Transaction, Strategy and Risk Management Services

HATCH

Supporting our clients' toughest strategic decisions

The search for yield has driven the public and private sectors to invest in higher-risk metals, energy, and infrastructure projects and businesses. With such demand for high returns, it is essential that capital-intensive projects and portfolios achieve their objectives and deliver on expectations.

At the same time, producers have shifted their focus from growth to capital discipline, portfolio reviews, and project optimization. Hatch works with these producers, along with their lenders and investors, to identify, assess, and mitigate risk as well as enable opportunities and ensure project objectives meet or exceed expectations. Using our blend of deep technical, social, environmental, and business expertise, we advise clients on a wide range of engagements across the metals, energy, and infrastructure sectors to unlock greater value.

The Hatch advantage

We support developers, operators, and strategic and financial investors with strategy development, market reviews, acquisitions, divestitures, investments, performance-improvement projects, due diligence, and transaction advisory mandates, globally. Our track record and reputation are built on our key strength: our ability to effectively integrate the business, financial, and deep technical aspects of each asset. This has made us a sought-after, valued partner known to offer insights that provide our clients real results, faster.

Offering a proven approach…

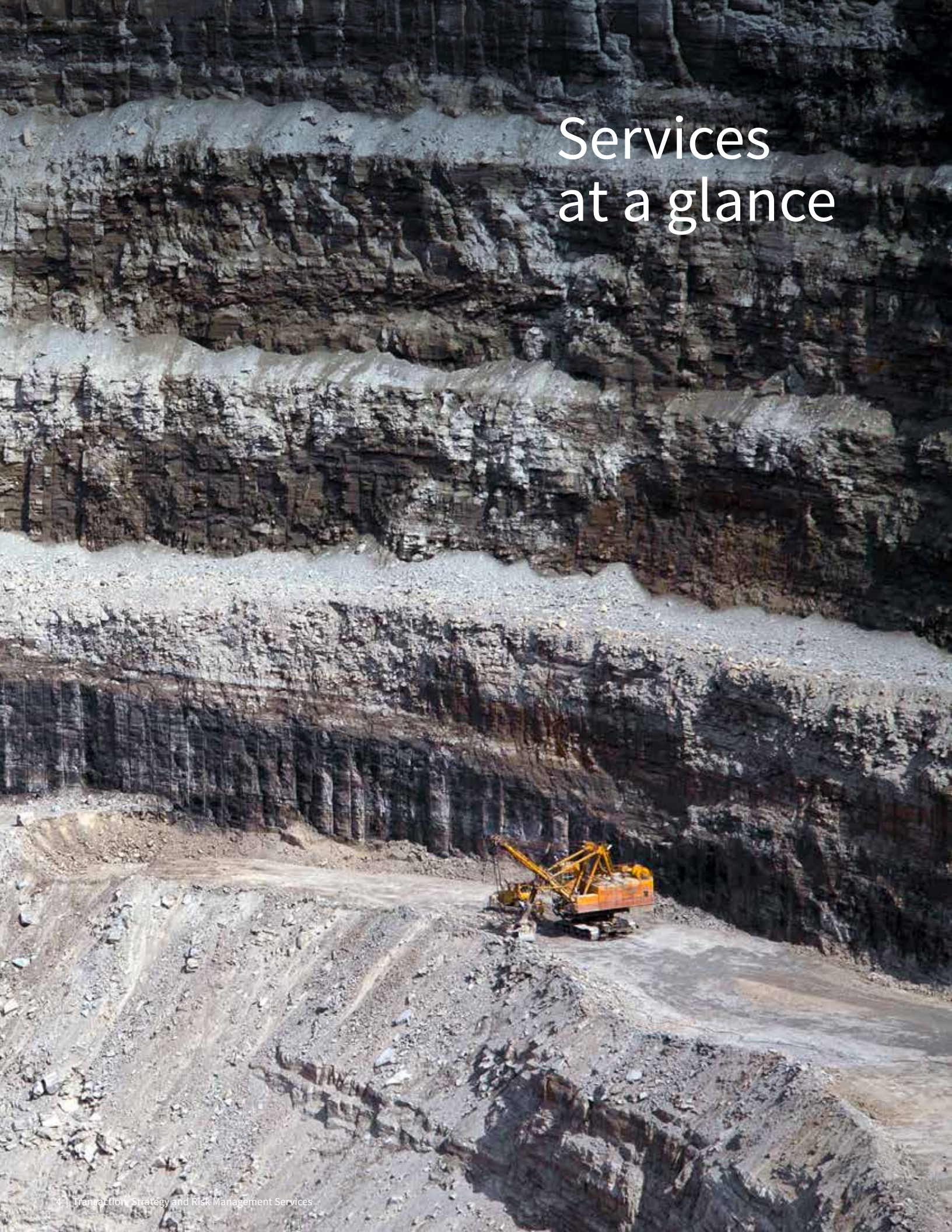
Working closely with clients through every step, we draw upon our unique array of technical skills to offer analysis, insights, perspectives, and recommendations to help businesses make decisions that will improve shareholder value. Using a streamlined, evidence-based approach, we work with clients at all levels of their organization.

We work on projects from conceptual design to engineering, construction through operations to closure, and address technical, financial, environmental and social objectives. Our capital and operating cost benchmarks, knowledge of the market, and expert financial modeling capabilities have proven to add value to projects and existing operations.

…while providing bespoke service

Our mandates are scaled and adjusted to the requirements of our client and the underlying asset. In a typical engagement, we examine risks and opportunities in key areas that impact project returns. Due to our long history and experience designing, building, monitoring and operating large capital assets, our consultants can quickly identify key value drivers and adapt our processes to the specifics of a mandate.

Services at a glance



Transaction services

Technical and environmental due diligence

Support M&A, investment, and divestment decisions through comprehensive technical, environmental and social reviews.

Lenders' technical advisor

Support lenders throughout all phases of project life, from advisory services for the credit committee to construction, completion, ramp-up, and loan performance monitoring.

Strategy

Corporate strategy and business planning

Develop and recommend medium- and long-term strategic plans that make the most of existing assets, further business objectives, and balance operating and financial resources.

Climate change portfolio optimization

Assess the impact of climate change and other environmental, social, and governance factors on the value of target assets.

Valuation

The bedrock of our advisory and transaction support services, bringing to light an asset's intrinsic value.

Capital strategy planning

Investigate and analyze potentially available capital sources that meet stakeholder demands, while adapting to industry trends and business cycles.

Site selection and gateway logistics

Determine where to invest capital to expand the business, or the best gateway to carry products to market.

Market studies and value-in-use

Understand regional and global market trends to optimize product mix ahead of competitors. Maximize economic potential by getting the best value for products of variable specification, before it even hits the market.

Risk management

Catastrophic risk assessment

Structured and data-driven assurance assessments that focus on confirmation of critical preventative controls and recovery plans to mitigate the occurrence and impact of catastrophic risk.

Value at risk modeling

Comprehensive risk identification and impact quantification for a risk-adjusted valuation of a portfolio of investment opportunities.

Enterprise risk management

Enhance the resiliency and protect the value of businesses by identifying the potential hazards that could interfere with an organization's operations and objectives.

Evidence-based advice

Transaction services

Technical and environmental due diligence

Support M&A, investment and divestment decisions through comprehensive technical, environmental, and social reviews.

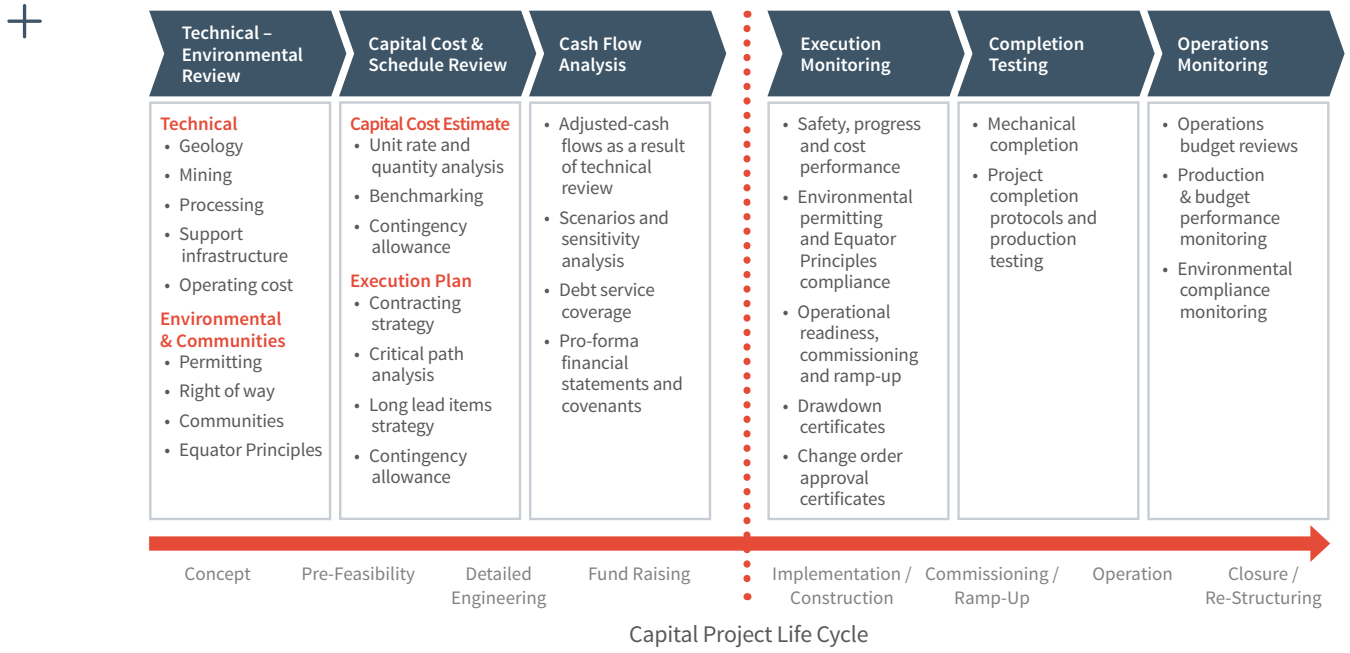
- Expert commentary on the business case impact of all technical risks and opportunities.
- Market commentary to interrogate revenue forecasts.
- Experienced capital project managers to review both greenfield and brownfield development execution strategies.
- Environmental and social management reviews to identify business-halting risks.
- Development of asset- and company-level financial models, incorporating findings to describe the opportunity.
- Preparation of confidential information memorandums and sell-side due diligence reports to communicate the competitive advantages of an asset to be divested.

Lenders' technical advisor

We support lenders throughout all phases of project life, from advisory services for the credit committee to construction, completion, and ramp-up monitoring.

- Capital cost estimate and project execution schedule reviews
- Impact of construction, off-take, and supply contracts structure
- Risk and opportunity identification
- Completion guarantees
- Provide understanding of the real implications of project changes to the business case
- Construction monitoring and reporting to lenders and owners
- Facility completion certification
- Ramp-up
- Operations and loan performance monitoring

Supporting lenders throughout the investment life cycle



Strategy

Corporate strategy and business planning

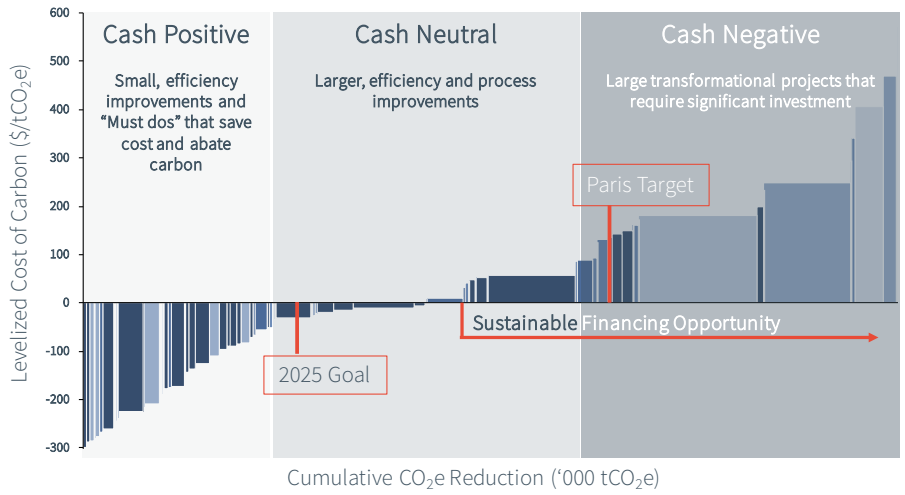
Develop and recommend medium- and long-term strategic plans that make the most of existing assets, further business objectives, and balance operating and financial resources. Corporate strategy is supported by dynamic financial analysis that leverages Hatch's superior technical knowledge for realistic technical and business inputs to financial decisions, assured due diligence, and solid strategic planning.

- Financial, technical, and operating expertise to assess the strategic baseline and identify opportunities that will provide immediate cash flow from operations.
- Marketing, value-in-use, technical, financial, and project execution expertise to develop business cases for new products, marketing plans, and asset expansions.
- Staged development strategies based on equipment capacities and dynamic logistic simulation for projects with significant upfront capital.
- Experts with years of international, industry-specific experience.

Climate change portfolio optimization

Hatch supports our clients in creating positive social impacts through strategic investments in projects and infrastructure that drive the sustainable and low-carbon economy. We consider key drivers of change that may affect valuation, including shifting government policies and societal expectations, technological advancement, and access to capital.

- Development and assessment of corporate strategies and risk management systems to assess climate change-related risks to businesses, investment portfolios, and individual assets.
- Ideation and prioritization of carbon reduction opportunities to reduce or eliminate corporate greenhouse gas emissions.
- Development of integrated sector investment frameworks to navigate through the highly complex transition to a lower carbon footprint.
- Support sustainable finance practices among banks and investment funds through the development and review of sustainable investment policies and the benchmarking of transactions against a variety of climate-positive investment criteria.
- Scenario-based transition risk and opportunity assessments that are aligned with the Task Force on Climate-related Financial Disclosures—aligned and supported by deep technical evaluation and socio-economic analysis.



Prioritizing greenhouse gas abatement initiatives

Levelized Cost of Carbon ($/tCO2e) = Present Value of Cost / Present Value of CO2e Reduction. Darker column indicates more mature technology.

Valuation

Our blended team of financial and technical experts brings a higher level of confidence to this essential part of a due diligence and transaction support mandate. We employ a solid technical foundation and the best methodology for your specific case and context. Examination methods include:

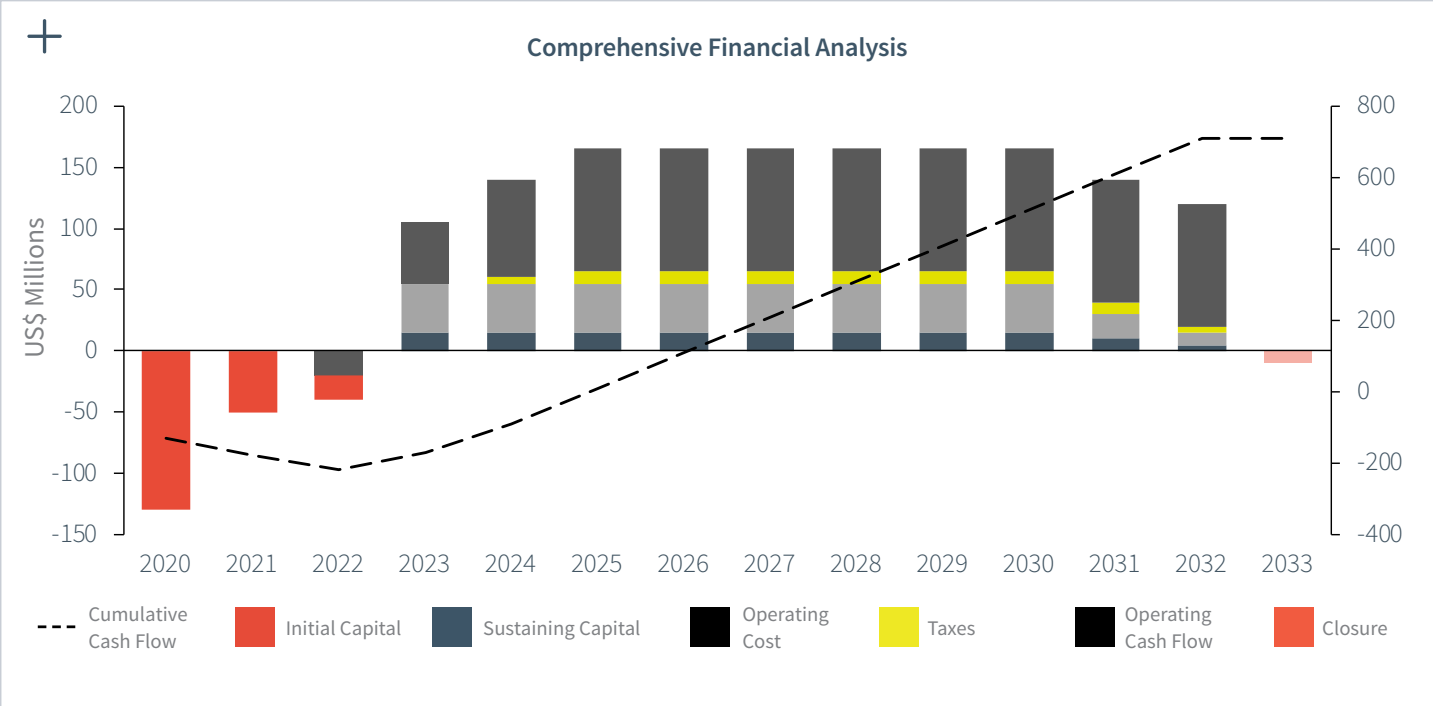
- Comparable transactions and valuation multiples
- Discounted cash flow analysis
- Depreciated value
- Liquidation value
- Replacement value
- Real options cash flow analysis

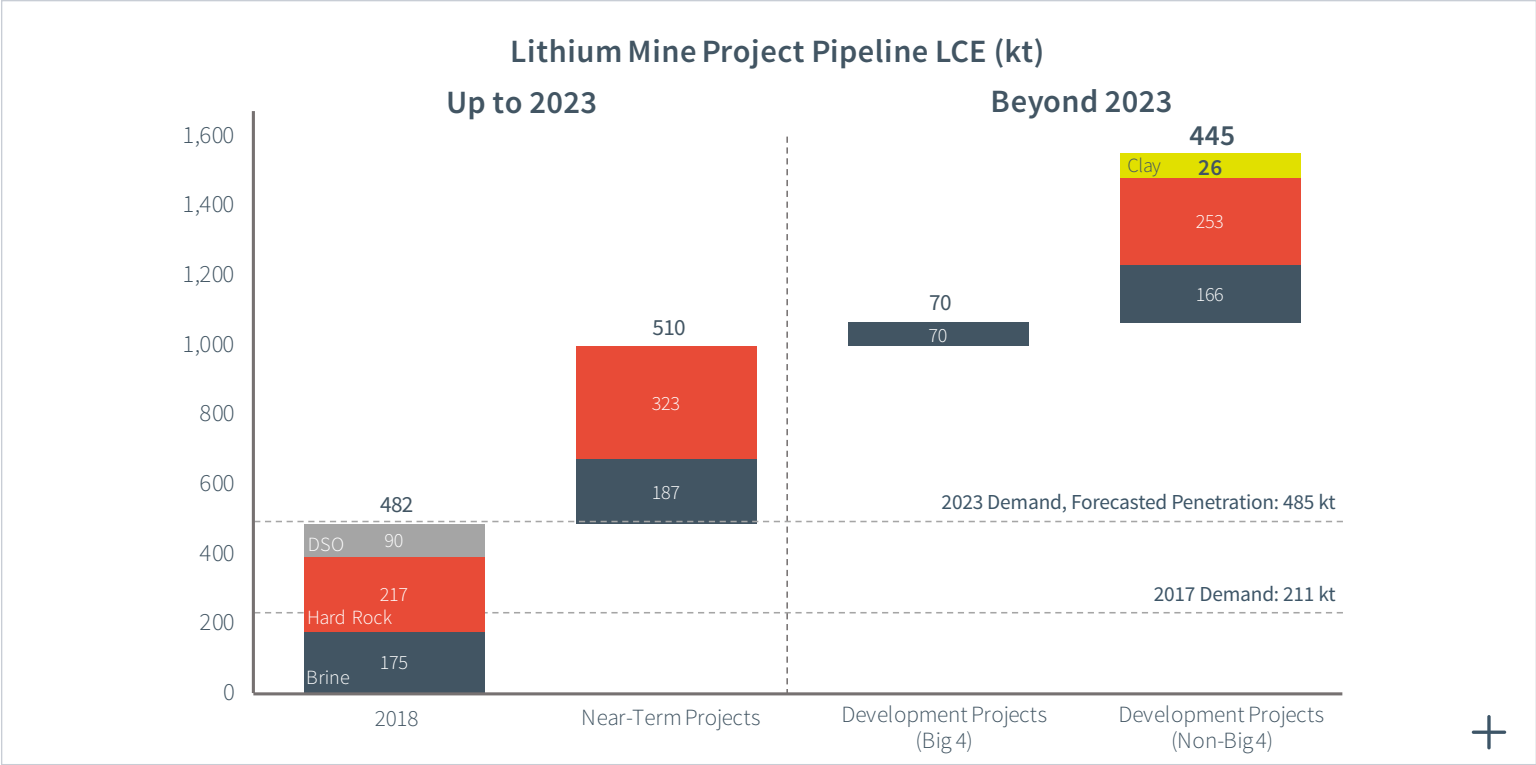
Capital strategy planning

Investigate and analyze potentially available capital sources that meet stakeholder demands, while adapting to industry trends and business cycles. Hatch provides specialist support to help clients navigate through the project financing process to achieve ultimate project success. Capital strategy planning helps make projects successful by:

- Conveying the broader benefits of the project to stakeholders
- Realistically evaluating a project's weaknesses and helping to identify mitigating actions
- Considering market and sector cyclicality
- Developing a financial model and business plan
- Providing the tools to attract capital
- Helping with capital planning
- Improving sustainability and being impact-positive

Optimizing cash flow and returns through scenario analysis





Forecasting future lithium market drivers

Site selection and gateway logistics

Hatch helps you determine where to best invest your capital to expand your business, or what is the best gateway to carry your product to market. We work with you to establish and rank the criteria against which you will compare the different countries, regions, municipalities, or sites in which to locate your new operation. Quantitative criteria such as tax regime, value of applicable development incentives, and land, labor and development costs are compared alongside qualitative considerations, such as permitting timelines, environmental regulations, and local development sentiment.

Logistics options are similarly compared considering criteria such as capital, operating and sustaining capital costs, operability, reliability, maintainability, ease of permitting, and impact on local stakeholders.

Market studies and value-in-use

Understand regional and global market trends to optimize product mix ahead of competitors. Maximize economic potential by getting the best value for products of variable specification.

We keep a keen eye on market fundamentals and trends to understand drivers of value and uncover opportunities. Our consultants provide direction to clients on the current state of the market, emphasizing developing trends that can impact your revenue forecasts. Further, we identify gaps in the market that need solutions and highlight opportunities to capitalize on.

- Apparent domestic consumption
- Supply and demand trends
- Transportation and logistics
- Market segmentation
- Competitor profiles and competitiveness
- Customer surveys
- Product mix analyses and optimization

With our in-depth knowledge of downstream operations, we can determine a commodity's value-in-use to potential customers, comparing productivity, operating cost, and product value when using a raw material in place of the incumbent's.

Risk management

Catastrophic risk assessment

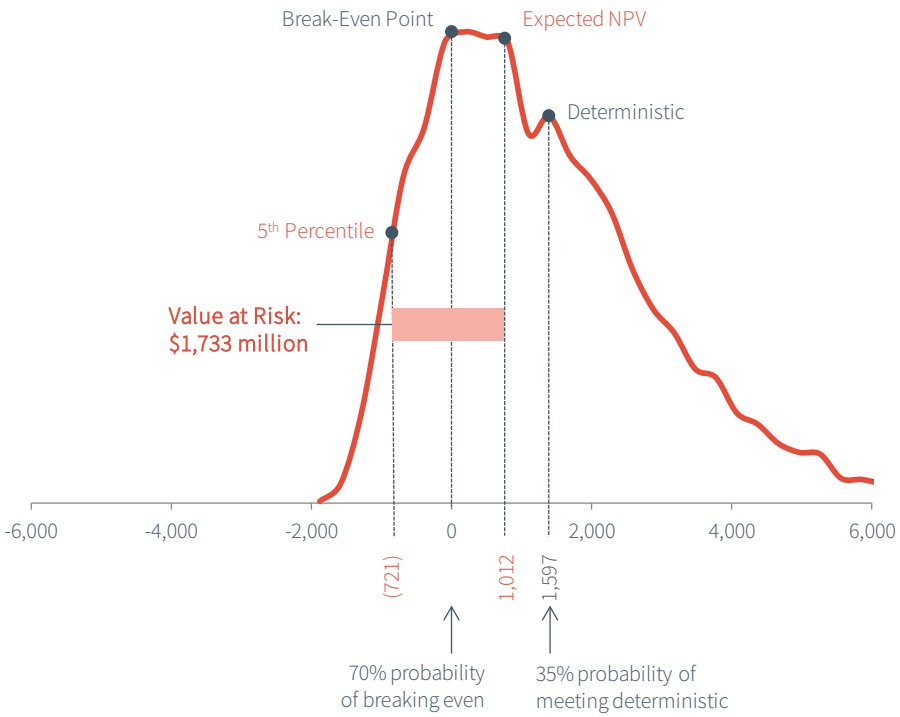
Standard risk management practices tend to discount highly unlikely, but highly impactful events. Events could include significant property, environmental or reputational damage, or health and safety incidents. Organizations need to be able to answer the following questions:

- Does the potential for a catastrophic event exist now or will changing conditions—weather or otherwise—cause it to exist in the future?
- Are the failure modes and associated hazards under control?
- Are appropriate mitigation and emergency response plans in place in the event of a catastrophic failure?

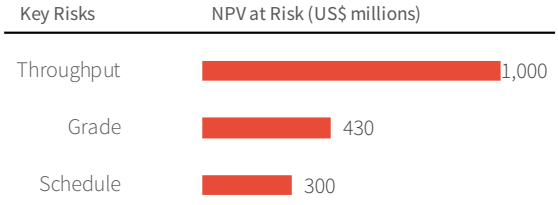
Value at risk modeling

Hatch takes a systematic approach to identify and assess risks and opportunities independently. This involves moving from deterministic to probabilistic models, collectively thinking through ranges of uncertainty for each project component that may be impacted by a risk event. Our risk management process applies proven principles and methodologies to support strategic decisions, such as project portfolio prioritization, project configuration alternative selection, and capital budgeting. We collaborate with our clients to understand their tolerance for risk and provide strategies to maximize risk-adjusted returns on invested capital.

Going beyond the base case to determine risk-adjusted returns



Financial Metrics	Baseline Metrics	Risk Adjusted
Capital costs, US$ millions	3,050	3,250
Operating costs, US$/tonne	13.80	15.20
Expected NPV, US$ millions	1,597	1,012
Probability of breakeven	Unknown	70 %
Internal rate of return, %	15%	13 %



Enterprise risk management

Hatch can **enhance the resiliency and protect the value of a business by helping clients understand the potential hazards that could interfere with an organization's operations and objectives. Hatch's approach goes beyond the traditional risk areas such as financial, supply chain, and property damage, but also addresses areas that are difficult to mitigate with traditional risk management practices, such as:**

- **Reputational**
- **Day-to-day operating procedures**
- **Legal and human resources management**
- **Corporate governance**
- **Environmental and social management**

The Hatch advantage

Get real results, faster. We translate technical findings into business case impacts using our vast multi-sector experience across all stages of the project life cycle.

Metals

Hatch has reviewed projects operated by a range of owners from Tier 1 miners to juniors, on behalf of investors and lenders. We closely examine geology, mining, mineral processing, project execution planning, and other critical scope areas, including the ancillary infrastructure necessary to operate the increasingly complex and capital-intensive projects in today's metals sector.

Infrastructure

Hatch has examined ports and terminals, rail, metros, and roads around the world that are critical to keeping the global economy moving. In addition to the typical scope, we also conduct analysis on traffic flows, maintenance plans, and management.

Energy

Hatch has reviewed energy projects from thermal, oil and gas to renewable operations, on behalf of investors and lenders. We typically examine system design, energy production estimates, operating and maintenance costs, project execution and capital cost estimates, and power purchase agreements, depending on the nature of the asset.

Select recent global project mandates

Mining and Metals

1 Equinox Gold Acquisition due diligence

Mubadala | United States and Brazil

Hatch conducted a technical due diligence on behalf of Mubadala to support an investment decision later executed in Equinox Gold. The review covered Equinox Gold's three assets: Mesquite, an open pit, heap leach operation in the United States; Arizona, an open pit restart project in Brazil; and Castle Mountain, a development project in the United States. The scope of the review included geology, mining, metallurgy, environmental and social management, operating and capital costs, project execution, and the target company's financial model.

2 Intermediate gold producer Acquisition due diligence

Chinese state-owned enterprise | Global

Hatch reviewed a Canadian-headquartered global producer on behalf of a large gold producer to support a potential multi-billion dollar acquisition. The review covered three development projects and multiple operating assets with a mix of open pit and underground mines, heap leach, carbon-in-leach, and carbon-in-pulp plants globally. The scope of the review included geology, mining, metallurgy, environmental and social management, operating and capital costs, project execution and providing inputs to the financial model.

3 Yamana Gold's Gualcamayo mine Acquisition due diligence

Mineros S.A. | Argentina

Hatch conducted a technical due diligence of Gualcamayo, later acquired and closed by our client. The scope of the review included geology, mining, heap leach, environmental and social management, operating and capital costs, project execution and developing a financial model to support a valuation. Hatch also supported the client during the negotiation phase by providing inputs to the company's legal advisor as to key conditions precedent for successful completion of the transaction.

4 Integrated zinc producer Catastrophic risk assessment

Confidential metals company | Kazakhstan

Hatch reviewed the catastrophic risks present at four facilities of a major fully integrated zinc producer with considerable copper, precious metals, and lead products. The scope of facilities reviewed included mining, mineral processing, smelting, refining, and associated activities such as electricity generation and distribution and machinery construction.

5 E-waste precious metals recycler Lender's technical advisor

Confidential lender | United States

Hatch conducted a technical and economical due diligence review of an e-waste processing facility project in the United States for a confidential lender. The company aims to recover gold and other precious metals from e-waste using comminution followed by a hydrometallurgical process. Scope included review of processing, environmental and permitting, capital and operating cost, and project execution.

6 Geothermal lithium project Market study and capital structure planning

Confidential lithium producer | United States

As part of a preliminary economic assessment for the sponsor's geothermal lithium brine project in the United States, Hatch produced a lithium market study describing supply and demand trends and forecasts, as well as current cost curves. Hatch also produced an economic model to estimate the project value and provided analysis of current lithium financing trends to support the sponsors in their development of a potential capital structure for the project.

7 Lac des Îles palladium mine review
Lender's technical advisor

BNP Paribas | Canada

Hatch conducted a technical due diligence review of North American Palladium's Lac des Iles underground palladium mine and concentrator on behalf of BNP Paribas to support a lending decision. The review included geology, mining, concentrating, environmental and social management, project and sustaining capital, operating costs and off-take contracts.

8 Sodium cyanide project
Site selection

Confidential producer | Canada

Hatch conducted a market and site selection study for a new sodium cyanide production facility in Canada. The scope included review of material supplier and customer locations, shipping logistics, and environmental and permitting requirements.

9 Greenfield titanium plant
Lender's technical advisor

Confidential lender | United States

Hatch was retained to act as technical advisor to potential lenders to a greenfield titanium melting, rolling, and finishing plant in the United States. Hatch's scope included an independent review on technical, environmental, cost, project execution, contractual, and social and permitting aspects of the project.

10 Greenfield lithium project
Acquisition due diligence

Major producer | Australia

Hatch reviewed a 450 ktpa lithium concentrator project and identified moderate technology risks that were consistent with the preliminary maturity of the engineering work. The team also identified scenarios where margins could be at risk due to market and operating factors.

11 Gold project
Lender's technical advisor

Lending syndicate | Mexico

Hatch was retained as the lender's engineer on behalf of a large syndicate of lenders to Torex Gold Resource's El Limon Guajes gold mine in Mexico. Hatch also acted as environmental and social consultant on the engagement. The US$375 million financing closed in 2014, and Hatch has since provided construction and operations monitoring focused on technical performance and ongoing compliance with the Equator Principles.

12 Metallurgical coal strategic plan
Corporate strategy and acquisition due diligence

Integrated steel-maker | Brazil

A leading Brazilian integrated steelmaker relied on Hatch to develop a metallurgical coal master plan. The comprehensive analysis involved a thorough review of the existing operations, identification of operations improvement opportunities, market study and pricing analysis, competitor analysis, identification of targets for M&A, operating cost analysis, benchmarking, and options for divestment.

13 Copper project expansion
Investment due diligence

Japanese trader | Chile

Hatch assisted with a review of a brownfield expansion of a 350 kt per year copper mine. The mine's location in a seismically active region added complexity to the analysis since the tailings dam capacity had to be increased. The engagement team paid special attention to the water and environmental issues surrounding the project.

14 Integrated steel plant
Corporate strategy, market study and business improvement

Diversified manufacturer | Saudi Arabia

Hatch was retained to assist in identifying opportunities for the improvement of an integrated steel-making operation, which included operations, marketing and sales, maintenance, supply chain and logistics, and back office general and administrative functions. Several hundred million dollars in improvements were identified, and an annualized US$70 million captured in the first six months of implementation.

15 Greenfield potash project
Acquisition due diligence

Sovereign wealth fund | Canada

A sovereign wealth fund requested Hatch to review a major Canadian potash project. The mandate focused on shaft sinking and mining with continuous mining equipment to determine the competitive position of the project in relation to Canadian, Russian, and Middle Eastern projects.

16 Aluminium smelter
Acquisition due diligence

Sovereign wealth fund | UAE

Hatch was retained by a sovereign wealth fund to undertake a due diligence review of the Dubai Aluminium smelter to assist in the ultimate formation of Emirates Global Aluminium. The key purpose of the due diligence was to review and comment on the technical, economic, and environmental aspects of the smelter. Following the due diligence review, Hatch continued with construction monitoring, completion testing, and operations period monitoring.

17 Iron ore project
Acquisition due diligence

Global steel company | Guinea

Hatch supported a global steel-maker in evaluating a major West African iron ore project in development. The team assessed the potential to integrate the project with the client's existing operations and options to share infrastructure. We supported the buyer with a quantitative risk assessment to estimate risk adjusted returns.

18 Steel company
Lender's technical advisor

Lending syndicate | United States

Hatch was mandated as the lender's engineer for a US$1.3 billion flat-rolled mini-mill steel complex on the Mississippi River. Hatch provided pre-financial close due diligence services, construction monitoring, test supervision, and ongoing support during early operations.

19 Greenhouse gas abatement
Climate change portfolio optimization

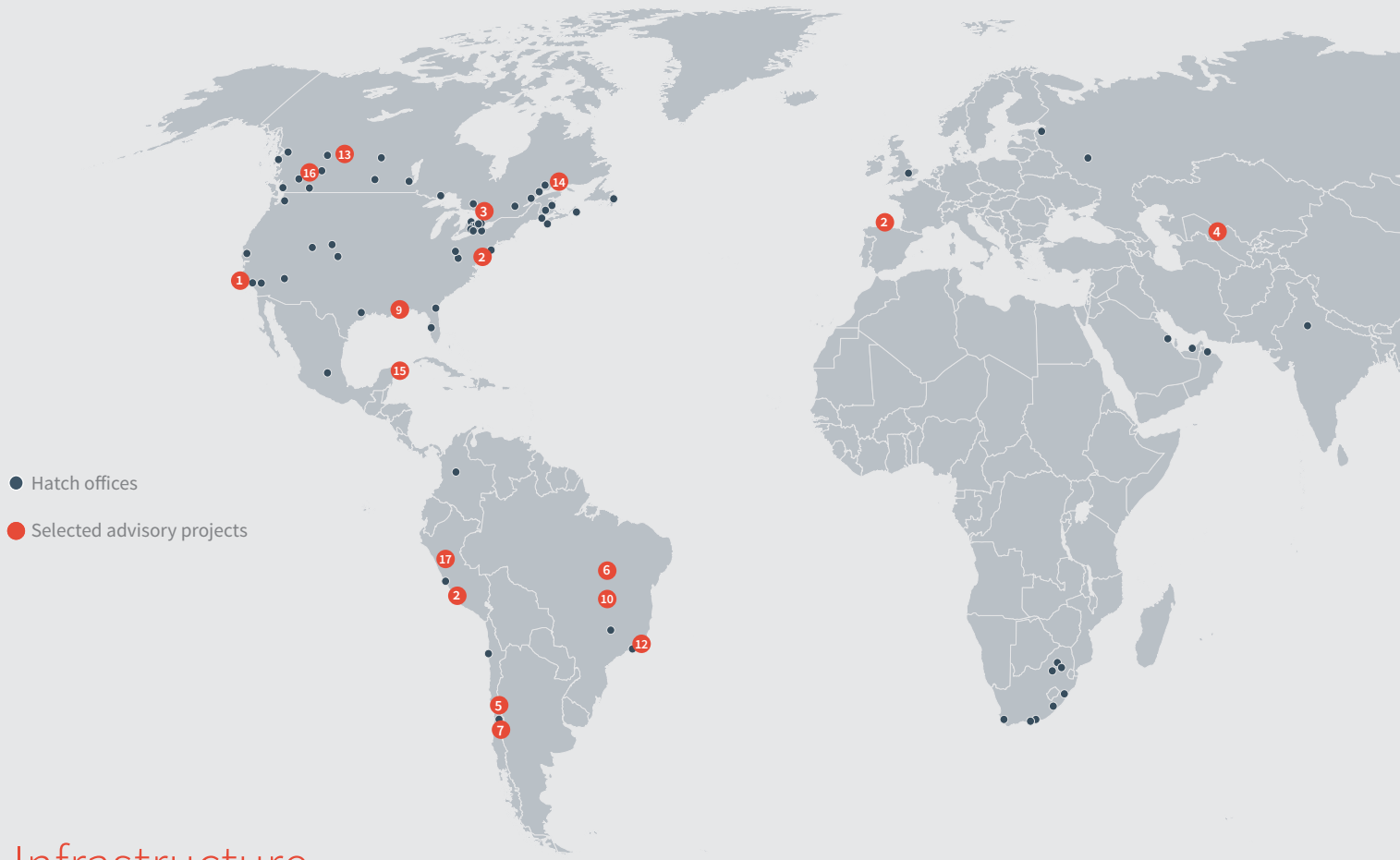
Global diversified metals company | Global

Hatch generated and prioritized almost 200 carbon abatement opportunities for a major metals company. Impact and cost of each opportunity were customized for the each of the client's 30 largest emitting assets which included mines and metallurgical facilities of copper, zinc, nickel, coal, and ferroalloys across twelve countries. A detailed model was developed for client use incorporating multiple carbon price forecasts, and country- and asset-specific inputs such as energy price forecasts and grid emission factors. Opportunities were compared globally using a marginal abatement cost curve for Scope 1 and Scope 2 carbon emissions (see chart on page 7).

20 World class copper asset
Investment due diligence

Japanese conglomerate | Peru

Hatch reviewed a high-altitude open pit greenfield mining project multiple times for a minority equity partner to support their response to requests for capital injections. The project includes many unique features including autonomous hauling and drilling, construction of a diversion tunnel to move the path of a river flowing through the planned pit, and a 60 million cubic meter dam and 95km pipeline to supply water to the mine and local communities.



Infrastructure

1 Container terminal Acquisition due diligence

Private equity fund | United States

Hatch conducted a technical due diligence and a red flags risk review on behalf of a New York-based private equity fund active in the ports and marine sector, as part of a potential acquisition of a California-based container terminal that was being sold by a third-party operator.

2 Bulk terminal portfolio Acquisition due diligence

Institutional investor | Global

Hatch supported the potential acquisition of a portfolio of bulk terminals and related infrastructure being sold by a global logistics company. Hatch's scope included a review of the terminals' design and asset performance, access and egress, equipment condition assessment, railroad and warehousing infrastructure, capital and operating costs, terminal operating systems, and environmental and social policies and track record.

3 Infrastructure portfolio Sustaining capital assessment

Institutional investor | Global

Hatch was retained to conduct a high-level desktop validation and review of the level of sustaining capital of selected assets in the client's infrastructure portfolio, including gas and electricity transmission, distribution and services connections, freight rail, district heating and cooling networks, telecommunications, container terminal, and inner-city toll roads. Hatch was responsible for assessing the reasonableness of the sustaining capital program and providing the client with key risks.

4 Rail electrification project Lender's technical advisor

Infrastructure investment bank | Uzbekistan

Hatch completed a technical due diligence of a rail electrification project in Uzbekistan for a lender. The review included a site visit and desktop study of the project, which aimed to electrify a portion of existing light rail.

5 Toll road and tunnel Sell-side due diligence

Institutional investor | Chile

Hatch was contracted by the client to act as an independent engineer to support a divestment by providing a technical view of its toll road and tunnel assets in Chile and assess their condition.

6 Bulk logistics company Acquisition due diligence

Confidential client | Brazil

Hatch conducted a detailed due diligence assessment of technology, capital and operating costs, capacity, modeling, environment and safety of an integrated logistics, barging, and ports company in Brazil. Examined the terminal and haulage capacities including a review of simulation modeling and their impact on revenue potential, expansion capital, sustaining capital, physical condition of the terminals and equipment, contract strategy, and the goal of adding new service lines.

7 PPP road project
Investment due diligence
Confidential client | Chile

Hatch conducted a detailed assessment of the technical and environmental preparation of a challenging greenfield PPP road project by a Spanish engineering, procurement and construction (EPC) contractor on behalf of a financial investor. Examined the complex design (tunnel and two-layer buried trench) for technical and environmental compliance, schedule feasibility, capital estimate, constructability, detailed safe working methods, and the split of expatriates and local skills, team, and costs. We also advised on the terms of the EPC contract and specifically the risk sharing and attribution within it.

8 Rail infrastructure
Market study and corporate strategy
Confidential client | Australia

For a major rail infrastructure provider, the Hatch team assessed development projects planned for the Gladstone Region of Queensland. The logistics needs of the region's individual projects were identified, modeled, and mapped. The team then performed a risk-based assessment focusing on both the likelihood and timings of the projects coming on stream so that the client could plan rail infrastructure investment appropriate to the scale, location, and timing of its customers' projects.

9 Coal transportation strategy
Gateway logistics
Global metals producer | United States

Hatch conducted a review of the opportunity for the transportation of U.S.-mined metallurgical coal for export from the east and/or the Gulf Coast. Special attention to rail and river transportation (barge) to existing bulk terminals such as Mobile, Alabama. The foundation of the project was identifying the most economically advantageous strategy for the export of metallurgical coal.

10 Large scale logistics business
Acquisition due diligence
Private equity fund | Brazil

Hatch evaluated and valued a third-party logistics business, including 10,000 km of railway lines and three-port facilities. We examined the future revenue potential, costs, and future capital requirements, including the concession strategy and renewals with a focus on hand-back requirements.

11 Mixed-use port
Acquisition due diligence
Pension fund | Australia

Hatch assessed a mixed-use port with multi-commodity terminals that handled containerized, bulk, and roll-on/roll-off cargos. Hatch reviewed the growth strategy and developed a traffic simulation model to identify potential bottlenecks, comment on likely capacity, and cost-saving opportunities.

12 Toll road, metro and LRT portfolio
Acquisition due diligence
Private equity fund | Brazil

Hatch reviewed a portfolio of five toll roads and three rail concessions for a multibillion-dollar transaction. The assets were part of the plans for the Rio Olympics and we advised on the important risks to the valuation and provided mitigation strategies that were reflected in the final bid.

13 Natural gas pipeline
Acquisition due diligence
Private equity fund | Canada

Hatch was engaged by an investment firm to review the potential participation in a greenfield C$8 billion pipeline natural gas capital investment and tolling partnership. The review included the assessment of the project development and the transport services agreements, pipeline design and operations, project execution, environment and permitting, social and First Nations engagement, capital and operating costs, and the financial model. A key focus of the review was the environmental permitting and First Nations engagement risks to the project, which was supporting a large greenfield liquefied natural gas export facility in British Columbia.

14 Rail and port assets
Sell-side due diligence
Investment bank | Canada

Hatch produced a sell-side due diligence report for the sale of a stake in the rail and port assets supporting a large iron ore mining company in Canada. We provided commentary on typical infrastructure sale concerns, such as operating costs, required sustaining capital, as well as the sustainability of the infrastructure user's operation by commenting on the cost competitiveness, production risks, and longevity of the mining operation.

15 Water treatment concession
Acquisition due diligence
Confidential institutional investor | Mexico

Hatch reviewed the provider of potable water, sewerage and treatment services in in south eastern Mexico under a concession agreement. Operations include extraction, water treatment, storage, distribution, sewerage, sewage treatment, sludge treatment, pumping stations for clean and waste waters and discharge/disposal arrangements for effluent and sludge.

16 Coal bulk transportation
Gateway logistics
Confidential hedge fund | Canada

Hatch conducted a red flags review of shipping logistics options for a coal project in Western Canada. Multiple options for shipping coal from the mine site to the CP rail line were reviewed for technical and economic risk, including rail, trucking, conveyor, and slurry pipeline. Operating and capital costs were also estimated for each option.

17 Toll road
Investor due diligence
Confidential investor | Peru

Hatch examined the scope of construction of the AVP toll road in Lima, including the construction schedule, causes for delay, and impact of expropriation on site access and construction continuity. Review included analysis of the impact of the contractor's parent company filing for bankruptcy protection in Brazil. Commentary on the underlying assumptions used in traffic and revenue forecasts, and their corresponding reliability was also provided.

Energy

Power

1 Transmission line for mining company Lender's technical advisor

International bank | Chile

After weather events caused damage to the assets, Hatch was engaged by the Lenders on this project to advise on the likely root causes, any potential design issues, and costs and schedule for repairs.

2 Confidential copper mine Electricity market study

Industrial energy consumer | Chile

Hatch developed an electricity market study, forecasting supply and demand, and future price in Chile. This was done after the recent interconnection of the north and south Chilean grids, which led to a short period of power price volatility. The client used Hatch's study to support their position in renegotiating their power purchase agreements.

3 Hydroelectric generation facility Acquisition due diligence

Institutional investor | Brazil

Hatch was engaged by a global investor to provide technical due diligence services in connection with the potential acquisition of a hydropower facility up for sale in Brazil. The Hatch scope was particularly focused on studying the historical capital and operating cost requirements of the plant, as well as creating pro forma projections for the future spending requirements.

4 Transmission and distribution company Acquisition due diligence

Institutional investor | Peru

Hatch conducted a due diligence review of a major electricity transmission and distribution company in Peru as part of a potential acquisition by our client. Scope coverage was comprehensive, and Hatch provided detailed analysis at both the regional level and voltage level to provide insight into where the company's assets were performing well, and where the largest upside opportunities lay.

5 Run-of-river hydroelectric project Lender's technical advisor

Confidential lender | India

Hatch conducted a review of the technical and contractual aspects of the turnkey EPC arrangement to construct a 1000 MW run-of-river hydroelectric project, as independent engineer for the lender.

6 Coal power plant Lender's technical advisor

Confidential client | Turkey

Hatch performed a technical due diligence review on a power plant for supplying electricity to the aluminum plant. The power plant has two phases with ten coal-fired generating units (Phase 1 of four subcritical units, 4 x 350 MW; Phase 2 of six supercritical units, 6 x 360 MW). The review covered power plant technologies, construction schedule, capital and operating costs, emissions, fuel supplies, operation, and maintenance.

7 Coal-fired and reciprocating engine power plant
Lender's technical advisor
Confidential investor | Indonesia

Hatch reviewed the feasibility study, EPC bid packages, project schedule, and capital and operating cost estimates of a 290 MW captive coal-fired and reciprocating engine power plant.

8 2000 MW gas fired power plant
Lender's technical advisor
Confidential lenders | Abu Dhabi

Hatch performed technical advisory services for lenders, including design and progress reviews of a 2000 MW gas-fired, combined-cycle power plant with supplemental duct firing and dual fuel operation.

9 Power transmission and distribution company
Sell-side due diligence
Confidential institutional investor | Colombia

Hatch was engaged to provide an independent engineer's review of a power transmission and distribution company's assets in Colombia. This project was a sell-side review focused on an independent techno-economic, environmental, and social view of the assets.

10 Hydroelectric portfolio review
Lender's technical advisor
Confidential lenders | Panama

Hatch performed an independent engineering review of several hydroelectric projects on the Chiriqui Viejo River in the province of Chiriqui, Panama. Individual projects ranged from 28 MW to 85.8 MW, totaling 345 MW, and are in a cascade on the river. Hatch reviewed the principal commercial agreements for the hydroelectric developments which consisted of: concession agreement, Panama's ANAM authority approval and conditions, water usage contract, operation and maintenance contract and connection agreement, and the proposed transmission facilities.

11 Distributed solar power project
Lender's technical advisor
Financial institution | Peru

Our team is supporting a bank with the construction monitoring of an electrification project in rural Peru, which is expected to impact half a million customers who have intermittent or no access to electricity. The project aims to install 170,000 solar power units to support Peruvian solar electrification plans.

12 250MW solar power project
Lender's technical advisor
Financial institution | Chile

Hatch was retained by Latin American development bank CAF, and Sonnedix to provide an independent engineer review, and construction and final interconnection monitoring for a 250MW solar power project in Chile, including a double-circuit 220-kV transmission line, 100 km in length. The project included approximately 4 million solar panels, backup diesel generation, and associated infrastructure.

Energy
Oil and Gas

13 Shale gas project
Capital strategy planning
Project sponsor | United States

In addition to designing the project, Hatch was brought in to build a viable financial model to share with the investment community and provide the sponsors with strategic advice on capital structuring, including preparing the project for a launch to the equity and debt markets through the development of a confidential information memorandum.

14 Natural gas pipeline
Lender's technical advisor
Lending syndicate | Peru

Hatch was the lender's engineer for a US$ 6 billion natural gas liquids and natural gas pipeline in Peru, supporting over fourteen lenders with technical due diligence, construction status updates, construction monitoring, contract review, schedule advice, and general risk advisory.

15 Natural gas distributor
Acquisition due diligence
Private equity fund | Colombia

A long-standing client requested a review of a distribution company with three million customers and a distribution network of over 30,000 km. The work included an assessment of current conditions with a forecast of likely replacement and repair costs for the assets, as well as operating costs.

16 Coal gasification project
Lender's technical advisor
Confidential lender | United States

Hatch was the lender's technical advisor to provide technical due diligence services for a coal gasification project in Texas. The facility included a 400 MW gross integrated gasification combined-cycle (IGCC) power plant, carbon capture, ammonia, and urea production. The scope included a review of the front-end engineering design (FEED) documents, project participants, project agreements, financial model, and environmental aspects.

17 Oil refinery review
Lender's technical advisor
Confidential lender | China

Hatch acted as the lender's engineer to complete a high-level review of a teapot refinery that has been in operation for more than twenty years in China. The main objective of the review process is to cover the technical, operational, and reliability aspects. Hatch also commented on whether the plant has been operating stably, or whether there were any fatal flaws in order to assist the client in making a financial decision.

18 North Sea oil field review
Acquisition due diligence
Confidential investor | Norway

Hatch served to assess and develop life-of-field cost estimates for potential acquisition targets in the 2013 Norwegian license round for the Predefined Areas (APA). Scope included the generation of potentially viable development schemes for each field and an associated cost estimate using a combination of suitable field analogues.

19 Iraq second licensing round oil field review
Acquisition due diligence
Confidential investor | Iraq

Hatch prepared field development plans for several sour oil fields in support of the operator's second licensing round tenders including specialist knowledge from local Hatch Iraqi nationals.

20 Offshore assets
Acquisition due diligence
Confidential investor | UK

Hatch provided an independent assessment of capital cost and potential production disruption arising from life extension measures for two oilfield floating production storage and offloading (FPSO) facilities as support to acquisition decision process.

HATCH

About Hatch

Whatever our clients envision, our engineers can design and build. With over six decades of business and technical experience in the mining, energy, and infrastructure sectors, we know your business and understand that your challenges are changing rapidly.

We respond quickly with solutions that are smarter, more efficient, and innovative. We draw upon our 9,000 staff with experience in over 150 countries to challenge the status quo and create positive change for our clients, our employees, and the communities we serve.

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