

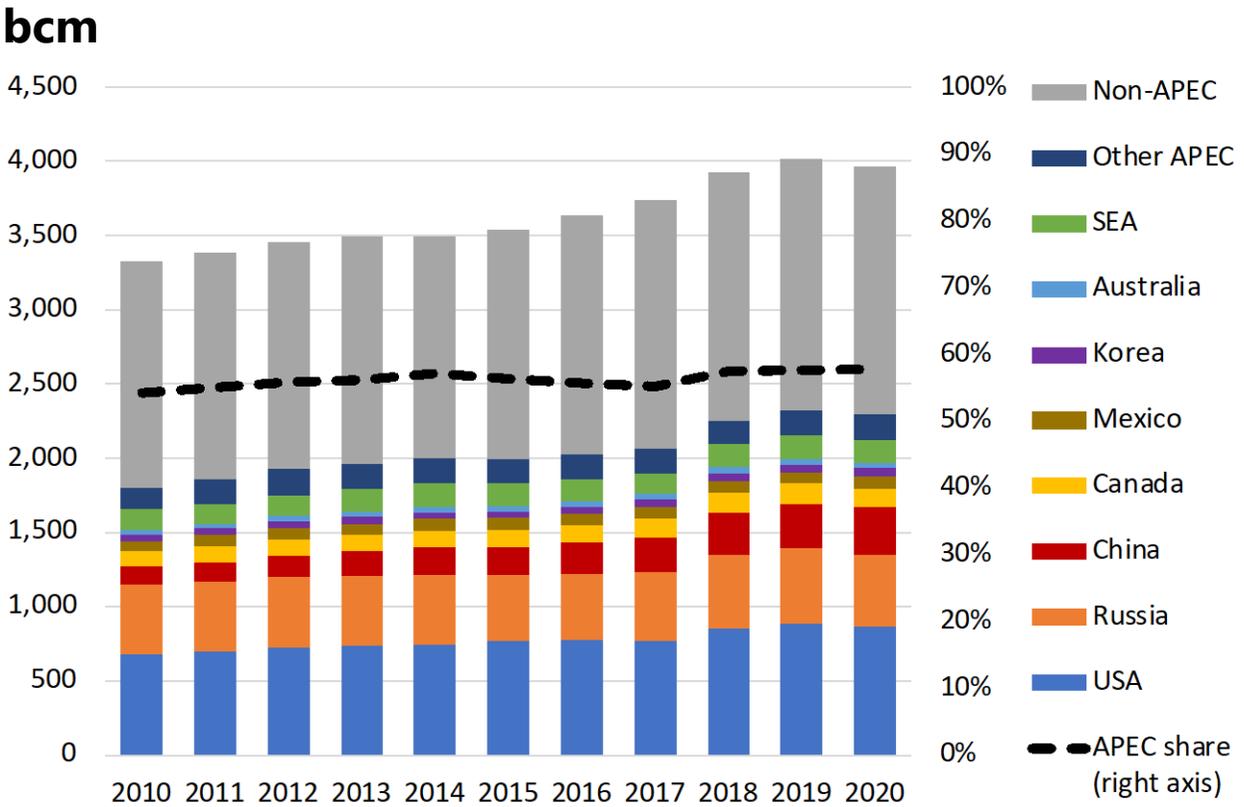
9.d. APERC Gas Report 2021 (Draft)

The 62nd Meeting of the APEC Energy Working Group (EWG)
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Alexander Izhbuldin,
Senior Researcher, APERC



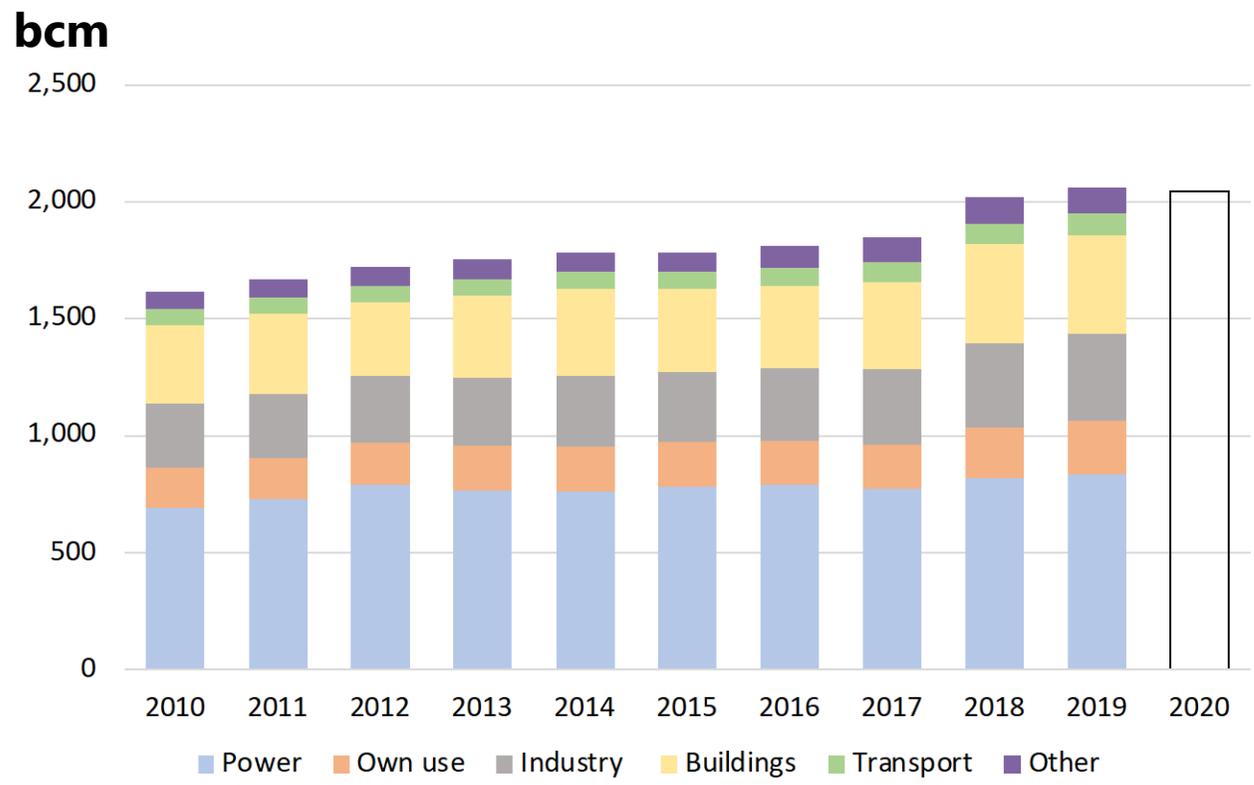
1. Natural Gas Demand: by Economy in 2010-2020



Source: IEA World Energy Balances, 2021; IEA Natural Gas Information; CEDIGAZ; APERC Analysis

- APEC accounted for about 58% of global gas demand
- China and the U.S. accounted for 76% of the increase in APEC gas consumption
- Nearly 5-fold increase in shale gas production in the U.S. at a competitive cost has driven the U.S. gas consumption growth
- China's gas consumption has increased 2.6 times as a result of government efforts to reduce air pollution

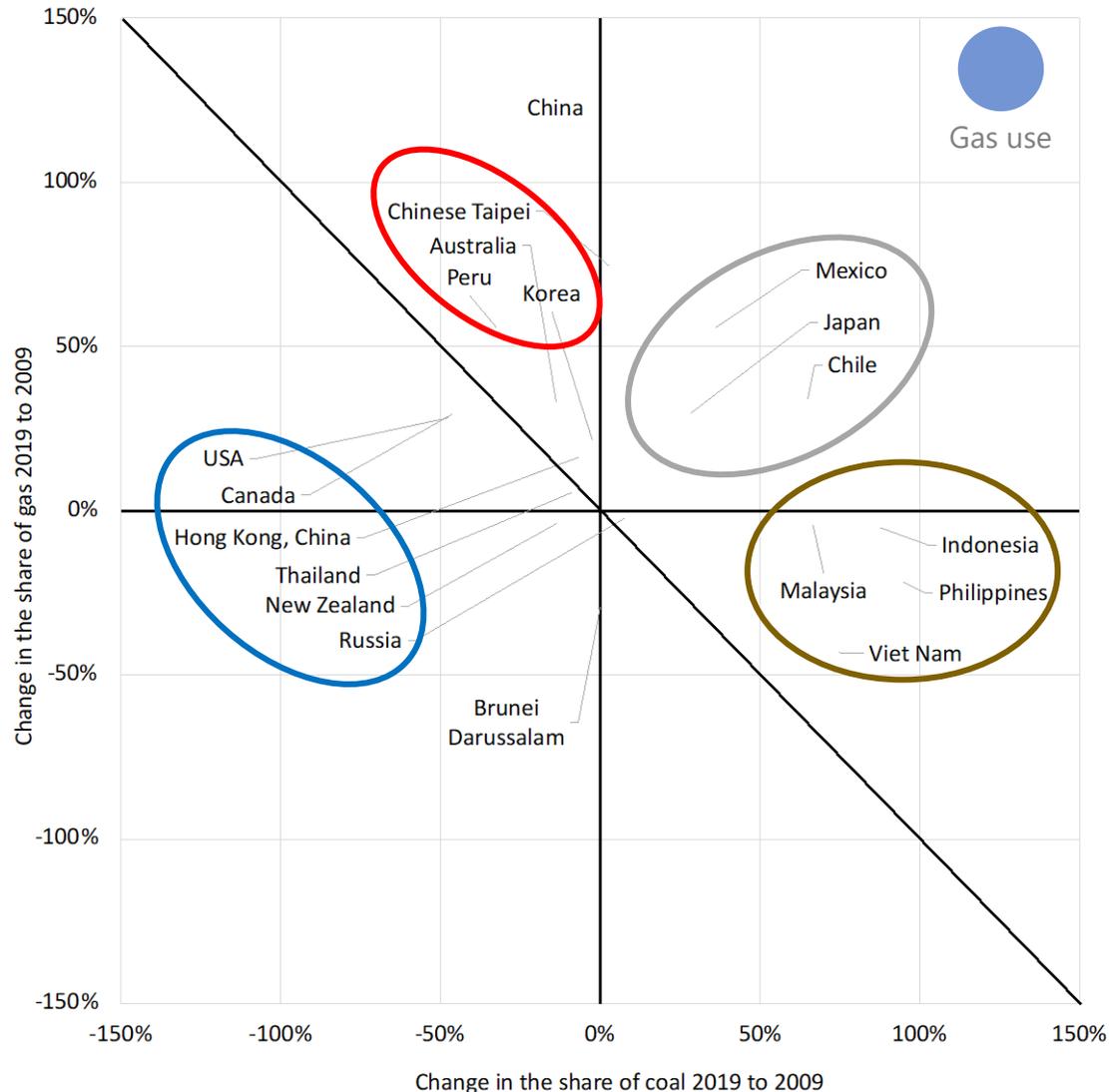
1. Natural Gas Demand: by sector in 2010-2020



Source: IEA World Energy Balances, 2021; APERC Analysis

- Gas consumption increased by 445 bcm (2019 to 2010)
- Power is the largest gas consuming sector and grew the most: 141 bcm, 32% of increase (mostly the U.S.)
- Industry had the fastest growth rate (3.6% CAGR), lead by increases in USA and China
- Building sector grew by 2.5% CAGR depending on continued efforts of Chinese government to reduce air pollution and seasonal heating needs (Russia and USA).
- According to preliminary available data, gas consumption in APEC in 2020 decreased by no more than 1%

1. Natural Gas Demand: Change in the share of Gas and Coal use in 2009-2019

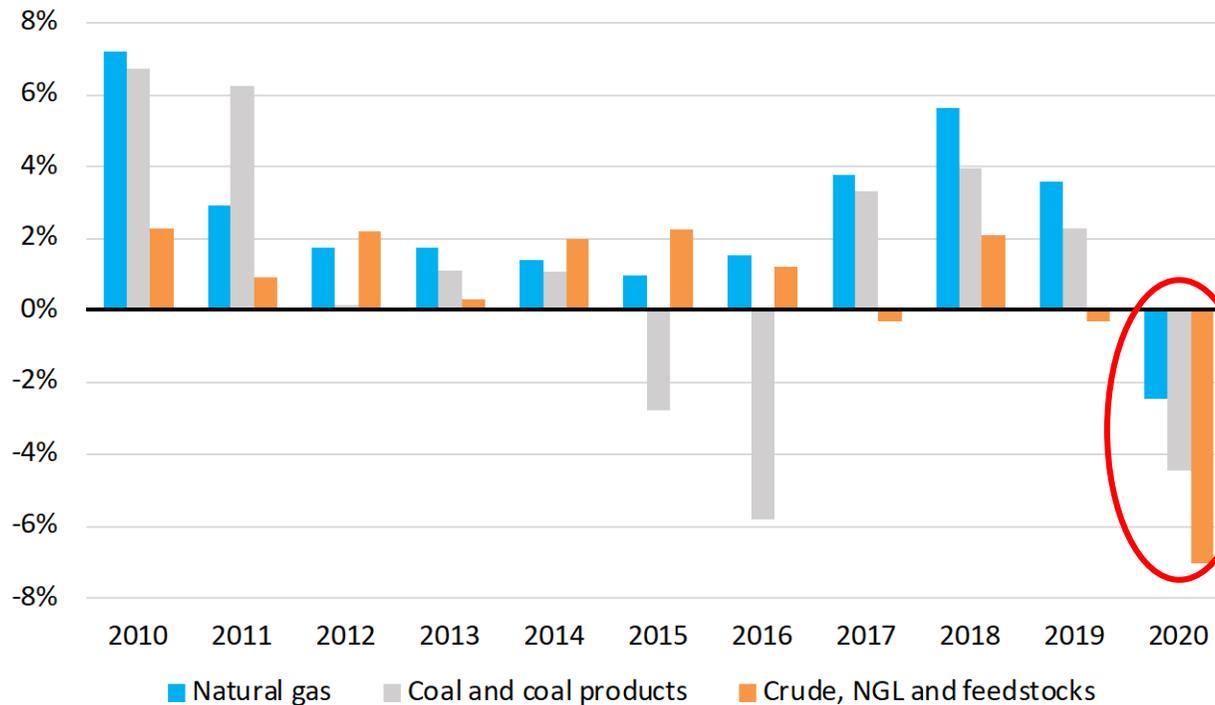


- China was rapidly increasing the share of gas in primary energy
- “Blue circle” group almost directly replaced coal consumption with gas
- “Red circle” group has increased the share of gas, with a constant or decreasing share of coal in primary energy
- “Grey circle” increased both the share of coal and gas in primary energy
- “Brown circle” (SEA) has significantly increased the share of coal, with a constant or decreasing share of gas in primary energy

Source: IEA World Energy Balances, 2021; APERC Analysis

2. Natural Gas Supply: World fossil fuel production in 2010-2020

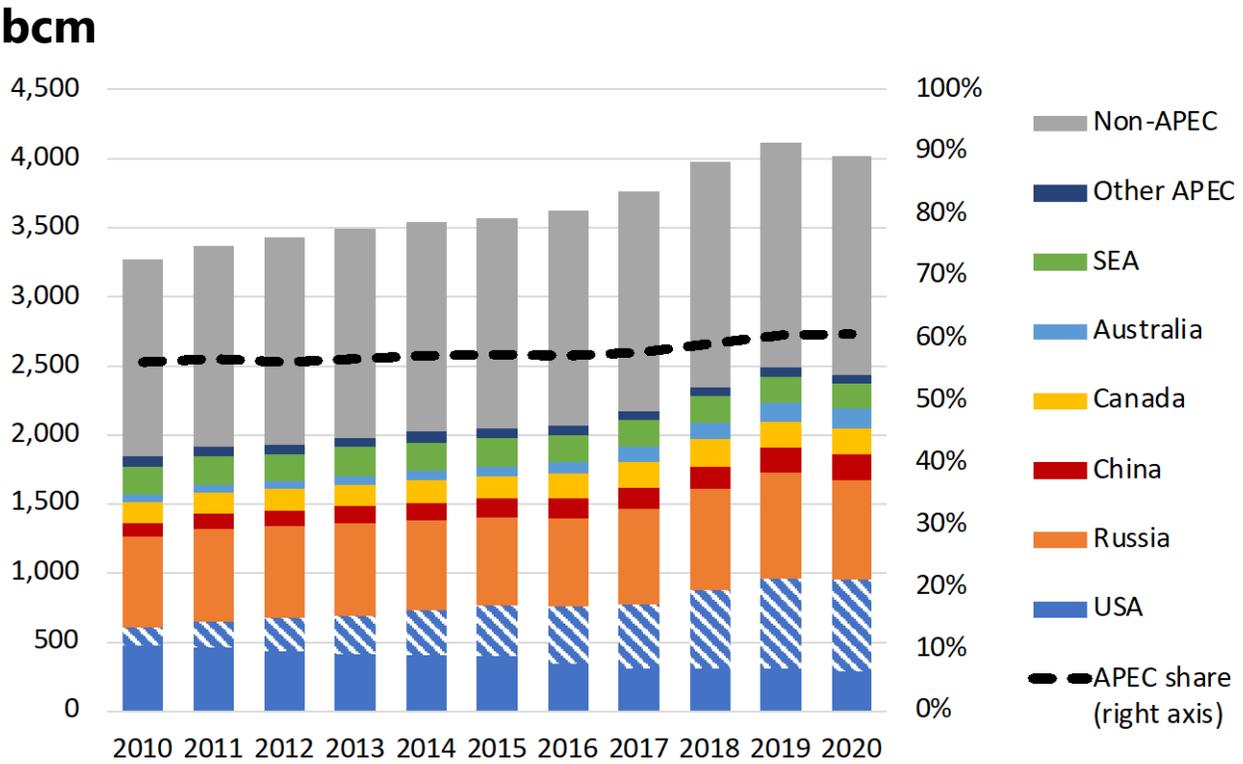
y-o-y change, %



Source: IEA World Energy Balances, 2021; APERC Analysis

- Natural gas production has grown at a 2.7% CAGR compared to 1.0% for coal and 1.1% for oil production in 2010-2019
- ... and was least affected by the COVID-19 in 2020
- The share of natural gas in primary energy consumption is expected to continue to increase

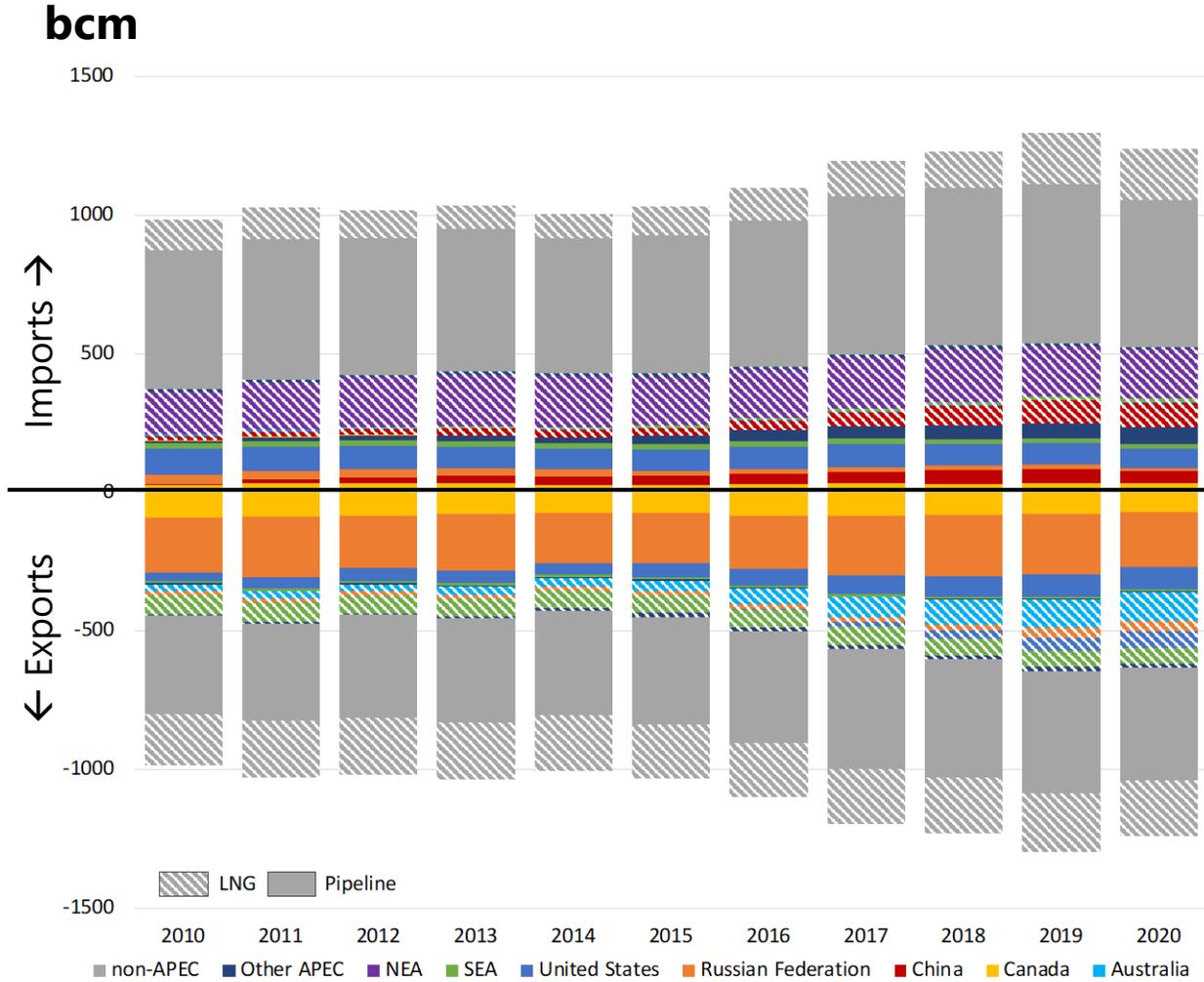
2. Natural Gas Supply: gas production in 2010-2020



Source: IEA World Energy Balances, 2021; IEA Natural Gas Information; CEDIGAZ; APERC Analysis

- APEC accounted for about 61% of global gas production
- APEC production grew at 3.4% CAGR till 2019 (1.4% in non-APEC) lead by the U.S., Australia, China and Russia
- Nearly 5-fold increase in shale gas production in the U.S. has driven the U.S. gas production growth
- Gas production grew faster than consumption, driven by an accelerated increase in LNG exports
- Production declined by 2.1% in 2020 (3.0% in non-APEC countries) as a result of lower consumption and a significant decrease in pipeline exports from Russia

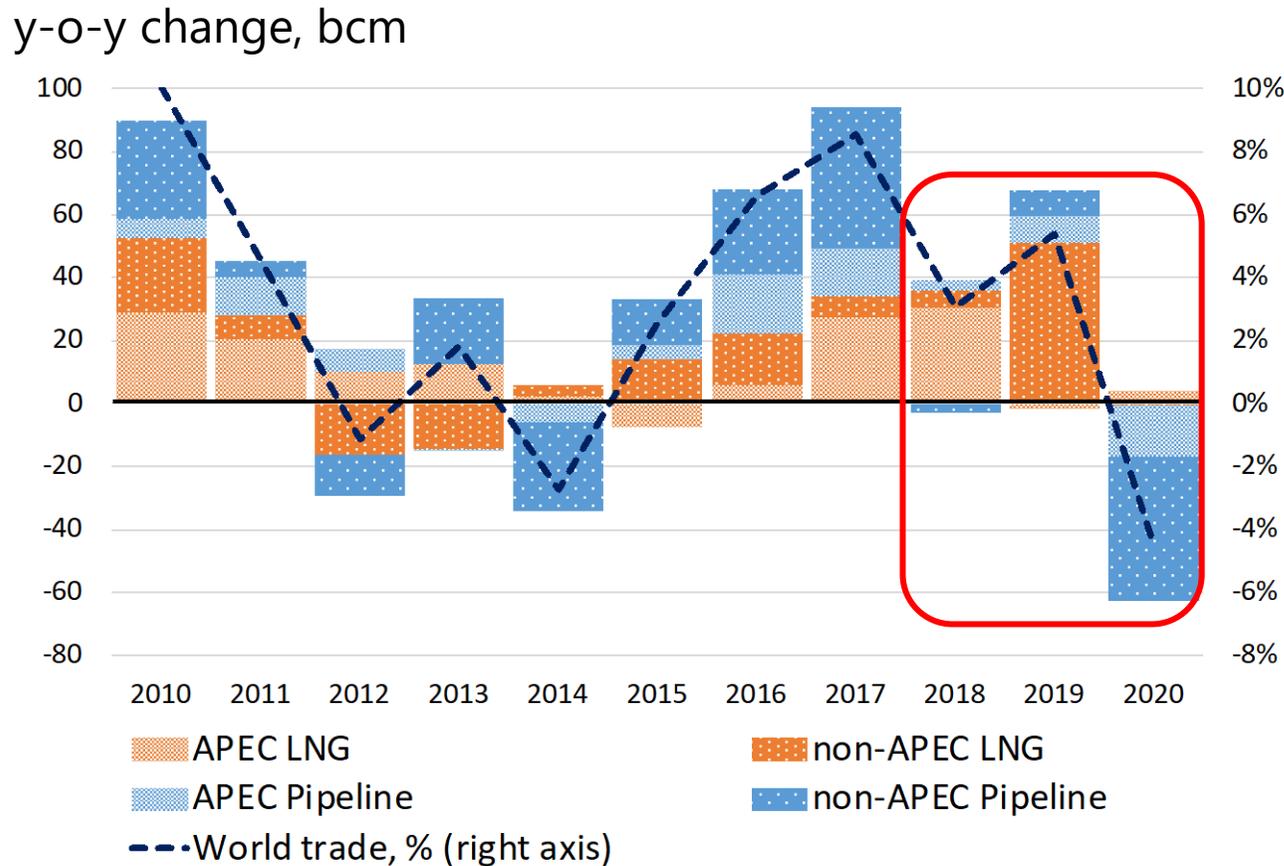
3. Natural Gas Trade: World trade in 2010-2020



Source: IEA World Energy Balances, 2021; IEA Natural Gas Information; CEDIGAZ; APERC Analysis

- LNG exports from APEC more than doubled in the last decade and grew at a much higher average rate than from non-APEC in 2010-2019 (9.8% vs 1.5%)
- ... and continued to grow in 2020 by 5% vs 4.4% decline from non-APEC
- NEA remains the largest LNG consumer accounted for 56% of the global LNG imports
- In May 2021, China became the largest LNG importer, surpassing Japan
- APEC Pipeline exports increased slightly in 2010-2019, but declined by 6.5% in 2020 due to a decrease in supplies from Russia to Europe
- APEC Pipeline gas imports increased by 25% due to increased supplies to China and Mexico

3. Natural Gas Trade: World trade change in 2010-2020

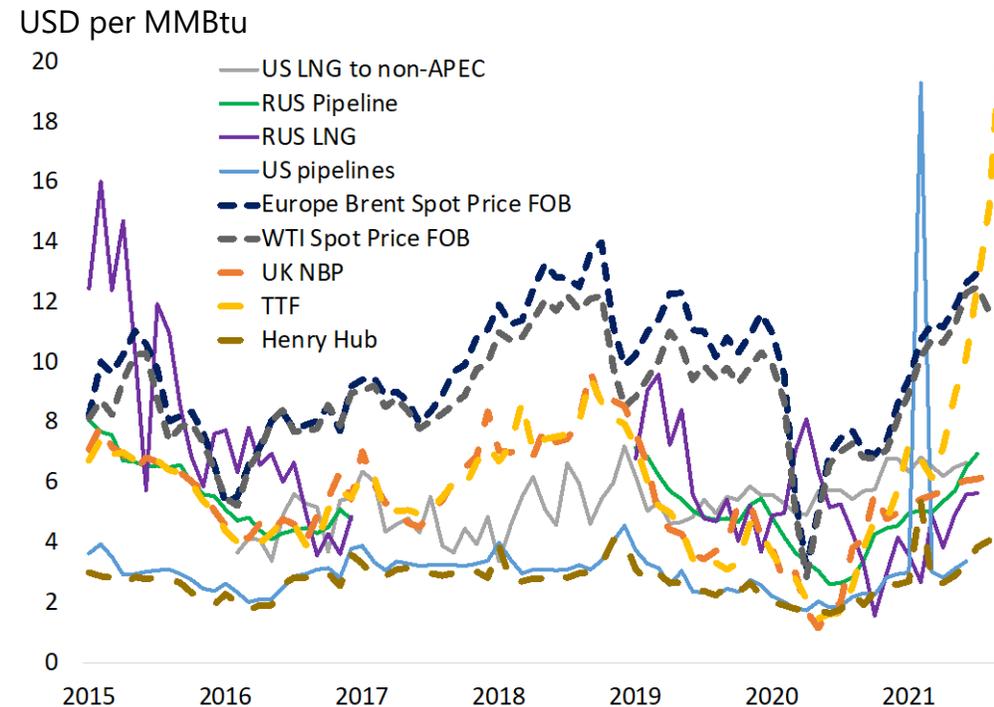


- Natural gas trade grew from 2015 until 2019
- Natural gas trade declined in 2020 by more than 6%
- Non-APEC pipeline imports (EU) stabilized in 2018
- In 2019, EU importers covered their increased needs with a significant increase in LNG imports
- In 2020, several EU economies continued to substitute pipeline supplies with LNG
- APEC LNG imports stabilized at 290 bcm after rising in 2015-2018

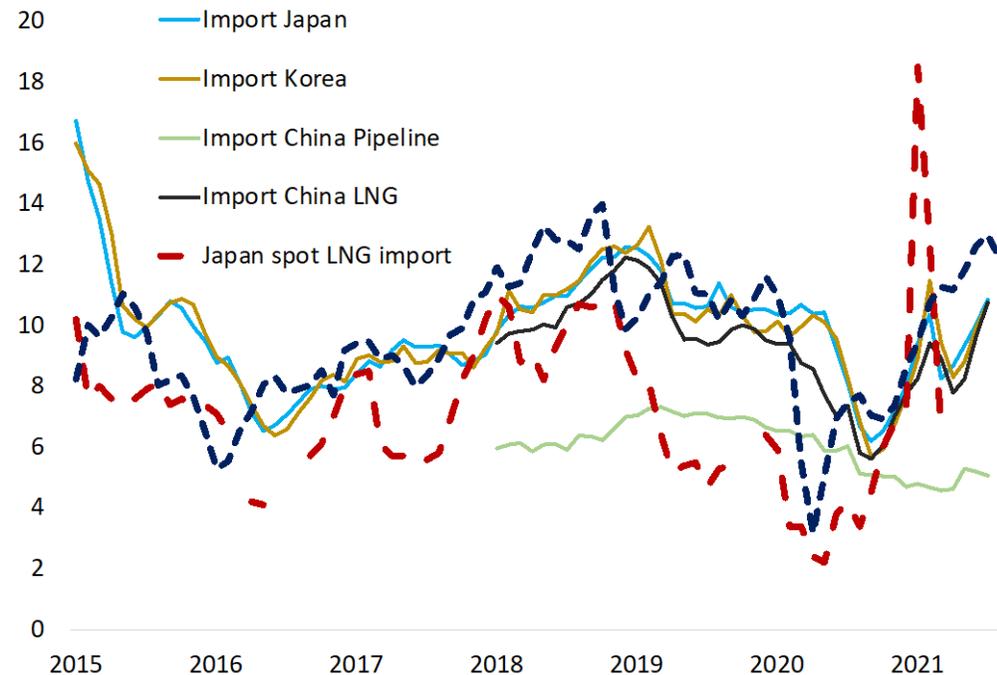
Source: IEA World Energy Balances, 2021; IEA Natural Gas Information; CEDIGAZ; APERC Analysis

4. Natural Gas Price

EU and US



NEA



Source: WB; EIA; National Customs Statistics; APERC Analysis

- Since 2016 US gas prices are not correlated with oil price benchmarks
- NEA LNG imports prices are still highly correlated with oil price benchmarks

Conclusions

- APEC accounted for about 58% of the world gas demand and 61% of the world gas production
- China and the U.S. accounted for 76% of the increase in APEC gas consumption
- World gas production grew at a 2.7% per year from 2010-2019
- Gas demand and production were less affected by the COVID-19 in 2020 than coal and oil
- The U.S. shale revolution continue allowing domestic production and exports grow
- LNG exports from APEC more than doubled in the last decade and grew at a much higher rate than from non-APEC
- LNG exports from APEC grew by 5% in 2020 vs 4.4% decline from non-APEC
- APEC Pipeline exports increased slightly in 2010-2019, but declined in 2020
- U.S. gas prices have not correlated with oil prices since 2016, unlike LNG import prices in Northeast Asia



Thank you for your attention!

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