

# Global Energy Market Outlook

## Hydrocarbon demand

### Growing global energy demand driven by population and GDP growth, urbanization

The global population is estimated to increase to 9.2 billion people by 2040 from 7.6 billion in 2018. The growing world economy and the rise in global population, led by an expanding middle class and urban population, are expected to increase global energy demand almost 30 per cent by 2040.

### Global Growth Outlook

	2018	2040
World population (billion):	7.6	9.2
World urbanization rate:	55.3%	64.5%
World GDP (trillion 2010\$):	115.4	217.5

Source: United Nations, U.S. Energy Information Administration

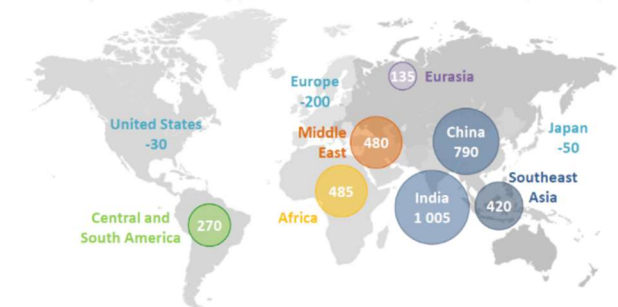
### Energy demand growth shifting to fast-growing emerging markets

Energy growth will be led by large emerging economies in Asia, such as China and India, which will continue to prioritize affordable energy sources, as energy will compete directly with basic social needs like infrastructure, healthcare and education. These countries are expected to continue to import energy, and unlike renewables, fossil fuels remain one of the few reliable and cost-effective products to transport between countries.

### Global demand for fossil fuels will grow even with the rise in renewable energy

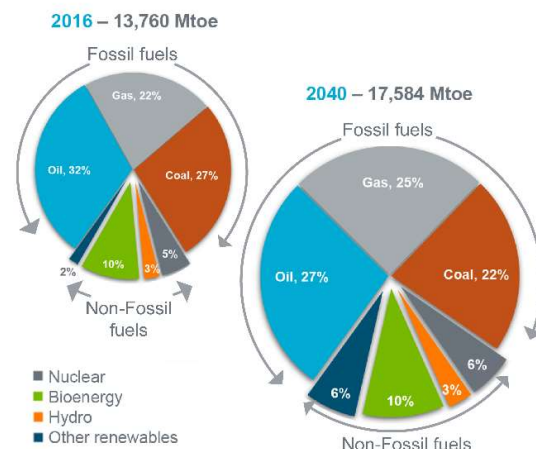
Rapid growth in renewable energy, such as wind and solar, and energy efficiency improvements will contribute to a more diversified global energy mix. However, fossil fuels, like oil, natural gas and coal, will continue to be the largest contributor, still providing 75 per cent of the global energy demand by 2040.

### Change in Energy Demand, 2016-40 (Millions tonnes of oil equivalent)



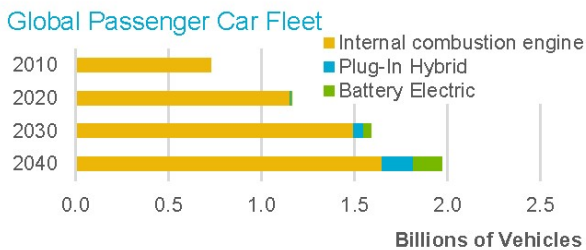
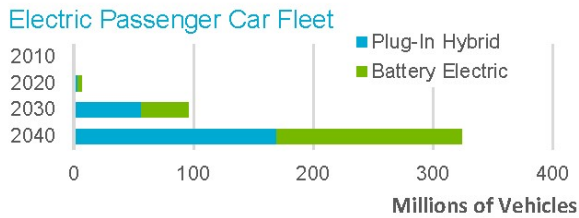
Source: International Energy Agency (IEA), World Energy Outlook 2017

### Global Energy Demand



## Global oil demand will continue to grow despite electric car growth

The use of electric cars is expected to grow very rapidly, but its share of the total global passenger car fleet will remain relatively small.



Source: BP Energy Outlook 2017

Electric cars and more stringent fuel-economy and air pollutant emissions standards are helping to transform the energy use of passenger cars. Despite the declining use of gasoline and diesel in passenger cars, the International Energy Agency estimates that global oil demand will continue to grow, reaching 105 million barrels per day by 2040, driven by commercial transportation and chemicals demand growth.

The International Energy Agency estimates there could be 280 million electric cars worldwide by 2040 – or around 15 per cent of the global car fleet – which could ultimately displace 2.5 million barrels of potential oil consumption. Oil demand for commercial transportation, industrial and petrochemical uses is forecast to increase by five times this amount at about 14 million barrels per day by 2040.

## The world's energy supplier of choice

Alberta can respond to the growing global energy demand with its abundance of diverse energy resources, including crude oil, natural gas and renewable energy.

## Alberta's Ranking in the 2017 World Energy Market

Rank	Producer of Oil	Reserves of Crude Oil
1	Russia	Venezuela
2	Saudi Arabia	Saudi Arabia
3	USA	Alberta
4	Iraq	Iran
5	Iran	Iraq
6	China	Kuwait
7	Alberta	UAE
8	UAE	Russia
9	Kuwait	Libya
10	Brazil	Nigeria

Source: U.S. Energy Information Administration, the National Energy Board, BP, Oil & Gas Journal

As a responsible energy producer, Alberta has implemented a comprehensive climate leadership plan with some of the world's most stringent regulations on carbon emissions.

Alberta continues to invest in innovations that will make our energy resources more economically competitive and environmentally responsible. The province has committed \$1.4 billion over seven years in clean technology projects that promise to further drive down emissions and support innovation, such as:

- \$440 million to Oil Sands Innovation Fund
- \$400 million to Green Loan guarantees
- \$240 million to Industrial Energy Efficiency
- \$225 million to support innovation and emissions-reducing technologies
- \$63 million to support bioenergy production

With our commitment to improved environmental performance, Alberta's natural resource economy should be viewed as part of the solution to a lower carbon economy. A barrel of oil produced in Alberta, with our strong regulatory and environmental oversight, may displace a barrel of oil produced in other parts of the world with no climate goals, commitment to the environment and innovation, or social and governance policies.