Cairo, Egypt

Essential Energy: Our Vision for Global Recovery and Progress

The ongoing COVID-19 pandemic has served as a reminder of life's essentials – the things we need to keep life going and to help people thrive in better times. At the center of those essentials is energy. Energy helps to feed and educate, care for those who are ill and connect us to those we love. Energy keeps people warm on cold nights; powers manufacturing, transportation and jobs; and elevates people and their families to higher standards of living.

Yet many people in the world do not have ready access to energy or the opportunities and benefits that come with it. According to The Energy Progress Report 2020, nearly 790 million people around the world did not have access to electricity as of 2018.[1] About 2.8 billion individuals lacked access to clean cooking fuels that same year, a number that has remained basically unchanged for the past two decades, with new access only keeping up with population growth.[2] The U.N. says that, in addition to those without electricity, hundreds of millions more have only "very limited or unreliable electricity."[3]

Of 730 health centers in Cambodia, Ethiopia, Kenya, Myanmar, Nepal and Niger surveyed by the Multi-tier Framework of the World Bank, 25% of the facilities reported that they were unelectrified. There were also reliability and voltage fluctuation issues in each country, causing 25% to report that outages affected their ability to deliver services[4] and 28% to report they were hampered by equipment damage.[5, 6] The U.N. also notes that, for vaccines, maintaining a cold supply chain from manufacture to vaccination is critical.[7]

Energy poverty has very real implications for both long-term global development and the near-term COVID-19 response. It's clear that we need reliable electricity and transportation for the current battle against COVID-19, as well as for adequate health care in more normal times. It is also clear that we need affordable, reliable and cleaner energy supplies to advance the majority of the United Nations' Sustainable Development Goals over the long term.

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[1] International Energy Agency (IEA), International Renewable Energy Agency (IRENA), U.N. Statistics Division (UNSD), World Bank and World Health Organization (WHO), 2020, ***Tracking SDG 7: The Energy Progress Report***, Washington, D.C.: World Bank. https://trackingsdg7.esmap.org/data/files/download-documents/01-sdg7-executivesummary_0.pdf, p. 4.

[2] IIEA, IRENA, UNSD, World Bank, WHO, 2020, ***Tracking SDG 7: The Energy Progress Report***. Washington, D.C.: World Bank. https://trackingsdg7.esmap.org/data/files/download-documents/01-sdg7-executivesummary_0.pdf, p. 6.

[3] https://www.un.org/sustainabledevelopment/energy/.

[4] IEA, et al., https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf, p. 36.

[5] IEA, et al., https://trackingsdg7.esmap.org/data/files/download-documents/tracking_sdg_7_2020-full_report_-_web_0.pdf, p. 36.

[6] https://mtfenergyaccess.esmap.org/methodology/electricity.

[7] https://www.unicef.org/supply/what-cold-chain#:~:text=It.

FIGHTING ENERGY POVERTY AND ENABLING A CLEANER ENERGY FUTURE

Apache's products will continue to play a key role in providing the world with the energy required to enable human progress, prosperity, more sustainable development and a cleaner energy future.

Natural gas provides a significant opportunity to fight energy poverty while helping to address climate change. In addition to providing cleaner energy, natural gas plays a central role in enabling the wider use of renewables by providing flexible backup energy when sun, wind or other renewable sources are not active or can't meet peak demand. According to the Stanford Natural Gas Initiative, using natural gas "is the biggest opportunity" to reduce energy poverty because it addresses both pollution from coal-fired generation and power shortages.[8]

There is tremendous opportunity to reduce carbon emissions globally — predominately in China and India — by switching from coal to natural gas power plants; this has been achieved in the U.S., where clean and abundant natural gas has been the primary factor in reducing carbon dioxide emissions from electricity generation to the lowest levels in a generation.[9] Coal demand in China and India rose in 2018,[10] and Asia Pacific countries make up approximately 75% of global coal consumption.[11]

Natural gas is significantly cleaner than coal. A July 2020 study showed that U.S. liquefied natural gas (LNG) for electricity generation produces on average 50.5% fewer greenhouse gas (GHG) emissions over the full lifecycle in all base case scenarios studied, which includes emissions from shipping the LNG to replace coal in China, India and Germany.[12]

Thanks in large part to those attributes, the International Energy Agency projects greater natural gas demand in Asia Pacific and Africa — an increase of between 58% and 91% between 2018 and 2040 according to two scenarios in the World Energy Outlook 2019.[13]

[8] Stanford Natural Gas Initiative, 3/17, https://ngi.stanford.edu/sites/g/files/sbiybj14406/f/Framework_Gas_Energy_Poverty.pdf, p. 29.

[9] www.eia.gov/environment/emissions/carbon/ and https://www.aga.org/contentassets/4c04bee66b4648f086bcde31e4815e4e/building-the-value-of-natural-gas---a-fact-base-may-2020.pdf.

[10, 11] https://www.iea.org/fuels-and-technologies/coal.

[12] https://www.api.org/news-policy-and-issues/lng-exports/new-lifecycle-analysis-of-uslng-exports.

[13] https://www.iea.org/fuels-and-technologies/gas.

We are reducing our own emissions to further improve the lifecycle GHG footprint of our products. As members of ONE Future, a coalition of companies in our industry, we have demonstrated that it's possible to achieve the aggressive, science-based goal of reducing methane losses to less than 1% of production across the natural gas value chain. In fact, in 2018, ONE Future member companies collectively achieved a methane leak/loss rate of just 0.552% across the entire value chain — surpassing the goal seven years ahead of schedule. Since 2015, Apache has reduced our own global methane leak/loss rate by 41% and our global GHG intensity by 9%.

NEW OPPORTUNITIES FOR WOMEN

Women and children stand to gain the most from access to modern energy solutions. Billions of people across the globe currently cook their meals with wood, dung and other fuels that have high emissions and negative health impacts.[14] Clean cooking fuels and electricity access reduce those health risks and lower women's and girl's disproportionate subsistence-related workloads while increasing their access to, and time for, education and other opportunities.[15] A study in Nicaragua showed that access to reliable electricity increases the tendency of women to work outside the home by approximately 23% due to more efficient domestic work with modern appliances.[16]

Thanks to expanded use of liquefied petroleum gas, natural gas and electricity, the number of people in developing countries with access to clean cooking grew by 60% from 2000 to 2016. The number of people cooking with coal and kerosene decreased by over 50% during that same time.[17]

POWERING HUMAN PROGRESS WHILE DRIVING PROSPERITY AT HOME

Apache and others in our industry are working to expand exports of our abundant natural gas and oil to provide cleaner, more reliable and more affordable energy; to reduce energy poverty; and to elevate people's lives around the world while bringing economic benefits here at home.

The natural gas and oil industry continues to drive economic prosperity in the U.S. through millions of jobs — and is also helping to address income inequality.

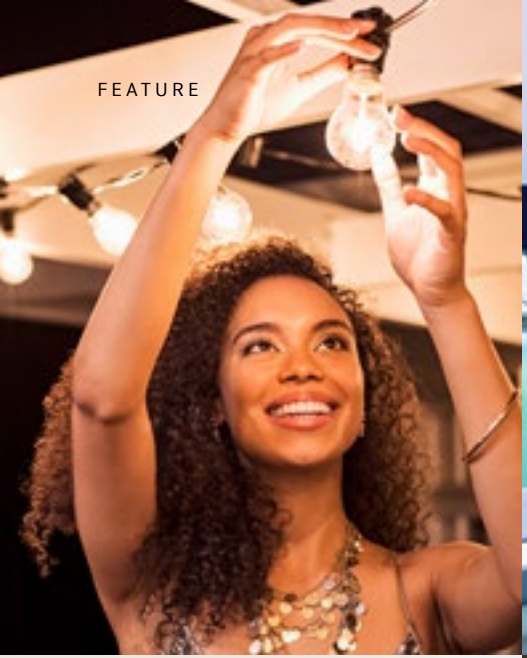
Furthermore, our industry continues to focus on the diversity of our workforce. Since 2015, Apache has increased the headcount of female science, technology, engineering and math (STEM) employees and those who self-identify as ethnic minorities by 26% and 22% respectively in the U.S.

[14] IHS, *Minority and Female Employment in the Oil & Natural Gas and Petrochemical Industries*, 2015-2035, https://www.api.org/~/media/Files/Policy/Jobs/16-March-Women-Minorities-Jobs/Minority-and-Female-Employment-2015-2035.pdf.

[15] IEA, et al., https://trackingsdg7.esmap.org/data/files/download-documents/02-sdg7-chapter1-accesstoelectricty_0.pdf, p. 34.

[16] https://www.sciencedirect.com/science/article/abs/pii/S0305750X1200215X.

[17] https://www.iea.org/reports/energy-access-outlook-2017.



USING OUR GLOBAL PLATFORM TO DELIVER ON A POWERFUL VISION

Our vision is to be the premier exploration and production company, contributing to global progress by helping meet the world's energy needs.

We believe that energy is essential to advancing human progress and elevating quality of life around the globe. Natural gas and oil help people reach their full potential by powering and enabling countless machines, products and services we rely on every day, from food production, electricity, heat and transportation to supplying raw materials for medical equipment and phones.

We understand that the future success of our company hinges upon our ability to help meet the world's energy needs in ways that are innovative, safe, environmentally responsible and profitable — for the long-term benefit of all our stakeholders.

SUPPORTING SUSTAINABLE DEVELOPMENT

One way we organize our efforts to advance global progress and support sustainable development — and assess the effectiveness of our efforts — is by considering how our work supports the United Nations' Sustainable Development Goals (SDGs), a set of 17 goals and detailed targets that provide a roadmap for how to achieve a more sustainable future for all. In 2020, we will be aligning all of our community spend with the SDGs. In addition to the examples below, we have added an SDG index to this report in the appendix (see p. 129). Here are some examples of the goals we support.

3 GOOD HEALTH AND WELL-BEING

Good Health and Well-being (Goal 3) by supporting our employees in identifying community partnerships that promote wellness and healthy living. Our employees have access to a robust benefits platform, and we have implemented policies to cultivate a family-friendly work environment.

4 QUALITY EDUCATION

5 GENDER EQUALITY

Quality Education (Goal 4) and **Gender Equality (Goal 5)** through our Egypt schools program and other initiatives. We currently support more than 200 schools for girls in rural Egypt — schools in which more than 15,000 girls have received an education they would not otherwise have been able to access. In addition, Apache has increased the U.S. female STEM employee headcount by 26% since 2015.

6 CLEAN WATER AND SANITATION

Clean Water and Sanitation (Goal 6) through our efforts to protect water resources. Apache has a long track record of minimizing our use of fresh water — especially in water-scarce areas — and protecting water quality everywhere we operate. In 2019, 95% of the water we consumed for our operations was nonfresh water. Other ways we support the specific targets of SDG 6 include increasing water recycling and reuse, minimizing the use of potentially hazardous chemicals in our fracturing fluids and reducing the possibility for spills.

7 AFFORDABLE AND CLEAN ENERGY

Affordable and Clean Energy (Goal 7) by consistently working to expand access to clean natural gas and continually reducing the overall footprint of our operations. The use of natural gas, one of our primary products, has resulted in significant decreases in GHG emissions.

8 DECENT WORK AND ECONOMIC GROWTH

Decent Work and Economic Growth (Goal 8) by hiring locally with good-paying jobs and maximizing the local economic benefits we provide everywhere we operate. For example, in 2019, we spent nearly $1.6 billion with geographically local suppliers and contractors.

15 LIFE ON LAND

Life on Land (Goal 15) by protecting biodiversity on the lands where we operate. Perhaps our most well-known philanthropic effort to preserve and enhance life on land is the Apache Tree Grant Program, through which we have donated more than 4.7 million trees in 17 states since beginning the program in 2005.

SUSTAINABLE DEVELOPMENT GOALS