# Energy Transition Strategy

*Realistic Ambition and Pragmatic Solutions for the Energy Transition to Net Zero*

BRG | ENERGY & CLIMATE

INTELLIGENCE THAT WORKS

# Imperatives and Challenges

Increasingly frequent and severe climate-related natural disasters underscore the urgent need for ambitious, realistic climate change mitigation strategies. Mounting social and political pressures are leading government agencies around the world to enact aggressive climate policy. Regulators, banks, and investors, in turn, face pressure to incorporate ESG[1] criteria and climate disclosures, greenhouse gas (GHG)[2] impact analysis, and decarbonization strategy into decision-making.

As a result, leadership within governments, corporations, and financial institutions is challenged to chart an effective course to net-zero emissions across all economic sectors. A critical first step requires energy producers and consumers that emit GHGs to measure, track, and disclose their emissions and develop effective strategies and plans to reduce those emissions as substantially and swiftly as possible.

A wide and evolving array of targets and standards for decarbonization and GHG measurement and monitoring creates challenges for companies seeking to develop strategic plans. Climate change and the energy transition imperative compel energy providers, consumers, and financiers to confront and master the looming costs of emissions reduction in the context of the dynamic, uncertain outlook for energy production and GHG mitigation technologies, energy markets, and commodity prices.

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1 ESG refers to environmental, social, and governance criteria that allow investors to assess company performance against a set of nonfinancial metrics and standards.

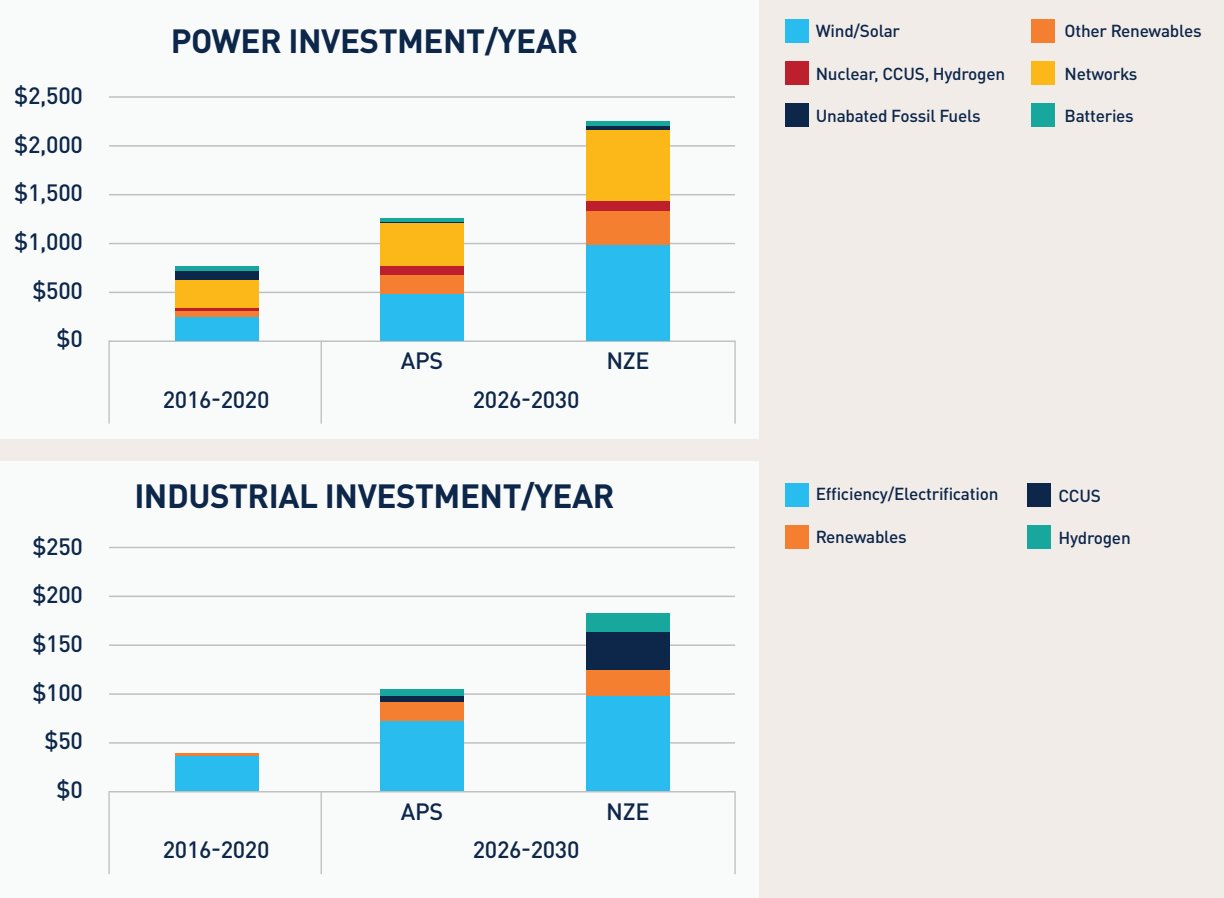
2 We refer primarily to carbon dioxide ($CO_2$) and methane ($CH_4$), the two most prevalent GHG emissions from energy production and consumption.

# Energy Transition Opportunities

It is said that "fortune favors the bold," and the energy transition challenges are no exception. The countries, companies, and investors that master the transition effectively and efficiently will benefit the most.

The scale of opportunities is vast. Research by Bloomberg New Energy Finance (BNEF) shows that the price to wean global economies off fossil fuels could reach $173 trillion over the next three decades.[3] The International Energy Agency's (IEA) World Energy Outlook 2021 contrasts the pace of spending in the power and industrial sectors required to meet countries' announced decarbonization policy goals (APS, or Announced Policies Scenario) with the spending required to fully mitigate GHG emissions (the NZE, or Net Zero Economy scenario). IEA finds that policies, to date, do not approach the level required to achieve net zero by midcentury.[4] BNEF and IEA agree that global annual spending on clean energy in all economic sectors must reach $3 trillion to $5 trillion—well above the $1.7 trillion spent in 2021.

### Average Annual Clean Energy Investment for Power and Industrial Sectors (billion USD 2020)[5]




To master this challenge with strategies that are both practical and profitable, companies must confront a dynamic, multifaceted policy, economic, and financial environment.[6] Successful companies will build the most achievable and resilient plans on an ambitious foundation grounded in forward-looking market and economic analysis, coupled with a clear understanding of policy and regulatory drivers, technological options, technical feasibility, and financial realities.

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3 Seb Henbest et al., New Energy Outlook 2021, BloombergNEF (July 2021). https://about.bnef.com/new-energy-outlook/

4 International Energy Agency, World Energy Outlook 2021 (revised December 2021). https://iea.blob.core.windows.net/assets/4ed140c1-c3f3-4fd9-acae-789a4e14a23c/WorldEnergyOutlook2021.pdf

5 Projections from IEA World Energy Outlook 2021. 2016–2020 investment is historical.

6 Chris Goncalves, Matt Tanner, Alayna Tria, and Tristan Van Kote, From Resource Scarcity to Energy Abundance and Infinite Supply, Transition Economist (January 25, 2021). https://www.thinkbrg.com/insights/publications/resource-scarcity-energy-abundance/

# Effective Strategies Require Integrated Expertise

BRG Energy & Climate professionals offer integrated multidisciplinary expertise to develop realistic, staged, and profitable strategies to achieve the economic benefits and minimize the risks of attaining long-term net-zero targets. Our team has the experience and analytic excellence to provide integrated and actionable solutions to companies across the energy production, delivery, and consumption supply chain. We add value to energy-transition strategy design and tactical planning that stands on a solid foundation composed of:

- Our **integrated multidisciplinary team** of highly accomplished power and fuel executives, strategists, economists, market analysts, regulators, engineers, and financiers, who collectively deliver a 360-degree approach to strategy and implementation.
- **Extensive expertise in markets and supply chains** across the energy industry, with deep experience in project finance, investment, and restructuring.
- **Deeply grounded industry experience** across renewable and conventional power generation, power transmission, utility operations, clean fuels, and the upstream and midstream segments of fossil fuels.
- **Analytic excellence in energy markets and economics,** including economic analysis and market simulation and forecasting, building our strategic and tactical advisory upon our expert vision of critical market fundamentals.

# Developing Strategies That Work

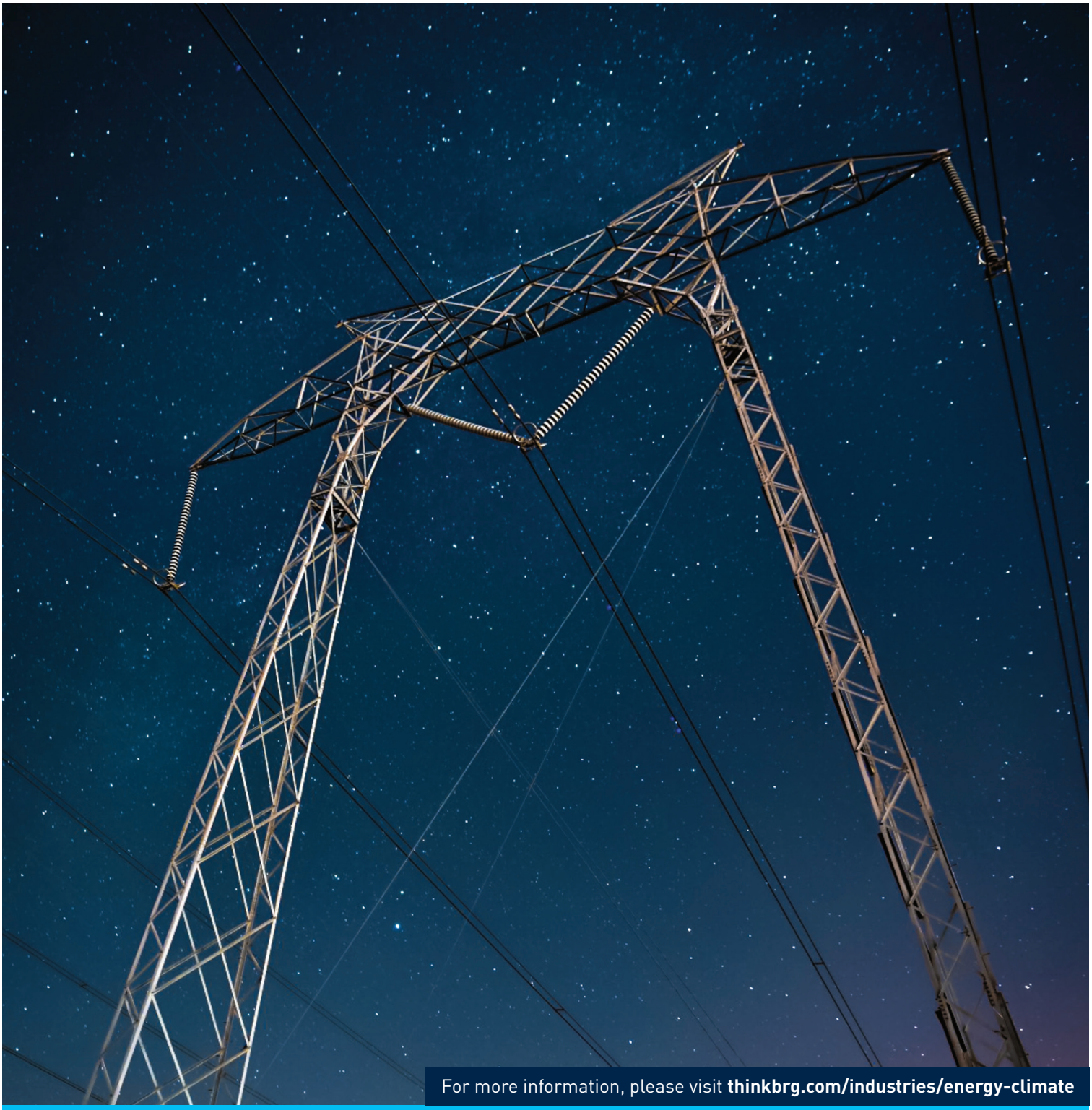
We assist energy companies, energy consumers, financial institutions, and government agencies with strategic design and implementation services to master opportunities and challenges of the energy transition. We deploy our integrated expertise to deliver pragmatic, flexible plans designed to create economic value and optimize GHG reductions in an environment of rapidly changing policies, regulations, and technological advances. Our approach covers the full cycle from strategy development and concept design through feasibility analysis and funding.


**Strategy:** We provide strategic vision and recommendations anchored by our integrated analysis of economic and market fundamentals, policies and regulations, technological advances, and capital access and costs. We use this analysis and knowledge of each client's current business operations and objectives to identify economically efficient, profitable opportunities to achieve ambitious emissions reduction goals within the business environment and identify low-emissions options throughout the supply chain. We advise energy providers, consumers, lenders, and investors on their efforts to incorporate climate or sustainability goals into asset, portfolio, and corporate management and assessment strategies.

**Concept:** For greenfield investments and infrastructure repurposing and optimization initiatives, we work with clients to design investment and project concepts that are practicable and profitable. Our team assesses our client's portfolio and develops strategies to optimize assets through upgrading, repurposing, sale, or decommissioning. We evaluate readiness for new technology implementation, identifying the most competitive and realistic technologies, development timelines, and economics. We also conduct supply chain analysis of economic and GHG efficiency, given a range of constraints, including feedback from internal and external stakeholders. Once the concepts are framed, we develop stepwise plans to execute them.

**Project Feasibility:** We develop bespoke economic and financial models to assess the concept's market and economic feasibility and ability to achieve net-zero targets. We consider net-zero performance under a range of parameters, including ESG factors, as well as options for cost-recovery and a fulsome evaluation of profitability. We often drive an iterative process between the feasibility assessment and concept framing to define and select the optimal concept that meets net-zero goals.

**Funding:** We support project developers and investors to implement their strategies and respond to evolving financial disclosures and sustainability requirements. Our team has extensive experience in capital markets and in advising clients seeking to raise debt or equity capital. We support our clients with financial modeling and advisory services and capital sourcing, including for complex and capital-intensive energy projects. Our energy financial experts have decades of experience leading project finance, corporate finance, and investment banking operations with global financial institutions.

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## About Berkeley Research Group

Berkeley Research Group, LLC (BRG) is a global consulting firm that helps leading organizations advance in three key areas: disputes and investigations, corporate finance, and performance improvement and advisory. Headquartered in California with offices around the world, we are an integrated group of experts, industry leaders, academics, data scientists, and professionals working across borders and disciplines. We harness our collective expertise to deliver the inspired insights and practical strategies our clients need to stay ahead of what's next.

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