Report on the Asia-Pacific Economies

USAL UNIVERSIDAD DEL SALVADOR

Research Institute

Bimonthly Nº7

October 19th, 2021

Production and trade of energy in Asia-Pacific

- The recent growth in energy prices will impact Asia-Pacific economies due to its high dependence on imports.
- The region is the largest importer of natural gas (71% of total) and crude oil (50%). It also produces 77% of coal worldwide.
- Increasing local demand led to more imports and huge inflows of foreign direct investments to the region.
- The transformation of China's energy matrix led to a reduction in the percentage of electricity coming from fossil fuels: in the last decade it decreased from 80% to 66%.

Energy consumption in Asia Pacific

Between August 1st and October 15th the price of the barrel of Brent crude oil increased by 12 dollars, or 16% of its value. It hasn't been the only commodity that experienced a price hike: FAO's food index grew 5% between July and September and the price of aluminum jumped 17%, while other materials such as copper do not show a significant change. On the other hand, iron ore experienced a steep decline in its price between August and mid October.

The jump in prices is particularly high in the energy sector: natural gas shows an increase of 41%, while coal jumped 71%. The economic recovery and uncertainties over which monetary policy the Federal reserve of the United States will apply if inflation rises has generated winners and losers worldwide - and Asia Pacific is no exception.

The region is the main importer of crude oil, gas and coal. Seven out of the eight largest importers of coal are in Asia Pacific. The region fulfills its energy needs by importing fossil fuels, and therefore the increase in prices leads to surging production costs, a worsening of the region's trade balance and consequently a reduction of its growth rate.

Dean: Héctor Dama - Chair**:** Juan Miguel Massot - **Editor:** Luis Ignacio Argüero
Viamonte 1816 - C1056ABB - CABA - Argentina - (+54-11) 3754-7900
fceye.usal.edu.ar - @usal.fceye

Table 1 shows the increase in imports oil and gas in Asia Pacific, from 114 billion dollars in 2000 to 601 billion in 2019. The growth in China's imports of petroleum has been colossal, from 12.5 billion dollars at the beginning of the century to over 200 billion in 2019. This growth is underpinned by the exponential increase of its automotive fleet (which tripled in the last decade, reaching 280 million cars in 2020) and the increasing internal demand of electricity. A similar process can be seen in India, while Korea, Japan and Taiwan show milder rates of growth. The ASEAN region also shows moderate rates of growth. Some countries are exporters of crude oil, like Malaysia (7.8 billion dollars in 2019), Brunei (2.7) and Vietnam (1.9). Others import crude oil in order to refine it and later export it, such as Korea (that has a positive trade balance in refined petroleum of 20 billion dollars), India (33 billion) and China (12 billion).

Table 1: Imports of oil and gas, in billion USD

	Imports of crude oil				Imports of liquified natural gas			
	2000	**2010**	**2015**	**2019**	**2000**	**2010**	**2015**	**2019**
Brunei	0	0	0.1	1	0	0	0	0
Cambodia	0	0	0	0	0	0	0	0.1
Philippines	2.7	5	3.5	3.2	0	0.1	0.1	0
Indonesia	2.3	6.6	6	5.1	0	0.5	0.5	0.3
Laos	0	0	0	0	0	0	0	0
Malaysia	1.2	7.8	3.7	7	0	0.1	0.5	1.2
Myanmar	0	0	0	0.2	0	0	0	0
Singapore	8.3	23.6	17.4	22.5	0.1	1.3	1.5	2.1
Thailand	5.9	20.6	16.7	18.3	0	1	4.3	4.7
Vietnam	0	0.3	0.2	3.7	0	0	0	0
ASEAN	**20**	**64**	**48**	**61**	**0**	**3**	**7**	**8**
China	12.5	123	120	204	0	3	10.2	27.3
Korea	22.2	64.7	50.6	67.4	3.7	16.5	19	19.4
India	4.6	79.9	64.5	92.7	0	3.3	8.2	10.3
Japan	38.3	93.8	40.8	64	11.9	40.4	43.7	36.7
Taiwan	18.5	37.6	47.9	24.9	1.2	6.4	7.1	6.8
CKJIT	78	361	276	428	16	63	81	94
TOTAL AP & I	98	425	324	489	16	66	88	102
World	361	1150	782	986	22.1	105	121	143
Share AP & I (%)	27.1	37	41.4	49.6	71	63	72.7	71.4

Source: Research Institute based on OEC.

ASEAN countries imported very little amount of natural gas at the beginning of the century, but its high rates of growth and the transformation of its energy matrix determined the growth in imports over the last two decades. Nations that export gas, such as Malaysia and Indonesia, have supplied the increased demand in the internal market by reducing exports: between 2010 and 2019 Malaysia moved from being the second largest LNG exporter in the world to being the third (a decline of 2 billion dollars in exports per year), while Indonesia moved from second to seventh place, reducing by 5 billion dollars its annual exports. Due to the maturity of gas fields Malaysia's production increased slightly during the last decade, while Indonesia's saw a 28% reduction.

The gas industry is one of the main pillars of Myanmar's economy and international trade. Moreover, the energy sector is responsible for the country's 30% of foreign direct investment. The National company, MOGE, plays a role in its development, but it still depends upon investments from foreign companies. Despite the recent political instability, which resulted in companies such as France's Total and USA's Chevron deciding to suspend payment of dividends in a business developed together with MOGE in order not to fund the military junta, Myanmar is attracting a lot of FDI. These FDI are directed to supplying the increasing local demand and to exporting to Thailand and China. One of the most relevant investments is in the Shwe offshore platform. Its second phase is expected to be finished by mid 2022.

China has been playing a larger role in the import of LNG, and in the mid-term it is expected to overtake Japan as the product's main importer. After the accident at Fukushima's nuclear plant in 2011, Japan shut down all of its 54 nuclear reactors in order to establish new security protocols. The gradual re-start of the reactors began in 2015 and by October 2021 only 10 have been restarted. These, together with the investment in green energy production, led to a 10% decrease in LNG imports between 2015 and 2019.

Coal production and change of the energy matrix

Asia Pacific increased its participation in the global extraction of coal in this century, from 43% in 2000 to 77% in 2019. This increase is based on the production in China and India, that tripled in the period. In the last decade the global coal production remained stable, as demand didn't grow due to the increased use of renewable, cleaner energies. In the last years there was a deceleration in the growth rate of coal consumption in India and China; in Japan, coal consumption declined 14% between 2015 and 2020.

Table 2 shows that China saw a decrease in the proportion of the electricity from fossil fuels, from 80.4% in 2010 to 66,2% in 2020; in India it decreased from 79.5% to 74.5%. According to the International Energy Agency (IEA), the global average is 61%. The vast majority of the region's countries are well above that average.

The dynamism of Asia Pacific economies has led to a significant growth in the demand of energy: between 2010 and 2019 per capita electricity consumption increased by 30% in China, 36% in India and 100% in Vietnam. Korea shows a 10% growth, while Taiwan's remained unchanged and in Japan it fell by 10%.

Most countries have started a transformation of their energy matrix, replacing fossil fuels for less contaminant energy sources. Between 2010 and 2020 the production of electricity from renewable and nuclear sources increased 47%, but their participation in the global matrix just moved from 33% to 39%. China shows a significant change in the production of electricity from renewable sources in the last decade, from 19.5 to 34%; while in India it increased from 20.5% to 25.5%. The latter is making large infrastructure investments in order to expand its use of gas, aiming at doubling the pipeline extension by next year.

Table 2. Coal production and electricty from fossil fuels

	Coal production (in exajules)				Electricity from fossil fuels (in %)		
	2000	**2010**	**2015**	**2020**	**2000**	**2010**	**2020**
Brunei	0	0	0	0	100	100	100
Cambodia	0	0	0	0	90	94.1	45.7
Philippines	0.2	0.3	0.5	0.8	55.7	72.6	78.1
Indonesia	1.9	1.5	1.7	3.4	83.3	83.4	83
Laos	0	0	0.1	0.1	nd	nd	42.5
Malaysia	0.1	0.6	0.7	0.9	88.9	93.7	82.1
Myanmar	0	0	0	0.1	nd	nd	nd
Singapore	0	0	0	0	98.3	97.2	96.7
Thailand	0.2	0.7	0.7	0.7	92.8	94.1	82
Vietnam	0.3	0.6	1.1	2	44	69.8	69
ASEAN	**3**	**4**	**5**	**8**	--	--	--
China	29.9	72.1	83.8	87.6	81.9	80.4	66.2
Korea	0.2	3.1	3.4	3.2	60.5	68.4	65.8
India	5.5	11.5	15.4	16.5	81.3	79.5	74.5
Japan	3.9	4.7	4.9	4.7	57.5	62	69.1
Taiwan	1.1	1.6	1.6	1.4	75	78.8	82.8
CKJIT	40	91	108	112	--	--	--
TOTAL AP & I	42	95	112	120	--	--	--
World	97.9	150.8	160.2	155.5	63.7	67	61
Share AP & I (%)	43.1	63.1	70.1	77.2	--	--	--

Source: Research Institute based on IEA

The transformation will continue in the near future: Vietnam has announced that from 2022 it will import LNG to diversify its energy sources. Philippines unveiled a plan to reach 35% of the production of electricity from renewable sources by 2030. In Malaysia, the target for 2030 is 20%. Indonesia's government announced in October that it plans to increase investments in solar energy production in order to reach 25% of electricity from renewables by 2030. Thailand aims at reaching 30% by 2037, while Singapore wants to multiply by 6 its solar energy production in this decade.

Despite this transformation, slow but constant, the region still depends upon fossil fuels to satisfy its energy needs. The increase in the price of gas, oil and coal may still have a moderate impact in the rate of growth of several economies in the region, which is the largest importer of energy in the world, with about half of crude oil imports, 71% of LNG and over 75% of coal briquettes. This dependency will increase its production costs and will diminish the competitiveness of its industries.

Points of interest and general perspectives for the region

- Fumio Kishida was designated prime minister of Japan in October, after the resignation of his predecessor, Suga. He called for general elections on October 31st, when his leadership is expected to be ratified. Kishida selected a cabinet that would continue the political and economic guidelines of Shinzo Abe.
- More than 150 Chinese warplanes invaded Taiwan's air defense zone. The island's government activated its defense systems and sent warplanes to the area. The escalation of the conflict led to a renewed support to the Republic of China by the United States, who has sold them defense materials and is said to have trained the Taiwanese special forces. People's Republic of China has opposed the interference of US in the conflict and has repeated its commitment towards unifying China, under the command of Beijing. Fifteen countries currently recognize Taiwan as an independent country, nine of them are in Latin America and the Caribbean.
- Foreign tourism is still prohibited in the Philippines and Indonesia. Malaysia announced that foreign tourism will be allowed when 90% of its population is vaccinated (this may happen at the beginning of December). Vietnam would also open to foreign tourists in its most popular destinations by December, while Thailand announced that the first of December it will open its borders to visitors from ten "low risk" countries.