B) and the Meaford Pumped Storage Project (\$4.3B).
- In 2022, there were 8 clean technology projects included in the ON inventory valued at \$30.8B.
- Project count was up by three as 11 new projects offset the 8 outgoing projects.



Quebec

Highlights

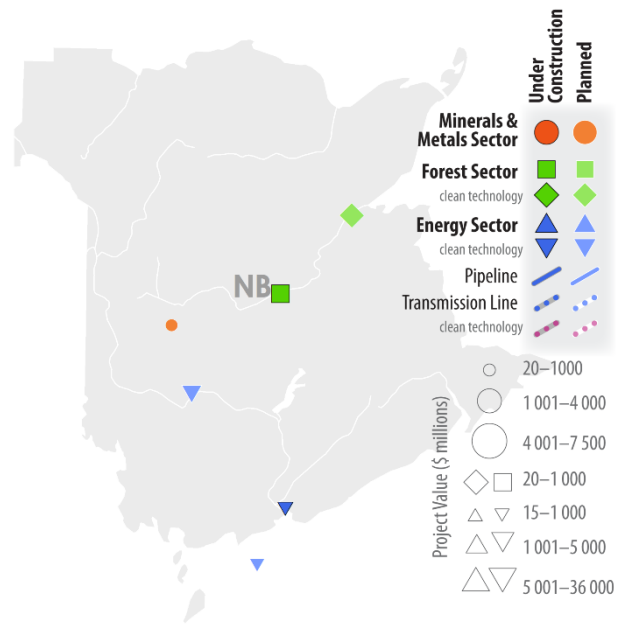
- A total of 57 projects are under construction or planned over the next 10 years in Quebec, representing \$35.5B and 6.8 percent of total investment in the inventory.
- Both energy and mining projects are valued at around \$16B each and together account for 93 percent of the value of potential investments in the province.
- The largest projects include the Romaine Hydroelectric Complex (\$6.5B), Champlain Hudson Power Express Transmission Line (\$2.2B) and Strange Lake Mine (\$1.6B).
- In 2022, there were 22 clean technology projects included in the QC inventory valued at \$13.9B.
- Project count was up by three as 10 new projects offset the seven outgoing projects.



New Brunswick

Highlights

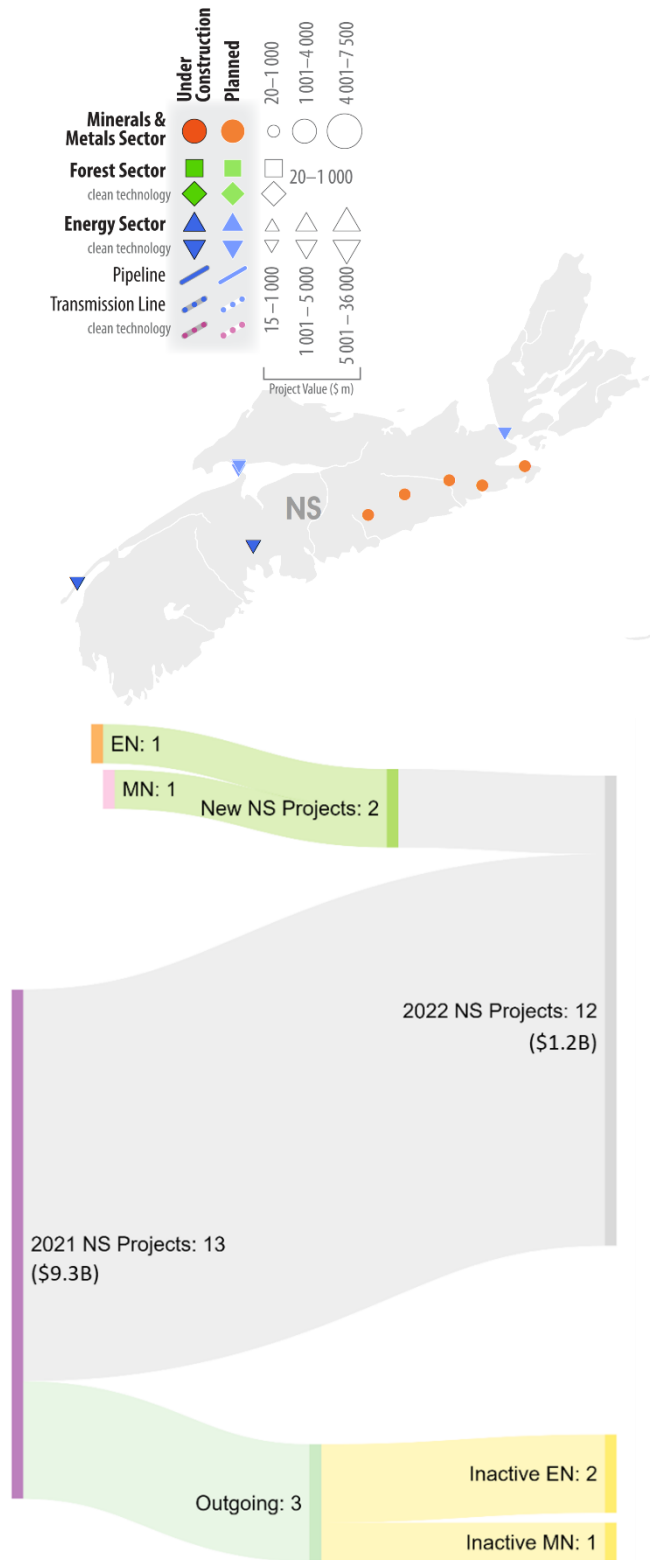
- A total of 7 projects are under construction or planned over the next 10 years in New Brunswick, representing \$4.3B and 0.8 percent of total investment in the inventory.
- Energy projects are valued at \$3.6B and account for 84 percent of the value of potential investments in the province.
- The largest projects include the Mactaquac Dam upgrades (\$3.3B), Sisson Project (\$0.6B) and a Smart Grids Investments Phase Project (\$0.2B).
- In 2022, there were 5 clean technology projects included in the NB inventory valued at \$3.7B.
- Project count was unchanged due to no incoming or outgoing projects.



Nova Scotia

Highlights

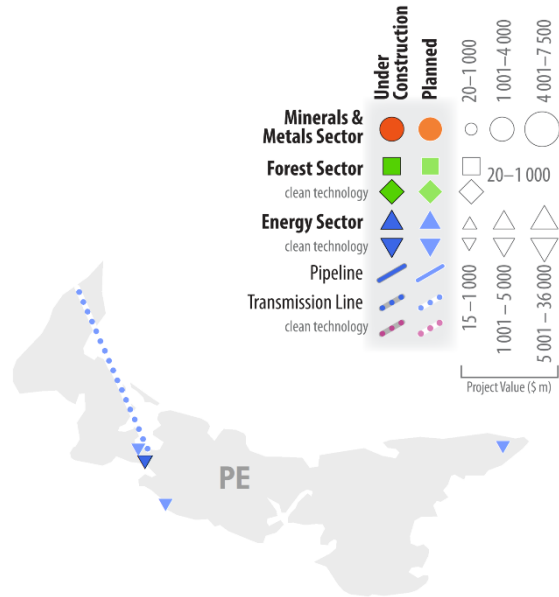
- A total of 12 projects are under construction or planned over the next 10 years in Nova Scotia, representing \$1.1B and 0.2 percent of total investment in the inventory.
- Mining projects are valued at \$0.6B and account for 54 percent of the value of potential investments in the province. The remainder is fully made up of energy projects.
- The largest projects include the Goldboro Gold Mine (\$0.3B), Pirate Harbour Wind Farm (\$0.2B), and the Cochrane Hill Mine (\$0.1B).
- In 2022, there were eight clean technology projects included in the NS inventory valued at \$0.5B.
- Project count was down by one as three outgoing projects offset two new projects. Bear Head LNG (\$8B) was put on hold and this led to the drop in combined capital value.



Prince Edward Island

Highlights

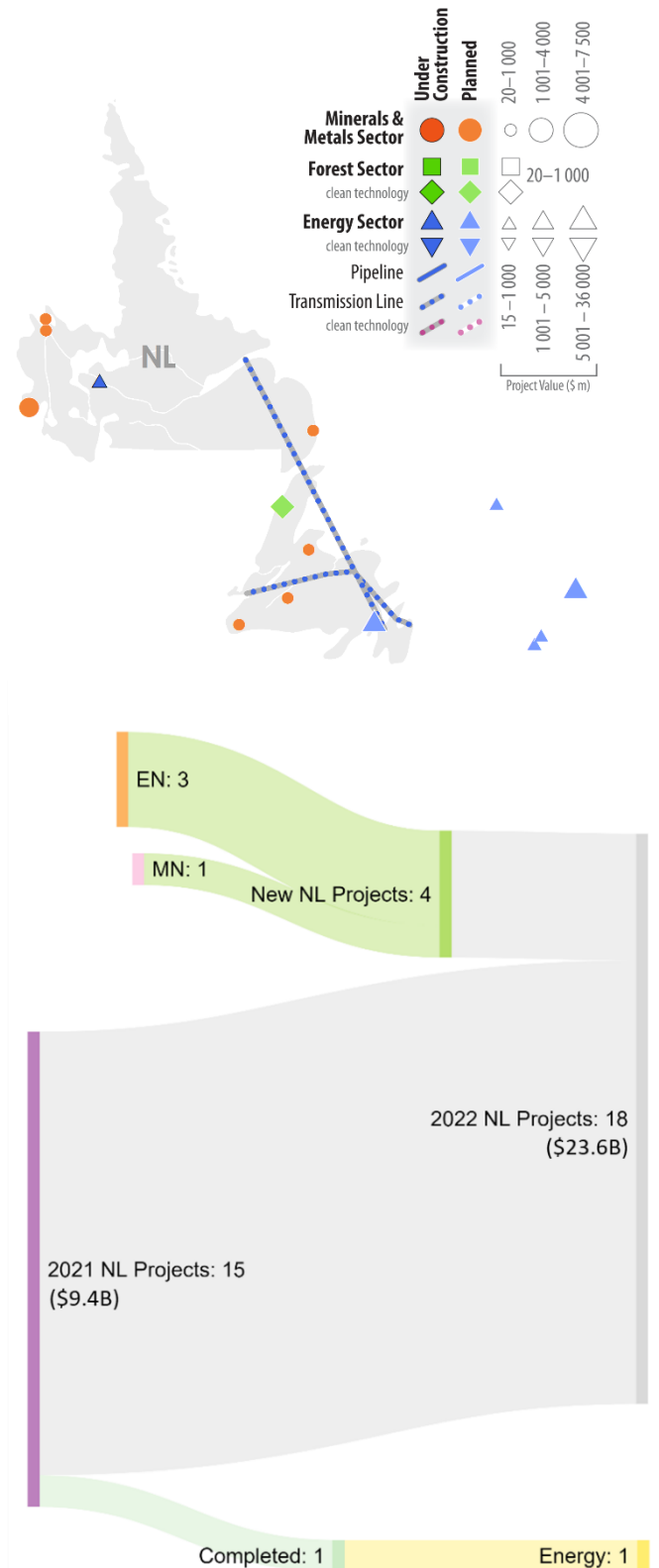
- A total of 5 projects are under construction or planned over the next 10 years in Prince Edward Island, representing \$0.2B and 0.04 percent of total investment in the inventory.
- Energy projects accounted for the full value of potential investments in the province.
- The five projects include the Summerside Solar Farm (\$69M), PEI Energy Corporation Wind Farm #5 (\$60M), the Western PEI Transmission Upgrade (\$44M), Borden Battery Park (\$35M) and the Slemon Park Micro-Grid Project (\$25M).
- In 2022, there were four clean technology projects included in the PEI inventory valued at \$188M.
- Project count was unchanged as there were no incoming or outgoing projects.



Newfoundland and Labrador

Highlights

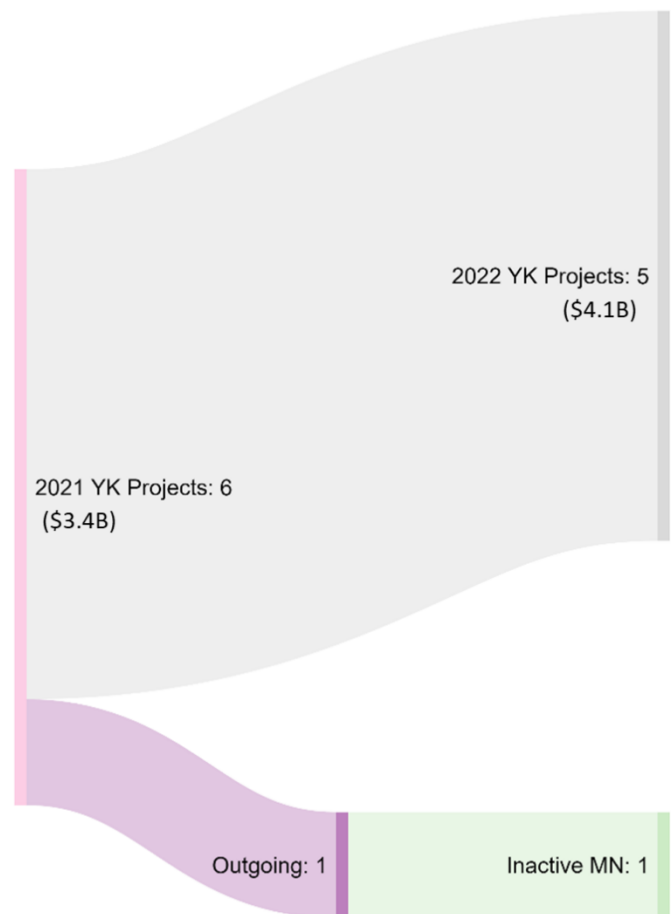
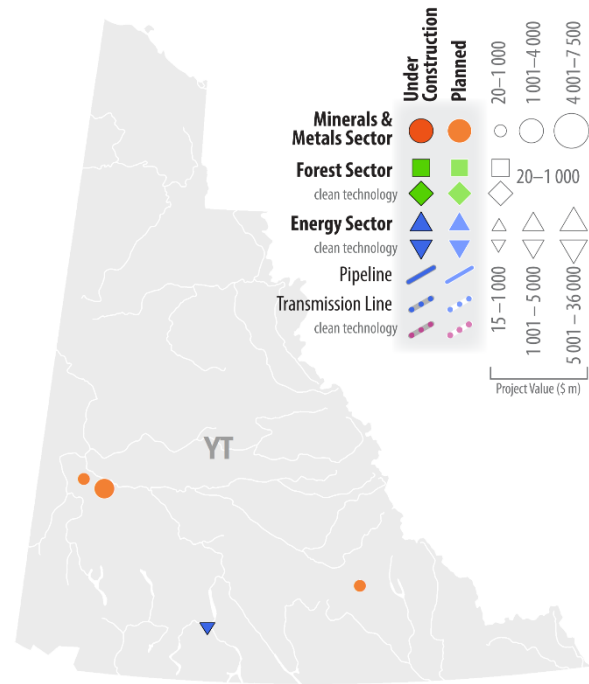
- A total of 18 projects are under construction or planned over the next 10 years in Newfoundland and Labrador, representing \$23.6B and 4.6 percent of total investment in the inventory.
- Energy projects are valued at \$23.6B and account for 90 percent of the value of potential investments in the province.
- The largest projects include Bay du Nord Offshore Project (\$12B), Grassy Point LNG (\$7.2B) and Kamistiatusset Mine (\$1.3B).
- In 2022, there were one clean technology project included in the NL inventory valued at \$19.7M. This was a new advanced pellet plant announced by Active Energy Group.
- Project count was up by three as four incoming projects offset the one completed project.



Yukon

Highlights

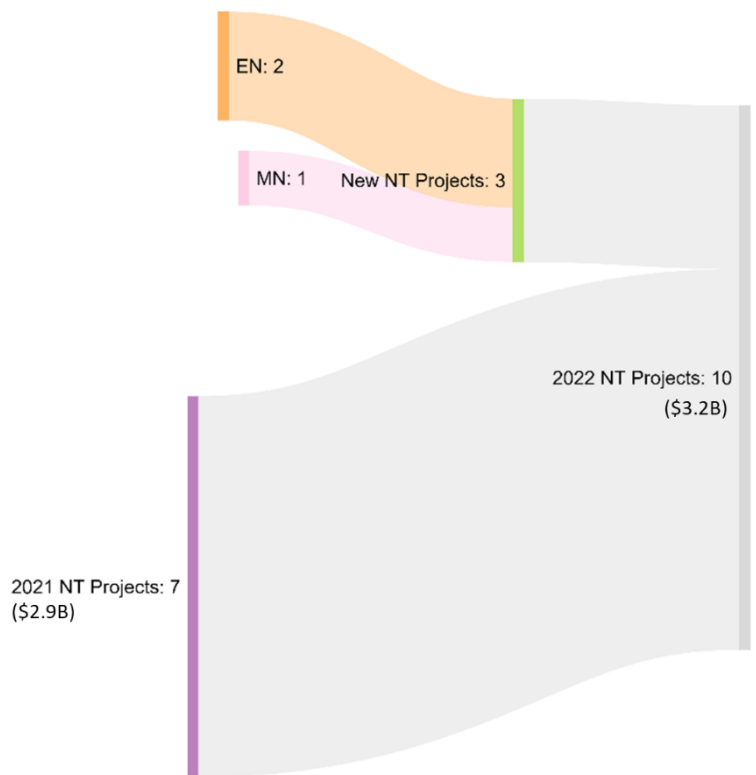
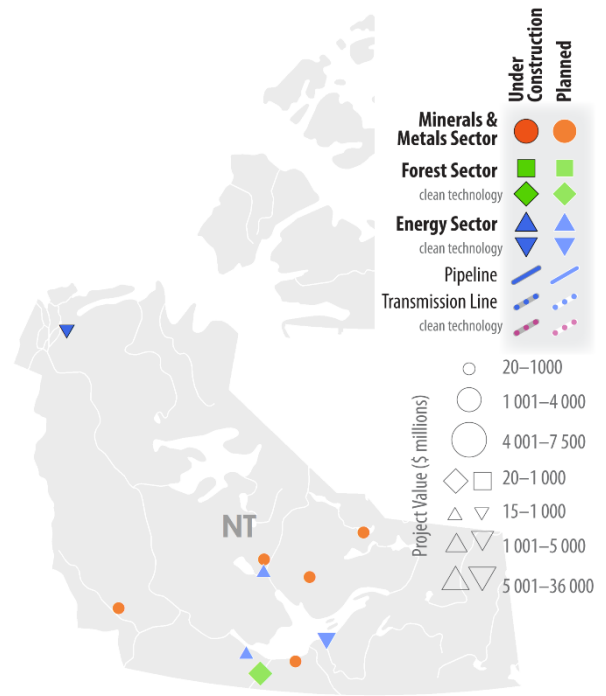
- A total of 5 projects are under construction or planned over the next 10 years in Yukon, representing \$4.1B and 0.8 percent of total investment in the inventory.
- Mining projects are valued at \$4B and account for 99 percent of the value of potential investments in the territory.
- The largest projects include the Casino Mine (\$3.3B), Kudz Ze Kayah Mine (\$0.5B) and the Coffee Gold Mine (\$0.3B).
- In 2022, there were two clean technology projects included in the YK inventory valued at \$55M. This included a Grid-Scale Battery Storage Project (\$35M) and the Haeckel Hill Wind Farm (\$20M).
- Project count was down by one as a single project was cancelled.



Northwest Territories

Highlights

- A total of 10 projects are under construction or planned over the next 10 years in the Northwest Territories, representing \$3.2B and 0.6 percent of total investment in the inventory.
- Mining projects are valued at \$1.8B and account for 57 percent of the value of potential investments in the territory.
- The largest projects include the Taltson Hydroelectric Expansion Project (\$1.2B), NICO Cobalt-Gold-Bismuth Mine (\$0.6B), and the Pine Point Mine (\$0.6B).
- In 2022, there were three clean technology projects included in the NT inventory valued at \$1.2B. This includes the aforementioned Taltson Project, the Inuvik Wind Generation Project (\$40M) and the AWP Industrial Park (\$20M).
- Project count was up by three as there were three new projects and no outgoing projects.



Nunavut

Highlights

- A total of 3 projects are under construction or planned over the next 10 years in the Nunavut, representing \$2.5B and 0.5 percent of total investment in the inventory.
- Mining projects account for the full value of potential investments in the territory.
- The largest projects include the Mary River Iron Ore Project (\$1.3B), the Back River Gold Project (\$0.6B) and the Hope Bay Gold Project (\$0.7B).
- In 2022, there were no clean technology projects included in the NU inventory.
- Project count was unchanged as there were no incoming or outgoing projects.

