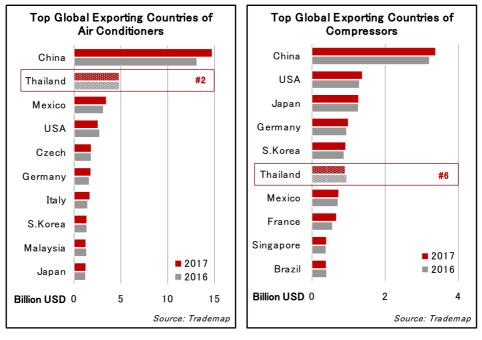
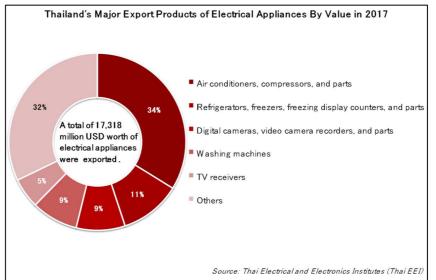
Air Conditioner Industry in Thailand

1. Industry Overview

The Thai air conditioner sector has played a significant role in domestic and international markets over the past decade. Air conditioners and parts were one of Thailand's top ten exported products and were the number one shipped product among electrical appliances in 2017. It was the world's second-largest exporting country of air conditioners after China and ranked sixth for compressors' exports. Thanks to Thailand's strategic location coupled with its manufacturing competency, the nation has become the manufacturing hub of several multinational electrical appliances companies, including Mitsubishi Electric, Daikin, Toshiba, Samsung, LG, Trane and Haier. The approximate value of the Thai air conditioner market was 27 billion baht in 2017 and is expected to reach 30 billion baht in 2018.

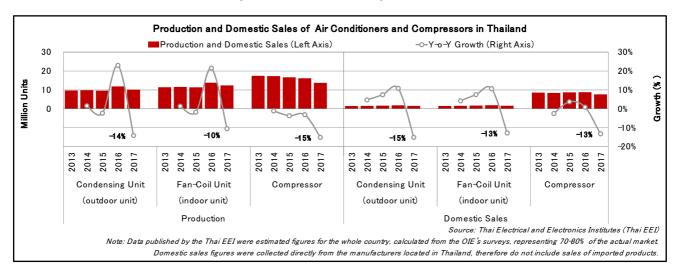




Thailand imported most of the air conditioning parts and components in its early years. Since then, the sector has gradually developed and is now able to produce 70-80% of the parts and components domestically, including compressors, coils, and motors. On the other hand, circuit boards, infrared

sensors that detect movements, so-called the intelligence eyes, and copper and aluminum are the parts and components that Thailand still relies on the imports.

Production capacity was 15 million units¹ for the air conditioners and 28 million units² for the compressors in 2016. Split- and window-system³ are the two main types of air conditioners that are manufactured in Thailand. However, the split-system is the most widely used product among Thai consumers, while the window-system is destined for exports.



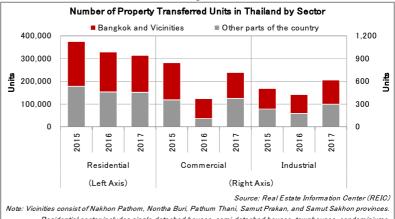
Despite its resilience, the air conditioning market faces stiff competition both in the domestic and international markets from other major exporting countries. Examples include rapid development of technology, rising production costs, and consumer behaviours changes toward energy efficiency and greener alternatives.

2. Market Overview

Recent Performance

- Production of the Thai air conditioner market in 2017 experienced a double-digit decline for the first time since the major flooding in 2011. The outdoor and indoor units of split type air conditioners and compressors all saw a drop in production volume.
- Domestic sales made up around 13-15% of the production. The number stood at 1.61 and 1.67 million units with negative y-o-y growth of 15% and 13% for the outdoor and indoor units at the end of 2017, respective. Sales of compressors also exhibited a 13% drop to roughly 7.6 million units. Many of the leading air conditioner makers in Thailand attributed last year's contraction in domestic sales to short summer months, real estate market downturn, and high household debt level. Weather

condition is considered one of the main factors in consumers' buying decisions regarding air conditioner. The warmest months usually are peak season for sales between February and June of every year. Moreover, the growth in number of transferred the property units in the residential real estate sector was in line with Daikin and Carrier's comments which stated that sales of the residential sectors shrank. In contrast. the commercial sector continued to post a steady growth rate in 2017.

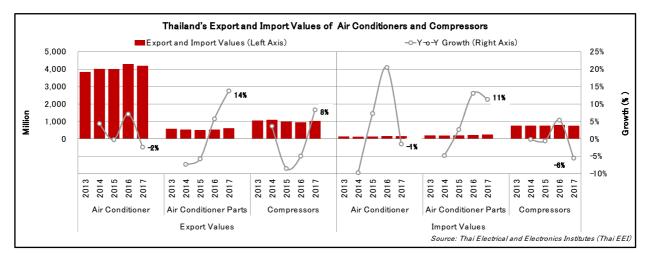


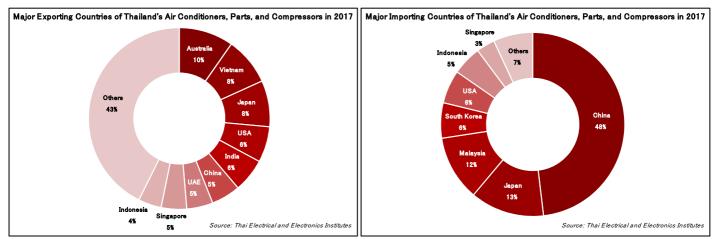
Residential sector includes single detached houses, semi-detached houses, townhouses, condominiums, apartments, and shophouses

Commercial sector includes hotels and shopping malls

Industrial sector includes factories.

The Thai air conditioners' export value recorded a slight fall of 2.4% y-o-y to 4.2 billion US dollar, while air conditioner parts and compressors grew by 13.8% and 8.4% in 2017 compared to the previous year. The decrease in air conditioners' exports was partially due to a drop in Vietnam and Indonesia, two of Thailand's major exporting countries for air conditioners. Several Japanese companies, namely Daikin and Mitsubishi, have set up new factories in Vietnam as they anticipate rapid growth in demand for air conditioners, both residential and commercial. Exports of air conditioner parts and compressors, on the other hand, went up thanks to higher demand from Thailand's major trading partners like Japan and China, both of which showed a surge in air conditioner's export value as well.





- ASEAN was the biggest exporting region for Thailand's air conditioner market. It made up almost one-fourth of the export value in 2017, followed by the European Union (EU) and the Middle East. The top exporting countries of the Thai air conditioners were Australia, Vietnam, Japan, the USA, and India in 2017.
- Following the domestic sales slump, Thailand also imported less air conditioner in 2017. An oversupply situation for the Thai compressors market resulted from an influx of Chinese compressors; Thailand's number one importing country had reduced import value by around 5%. However, the imports of air conditioner parts increased by 11% y-o-y compared to 2016. The import value of air conditioner parts has steadily risen over the last couple of years. The Thai Electrical and Electronics Institute (Thai EEI) explained that this was due to the amendment of the Customs Tariff Decree, Section 12, of which qualified importers and exporters are granted a reduction or exemption of tariffs on the goods, including electronic and electrical goods.
- China and Japan, and South Korea are Thailand's largest importing country for the overall air conditioning market and remain to be so for the air conditioner parts and compressors. In terms of the finished product itself, Malaysia is the main supplier of air conditioners to Thailand in 2017.

Outlook and Opportunities

- In Thailand, air conditioner makers anticipate a brighter prospect for 2018 due to an optimistic economic outlook and a rebound in the Thai real estate market. There have been higher investment volume both in the public and private sectors.
- Competition is likely to be heating up in the domestic market, especially in the inverter sector as it is projected to gain a larger share in the Thai air conditioner market. According to the interview with LG Electronics (Thailand) 's Marketing Director Nipon Wongsaengarunsri, more consumers are now aware of the benefits of inverter air conditioners in the long-run despite their

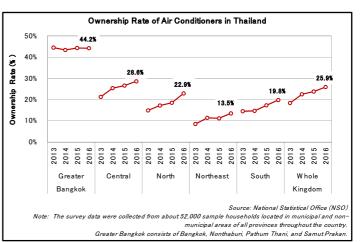
higher prices when compared to the traditional ones. The low ownership rate for air conditioners in Thailand that is estimated to continue rising will also be another factor for the manufacturers to expand in the Thai market.

Business strategies include competitive price promotions, excellent after-sale services. Some new features include energy-efficiency, environmentally friendly, health-related, durability, cloudconnected controller, and localized products such as the mosquitoesrepelling air conditioners.

Projection of Regular and Inverter Air Conditioner in Thailand

Ye	ar	Regular Air Conditioner	Inverter Air Conditoner	
20	16	71%	29%	
2017		57%	43%	
2018		40%	60%	
Source:	LG Elec	Electronics, reported by Marketeer, one of the leading		

Source: LG Electronics, reported by *Marketeer*, one of the leading marketing publications in Thailand. Note: Data as of January, 2018



Exports to major exporting destinations, particularly Australia and the United State are expected to grow thanks to Australia's long summer months and the United States' extension of a two-year grant between 2018 and 2020 of the GSP privileges for Thai products, including air conditioners.

3. Major Players

According to the Thai Electrical and Electronics Institute (Thai EEI), there are a total of 259 companies that are operating in the air conditioning sector and 29 companies in the compressor market as of January 2018. Despite a small number of air conditioner assemblers at around one-fifth of the total number of companies in the Thai conditioning sector, the investment volume is considered high. Most of the production is mainly for exports.

Number of Companies in the Thai Air Conditioner and Compressor Markets

	Air Conditioner	Compressors ^[1]			
Products	59	3			
Parts	165	19			
Distributors	35	7			
Total	259	29			
Note: Please be n compressor	Thai Electrical and Electronics Institute (Thai EEI) Please be noted that the number of companies in the Thai compressor market does include not only air compressors, but other types of compressors as well.				

In terms of sizes, small and mediumsized enterprises (SMEs) made up most of the businesses in the Thai air conditioning sector, whose products are being supplied to big companies. Below are recent movements of the major international and local players in the Thai air conditioning market.

Daikin: The Japanese air conditioner manufacturers will be using pricing strategy and aftersale services improvement to boost its sale in 2018. New models of inverter air conditioner were introduced with the lowest prices in the product line. The company's latest revenue was estimated at 10 billion baht, with a marginal growth of almost 5% for the 2017 fiscal year. Sales of Daikin's commercial air conditioners made up 40% of the earnings and outgrew the residential sector, which accounted for 60% of the sales. The company claimed it is holding the largest share in Thailand's inverter air conditioner.

- **Haier:** Shifting to higher-end brand positioning is one of the key strategies for Haier, the Chinese home appliance maker, in 2018, including the air conditioner sector, which accounted for 50% of the company's 2.7 billion baht revenue in 2017. Equipped with R&D, manufacturing plant, and trading center, Thailand is considered one of the major production bases for Haier.
- LG: Since 2017, the South Korean consumer electronics giant has been altering all of its air conditioner product lines in the Thai market to inverter type. LG aims to increase the inverter air conditioning market share from approximately 17% to 25%, with a 30% growth to 3.5 billion baht for air conditioner sales. The company will also focus on the commercial sector as the development seems to be less volatile than the residential air conditioner market.
- Mitsubishi Electric: To remain the leading player in Thailand's competitive air conditioner market, Mitsubishi Electric use price promotions and after-sale services. New inverter air conditioner models are launched at lower retail prices than its usual inverter product line. The company also plans to increase the number of service centers from 148 to 155 branches and another two supporting centers for the commercial sector in 2018. The company has set the target revenue of its fiscal year ending in March 2019, at 14.5 billion baht, with air conditioners make up 60% of the total earnings.
- Panasonic: Thailand, Vietnam, Indonesia, and the Philippines are Panasonic's major markets in the Southeast Asia region. The air conditioner is the key product of Panasonic Thailand with a 42% share of its 12.6 billion baht revenue in 2017. The company expanded its production unit to Thailand in January 2017 with a production capacity of 500,000 units per year. A localization strategy will be adopted to grow Panasonic's market share in Thailand.
- Saijo Denki: The Thai air conditioner maker is planning to strengthen its overseas network by establishing sales offices abroad. Singapore and the United Arab Emirates (UAE) will be the first two after had been using sales distributors to export its product to over 20 countries. The revenue proportion of overseas markets is expected to grow from 30% in 2017 to 40% and 50%, respectively, in 2018 and 2019. In terms of the domestic market, the company sees promising growth in the commercial sector and will be concentrating mainly domestically.
- Bitwise: The Thai ODM/OEM air conditioner manufacturer has decided to tap into the retail market, using its brand, 'Tasaki', after focusing on the public and industrial sectors since the introduction of the brand. Starting from 2017, Tasaki will be marketed through several distribution channels across the nation, especially in rural areas, as consumers tend to be more open to local brands. Sales network is said to grow from 100 to 200 branches within 2017. Domestic sales accounted for approximately 60-70% of the revenue, while another 30-40% is from exports. Bitwise currently has a production capacity of 400,000 units/year, as of August 2017.
- Besides the manufacturers mentioned above, other major international players in the air conditioner sector include Samsung, Hitachi, Sharp, Toshiba, Carrier, Electrolux, Panasonic, Trane, Beko, Gree, and TCL. Thai brands include Central Air, Star-Aire, Uni-Aire, Eminent, Amena, and PSI.
- Major compressors manufacturers of air conditioner in Thailand are Siam Compressor Industry, Daikin Compressor Industries, Kulthorn Kirby, TCFG Compressor (Thailand), and Thai Compressor Manufacturing, most of which are owned and operated by leading air conditioner makers.

4. Concluding Remarks

- Thailand's air conditioner industry relies on exports. Many multinational companies have chosen Thailand to be their production sites both to export to the overseas market and tap into the Thai market. The trend seems to continue as there still has been an increase in the number of companies related to air conditioner and compressor invested in Thailand over the last couple of years.
- Nevertheless, stiff competition is to be expected both globally and domestically. The Thai Electrical and Electronics (Thai EEI) suggested that China, Malaysia, and South Korea are Thailand's main competitors for the air conditioner industry due to the overproduction of China's air conditioners and the strong support of the South Korean and Malaysian governments. Vietnam is also another destination that has attracted several international players to invest in the air conditioner sector due to Vietnam's fast economic growth. It is also ranked the second biggest market for air conditioner in the Southeast Asia region after Indonesia and the fifth in the Asia region.

- Prices, after-sale services, as well as brand awareness seem to be the key strategies for players in the Thai market in 2018. Features such as energy-saving, faster cooling time, and durability are the top properties buyers look for in air conditioners. Some air conditioner makers in Thailand have projected a 5-10% growth of the market value, with commercial and industrial sectors likely to perform better than the residential in 2018.
- To diversify risks from a downturn of Thailand's air conditioner market, some companies have started to expand presence in neighboring countries, introducing new product lines for the commercial and industrial sectors, or moving their brands to the higher-end segment.

¹ Thansettakij News, February 13, 2017.

³ Split-system air conditioner consists of two separate units, an indoor or fan coil unit that cools the room and an outdoor or condensing unit that dissipates heat from inside to outside air, whereas window-system air conditioner refers to the one, of which all the components are enclosed in a single unit.

² Thansettakij News, March 3, 2017.