

## Partners Group

# The energy mix

We are experiencing a shift in how we generate, use and relate to energy. This change comes from technological innovation, as well as government support and positive use of capital to proliferate those technologies. At Partners Group, we identified this trend early on through our proprietary Thematic Sourcing process and have focused on generating positive returns for our clients while being on the right side of the energy transition.

## Big steps to energy change

Throughout history, the world's energy sources have shifted from biomass to hydrocarbons and now renewables. In each of these transitions, there has been a disruptive technology that has allowed us to extract and use energy in a new, cost-competitive manner. In the early 1800s, improvements in coal mining accelerated the decline of biomass and helped propel coal as the dominant energy source, to almost 60 percent of total energy supply over the next century. In the early 1900s came the age of oil and natural gas, with these fuels now comprising over 50 percent of primary energy supply. Today, we are experiencing yet another shift — this time toward renewable energy and low-carbon fuels. Although these fuels are unlikely to eliminate the need for liquid hydrocarbons over the next decade(s), dependence will decline as we increase fuel efficiency and introduce lower carbon fuels, such as renewable diesel. Each of these changes required a significant technological step forward and tremendous capital to redesign the infrastructure-heavy energy complex.

## The renewable energy era

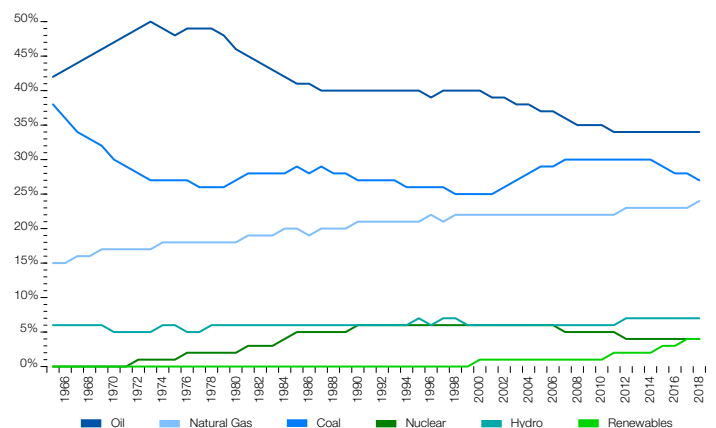
Over the past decade, renewable energy has grown exponentially. Global primary energy consumption grew rapidly in 2018 at a rate of 2.9 percent, led by natural gas and renewables. This was almost double its 10-year average of 1.5 percent per year, and the fastest since 2010. We are living through a global energy transition: the approximately 25 percent of electricity coming from renewables today (including hydropower) will grow to an expected 60 percent globally by 2050. In the beginning, this growth was driven mainly by government incentives, such as guaranteed tariffs in Europe and tax credits in the United States. Today, however, growth drivers have shifted to more market-driven dynamics, such as lower costs and better economics. Prior to the COVID-19 health crisis, approximately 4 gigawatts of subsidy-free solar photovoltaic (PV) capacity were expected to come online in Europe in 2020, a near fourfold surge over 2019. In Europe and elsewhere, several offshore wind projects are being developed with guaranteed price floors below current wholesale power prices. This critical shift is underpinned by the rapidly declining cost of producing electricity from wind and solar, down 50 percent and 85 percent since 2010, respectively. The reduction has been so significant that renewables have shifted from being one of the most expensive energy sources, globally, to one of the cheapest, across two-thirds of the world today. By 2050, the levelized cost of wind and solar electricity could plummet a further 50 percent to 60 percent to \$20 or \$30 per megawatt hour and underpin new business models, such as hydrogen production and exports.

## Bridging to a cleaner future

The main renewable energy sources today — solar and wind — are intermittent and unpredictable, causing electric-grid stability issues as their overall penetration rises. This is increasingly becoming a challenge around the world. Storing electricity is technically difficult and expensive. Lithium-ion battery storage technology will be critical to further renewable-energy development but remains in its infancy today. In the meantime, a backup solution relying on more traditional fuels is required. We believe that natural gas is the necessary companion to renewables toward a cleaner future.

Natural gas not only enables a higher uptake of renewables into the electric grid, but also directly contributes to a meaningful reduction of carbon dioxide and other harmful emissions when replacing “dirtier” fuels. The shale gas revolution in the United States has reduced the country's coal usage by over 40 percent since 2005, a 12 percent reduction in carbon-dioxide emissions, equivalent to over 700 million tons avoided per year. This makes the United States the largest contributor to carbon dioxide emission reductions globally, at a level almost equal to the next six countries or most of Europe combined — although the country remains one of the most carbon intensive per capita in the world. Given natural gas' abundance and cleaner environmental footprint versus other hydrocarbons, we expect its gradual globalization as a traded commodity (often in liquefied form) to further support the gradual shift away from oil and coal, and to serve as a bridge fuel to a cleaner, renewable energy-dominated world.

## Shares of global primary energy consumption by fuel (percent)



Source: BP Statistical Review of World Energy 2019

## Our investment approach

As a global private markets investment manager, Partners Group realizes potential in private markets by financing and developing growing companies, attractive real estate and essential infrastructure. We create value in our investments through active and long-term responsible ownership.

Since inception, Partners Group's global private infrastructure team has invested over \$3 billion in renewables on behalf of our clients across multiple technologies globally, with current operational capacity of over 4.2 gigawatts, which is being built out to over 7.4 gigawatts. These investments span different renewable-generation and intermittency-management subsectors, including solar PV, offshore wind, onshore wind and energy services. We have also invested \$1 billion across backup generation, submetering, long-haul transmission and peaking power plants. Additionally, we have invested over \$1.8 billion in natural gas assets to assist with the energy transition.

Through our Thematic Sourcing process, we focus on identifying long-term structural trends and disruptions to understand how the investment landscape may evolve over the next decades. We have a dedicated thematic research team to help identify new investment opportunities for the firm, in addition to our 70 dedicated infrastructure investment professionals, 60-member Asset Management and Industry Value Creation team, and expanding network of more than 100 external senior advisers. We have identified 12 megatrends within the energy and power sectors and use decades of combined sector expertise to derive links between our megatrends, such as power reliability and flexibility and natural gas globalization. In this case, new geographies can use natural gas to provide reliability, while building out renewable energy sources that face intermittency issues.

### Investments can drive positive change

In 2019, we used our Thematic Sourcing investment strategy to acquire portfolio company EnfraGen on behalf of our clients, which is driving positive change in South America. EnfraGen is a leading developer, owner and operator of back-up power generation assets, primarily within Chile and Colombia, with total operating capacity of around 1,000 megawatts and a robust pipeline of projects under development. EnfraGen's primary markets derive more than half of their electric power from renewable resources (including hydroelectric) and exhibit significant seasonality or intermittency. EnfraGen's assets in these countries allow them to harness their abundant clean-energy sources, while keeping the lights on for millions of citizens and businesses.

Partners Group portfolio company Fermaca is the only integrated pipeline system in Mexico that is capable of providing low-cost natural gas from the Permian Basin in the United States to key Mexican demand centers, such as the metropolis of Guadalajara (approximately 5 million inhabitants). Our Thematic Sourcing work on the globalization of natural gas helped

us identify this opportunity to invest in a contracted long-life asset providing an essential service to one of the United States' key trading partners. This pipeline system allows for some of the cheapest natural gas in the world to flow to Mexican electric and industrial plants to help improve local air quality and support economic and employment growth in the country.

Our Thematic Sourcing efforts in Europe have also uncovered renewable project-development platforms. Renewable developers are the bricklayers of the clean-energy transition but also present an investment universe offering attractive risk-adjusted returns for our clients. Our latest investment, VSB Group, is a leading European renewable developer, owner and operator of mainly onshore wind and solar PV projects, which has built over 1 gigawatt of capacity across several European markets. Partners Group's established track record as a renewable-energy investor facilitated discussions with the founder as a "like-minded" partner keen and able to accelerate the company's growth and position it for the future. Following our initial sourcing and in-depth due diligence efforts, we acquired an 80 percent equity stake in VSB in January on behalf of our clients, with the founder rolling over a 20 percent stake in the business. Under our stewardship, we expect the company to build significant wind and solar capacity to supply clean energy to homes across Europe.

### Preparing for the next disruption

Partners Group aims to invest and build the essential infrastructure of tomorrow's world. More often than not, technological innovation, economic development and changing consumer behaviors bring about change at a faster rate than the market consensus predicts. Ten years ago, few were accurately predicting renewable energy would be where it is now. In the early 2000s, few imagined that the United States would become the third-largest exporter of liquefied natural gas, with potential to become the largest within the next five years. Through our proprietary Thematic Sourcing process, we will continue to proactively identify and monitor emerging and established trends to understand the universe of possibility, and adjust our portfolio as a result.

The energy transition unlocks new investment opportunities, and our teams are performing ongoing in-depth analysis on emerging technologies and markets, including battery storage, electric mobility, smart-grid networks, carbon capture, renewable gas and hydrogen, among others. Ultimately, we aim to support the ongoing energy transition and benefit local communities and businesses, while seeking to achieve attractive risk-adjusted returns for our clients.

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### CORPORATE OVERVIEW

**Partners Group** is a global private markets investment management firm with US\$94 billion in investment programs under management in private equity, private real estate, private infrastructure and private debt. The firm manages a broad range of customized portfolios for an international clientele of institutional investors. Partners Group is headquartered in Zug, Switzerland, and has offices in Denver, Houston, Toronto, New York, São Paulo, London, Guernsey, Paris, Luxembourg, Milan, Munich, Dubai, Mumbai, Singapore, Manila, Shanghai, Seoul, Tokyo and Sydney. The firm employs over 1,400 people and is listed on the SIX Swiss Exchange (symbol: PGHN) with a major ownership by its partners and employees.