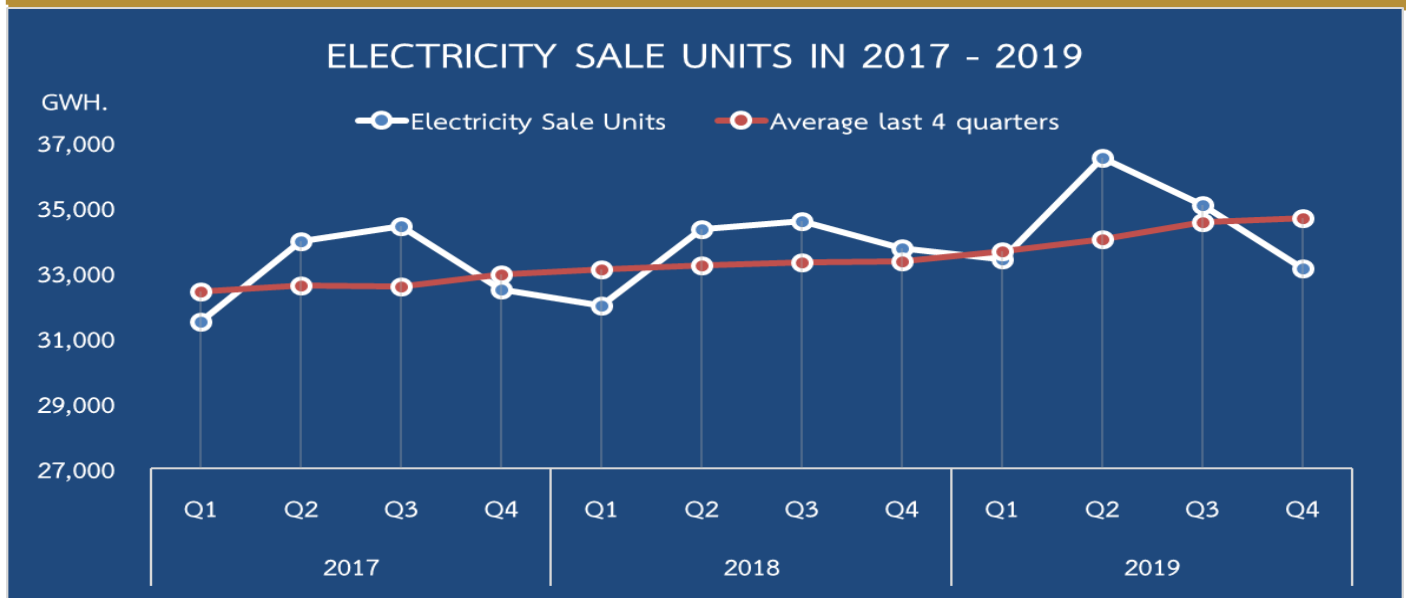
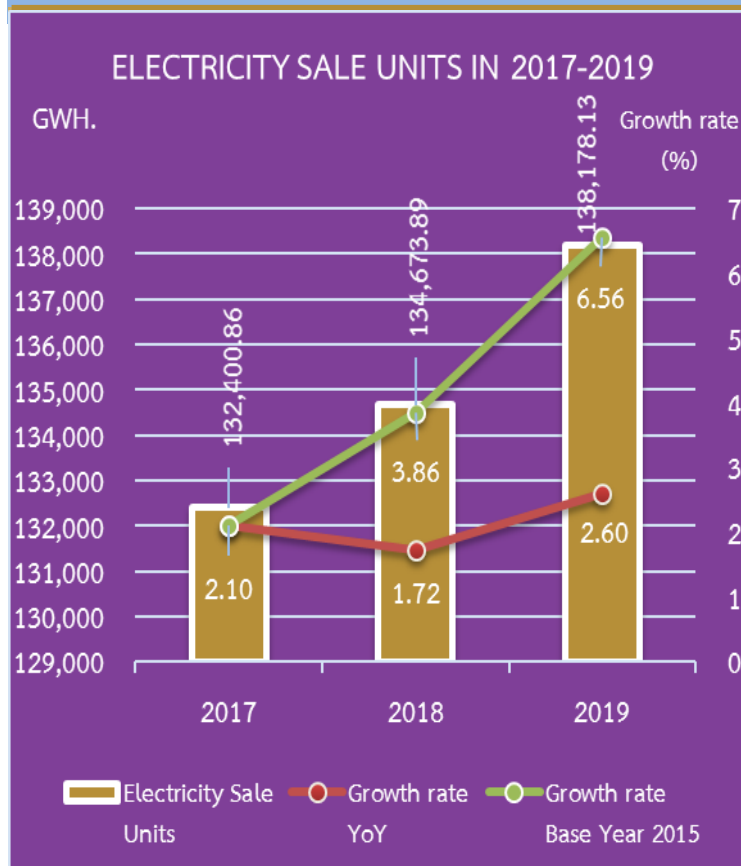


## The Electricity Sales Report of PEA in 2019



Overall, the electricity sale units of PEA continuously increased, especially in Second and Third quarters of each year which were summer season. After that the graph declined in the fourth quarter during winter season. According to the chart, the year 2017 to 2018 slightly grew seeing that rainy season came early and long.

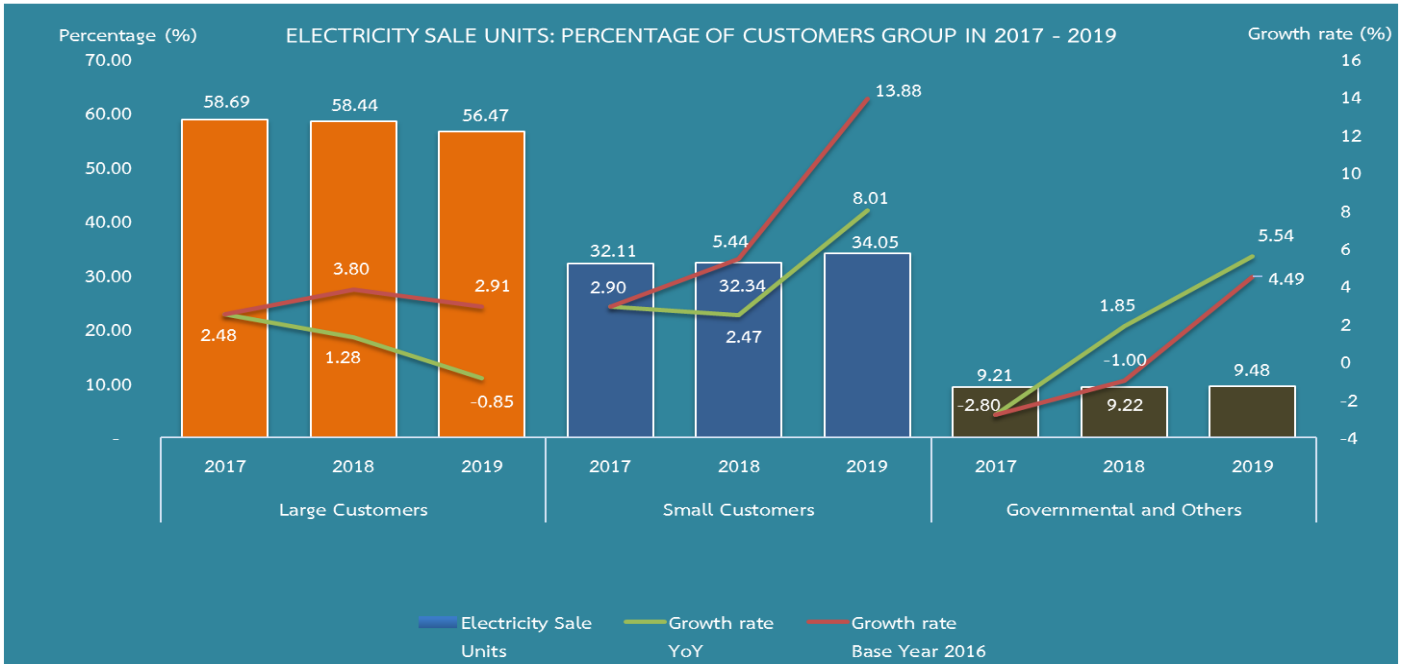
While the temperature got higher from El Nino, the electricity consumption in 2019 rose resulting from air condition. Then, the electricity consumption plunged in the end of year because of trade barrier which caused economic deceleration. Besides, there was an abnormal cold weather in November 2019. So, these culminated in a decrease in electricity demand for manufacturing sector.



In 2019, PEA had total electricity sales 138,178.13 million units. It expanded 2.60% YoY which was lower than approximation expanding 3.81% YoY (approximated in September 2018). Now that, the main factor causing a dip in electricity demand for industrial sector was trade barrier.

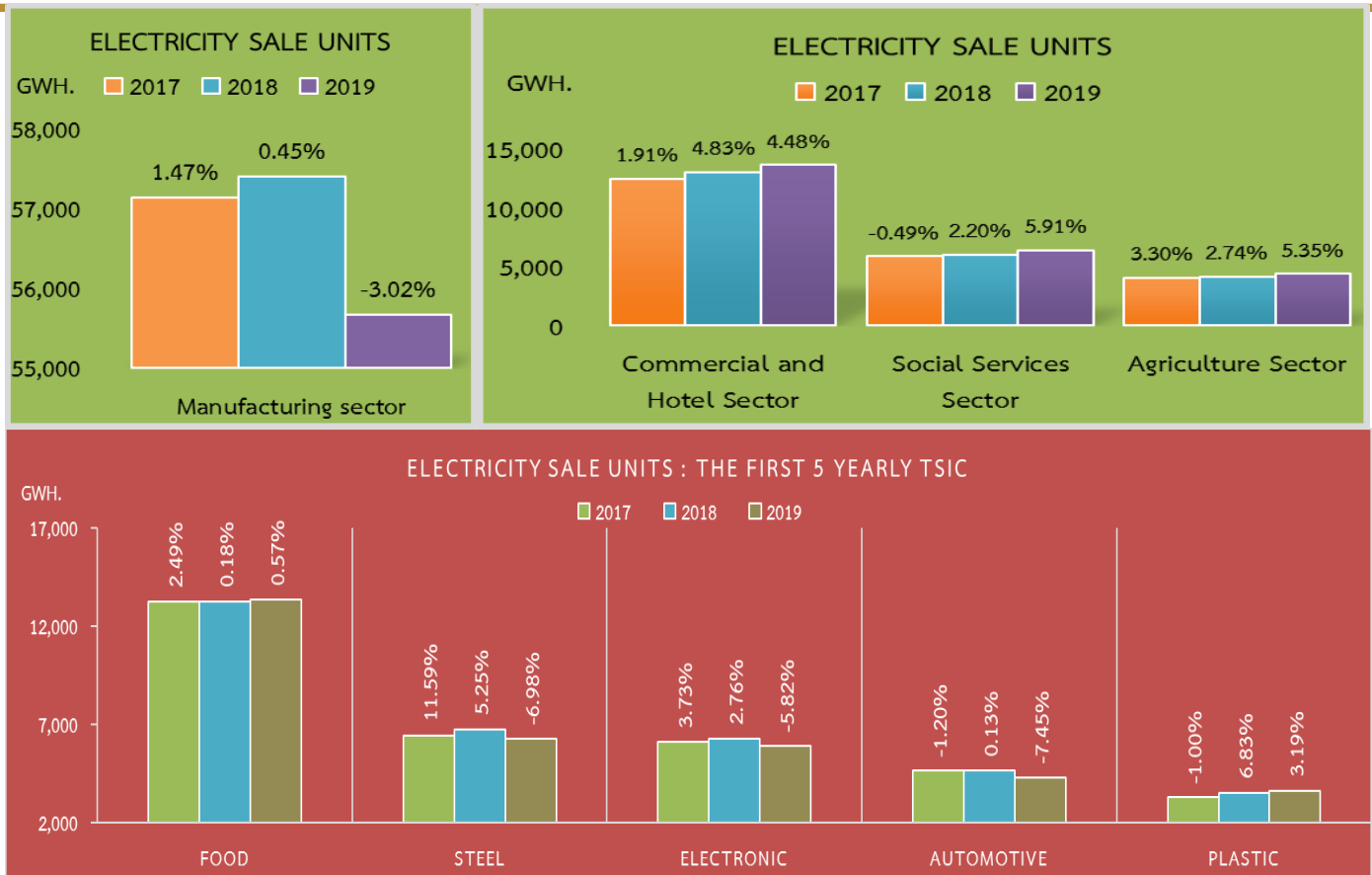
The residential and commercial sectors accelerated, owing to higher temperature in summer and the large number of tourists. These caused an escalation in air conditioner's usage.

To compare the growth rate between 2019 with base year 2016, it has found that the electricity sales inflated by 6.56% YoY.



Large Customers	Small Customers	Governmental and Others
<p>Growth rate plunged 0.85% YoY. Since, there was trade barrier between U.S.A. and their partnerships, especially China which had tariff escalation causing world economic deceleration.</p> <p>Furthermore, there affected to electricity consumption of industrial sector easing 2.50% YoY from a drop in manufacturing and large business at 3.02% and 1.52% YoY, respectively.</p> <p>Electricity demand for large commercial customers accreted 5.67% YoY, resulting from the popularity of goods and services which direct-changed to the number of tourists. These reflected to a rise in electricity intake of transportations and specific business at 5.08% and 5.19% YoY.</p>	<p>Enlarged by 8.01% YoY due to an extremely hot in mid-year, particularly in April to May 2019.</p> <p>This caused electricity consumption in household segment expanding 8.81% YoY from cooler.</p> <p>Besides, small commercial customers increasingly consumed electricity by 5.76% from the number of tourists relating to a growth in electricity demand for sales and hotel segment at 4.48% and in small business at 5.45% YoY.</p>	<p>5.54% YoY was escalated on account of elevated electricity usage in governmental and state owned enterprise sector at 5.00% YoY and in others at 6.63% YoY from higher temperature in summer.</p> <p>Moreover, there was a growth in electricity intake of social services segment at 5.91% YoY from serving people.</p>

## Growth (Up/Down) of electricity sale units compare with previous years



**Manufacturing sector** plummeted by 3.02 % YoY. There were 5 segments in manufacturing sector.

**Food Segment** grew at 0.57% YoY. An electricity consumption of ice factory was 19.65% of food segment rising 6.77% YoY from higher temperature. While, rice mill which was 11.10% less consumed electricity by 11.93% YoY, resulting from drought causing a fall of production.

**Steel Segment** plunged by 6.98% YoY owing to an easing in vehicle sales because of economic deceleration which affected on demand for iron.

**Electronics segment** went down 5.82% YoY, following a trade barrier between U.S.A. and China in electronic appliances, mobile phone and computer's component and equipment. These affected to worldwide supply chain.

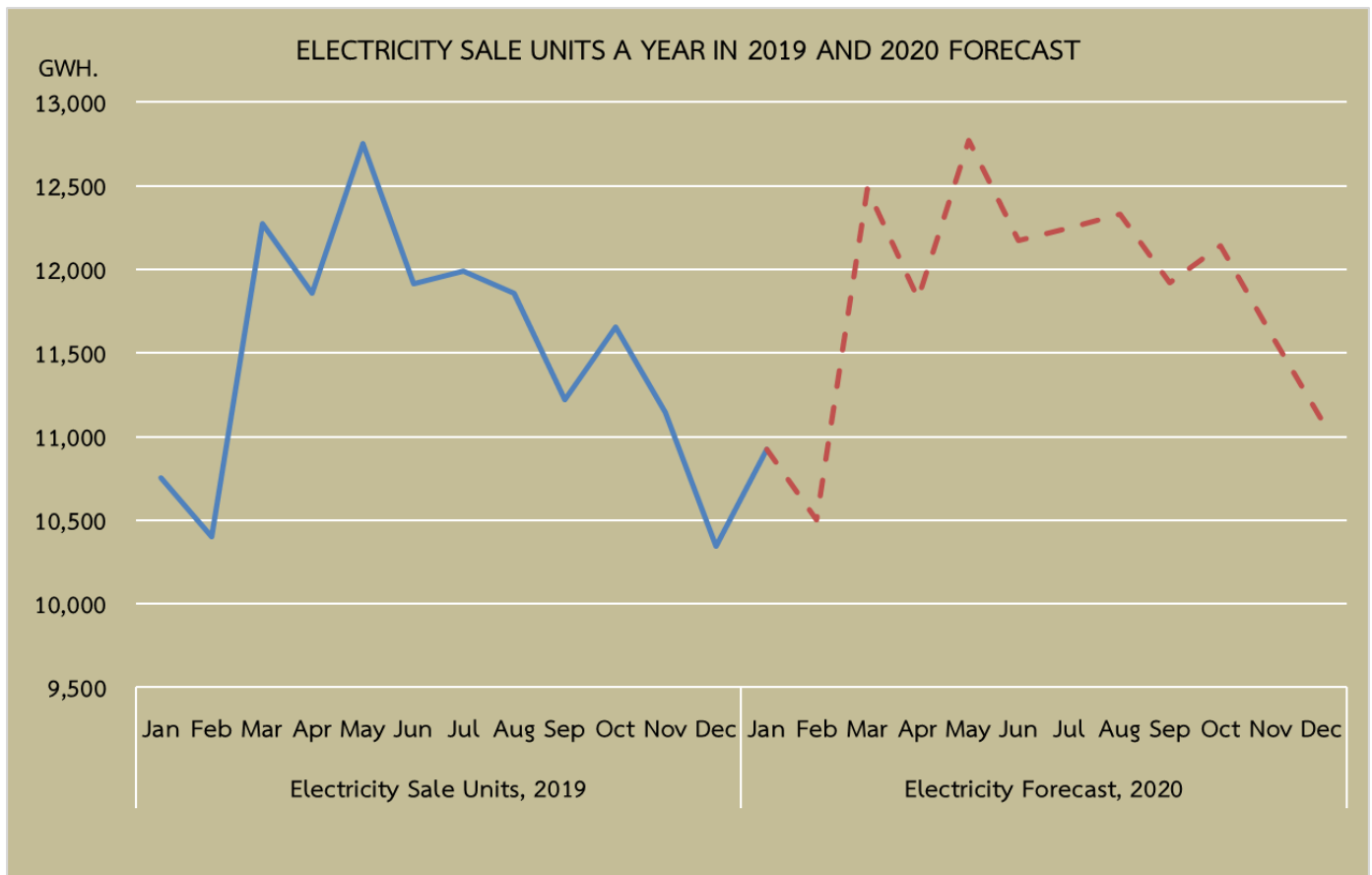
**Automotive Industry** diminished at 7.45% YoY following a fall in vehicle's sales in domestic and international. In 2019, the production was 2,013,710 cars which declined 7.1% YoY.

**Plastic Segment** accumulated by 3.19% YoY, thanks to an increase in plastic container and others at 1.78% and 3.70% YoY.

**Sales & Hotel sector** increased by 4.48% YoY due to 39.7 million visitors which travelled to Thailand expanding 4.2% YoY.

**The Social Services sector** rose 5.91% YoY, in consequence of electricity consumption for hospitals, universities, schools and local administration.

**Agricultural sector** varied by 5.35 % YoY, on account of an increase of 6.15% in electricity consumption of livestock which proportionally was 54.13% of agricultural sector. These related to domestic demand for food.



### Electricity Sale Forecast

The electricity sales in 2019 expanded 2.60% YoY which was lower than approximation growing 3.81% YoY (approximated in September 2018). Now that, the main factor was trade war causing a dip of electricity demand for manufacturing sector.

PEA forecasts the electricity sale situation in 2020 to improve. The committee approximated that will be expanded 1.53% YoY. There were many factors to impact the electricity sales 2020.

### Positive factors

#### Technology

At present, there was an increase in usage of smart phones and tablet for commercial, financial transaction and entertainment like watching movies or series. These caused an upward trend in electricity consumption of smart devices in household.

### Government Policy and measure

Governmental plan in 2020 hastily solved problems in poverty by 5 measures. There were

1. Farmers: creating entire and BCG agriculture.
2. Low-income: providing welfare by career improvement's group and solving loan sharks' problem.
3. Elder People: hiring elder people and giving suitable welfare.
4. Employee: launching measure for reducing cost of living, relieving loan sharks, improving skills and looking jobs for people who was laid off.
5. SME and Startups' entrepreneurs: improving innovation, knowledge, fund and conditions for entrepreneurs.

Moreover, these was other measures such as

- A reduction in criteria of Loan to Value (LTV) which help co-loan seeker easily ask for credit because a previous borrowing wasn't brought to be constrain.

- A decrease in Prepayment charge which was calculated from balancing and interest of overdue payment. Apart from, a return of Debit and ATM card's fee.

Besides, there was policies about infrastructure to support long-term economic such as

- Sky Trains' construction
- EV Car's support
- Construction of Motorways and high speed sky trains
- EEC

#### **Weather**

There has expected that temperature become hotter and there will be drought. These resulted in a high electricity consumption for cooler and ice factory. In addition, PM 2.5 caused high demand for air purifier affecting an increase in electricity consumption of household.

#### **Policy Rate**

A decrease in policy rate reduced a financial cost supporting business investment.

#### **Negative factors**

##### **Global Economic**

Trade barrier was continuously severe amongst U.S.A. and partnerships such as an uncompleted trade negotiation with China, a limited trade deal with Japan and Thailand's GSP disqualification.

Political conflict like China and Hong Kong might cause civil war and trade barrier.

##### **Epidemic**

Corona virus spread in China directly affecting to Thailand's economic, now that Chinese tourists plummeted in High Season which caused a drop in income of hotel, transportation, wholesale and retail businesses affecting money flow in economic.

Moreover, there was an effect on agricultural sector because there has been the amount of durian's orders from China before Corona virus spread causing order cancelation. These affected a drop in farmers' income while the cost had already happened which might cause a rise in debt of agricultural sector.

#### **Natural Disasters**

In term of economic, drought affected to industrial and agricultural sectors which had high demand for water. Besides, there was a negative effect on goods production and crop, especially rice export which had a domino effect on income of workers and farmers relating to a drop in household income.

#### **Household Sector**

Household income plunged which culminated in a fall in household consumption and an escalation in debt service. Although there was a flow-on effect on saving less and more reliance on government's support.

#### **Technology Transformation**

Customers in industrial sector easily access technology for generating electricity, especially Solar Cell installation or VSPP which didn't connect to PEA's distribution system. These caused more self-generation and less electricity's buy from PEA.

#### **Customer Behavior**

At the present, Consumers immediately altered their behaviors causing maladjustment of some businesses in short term that businesses were ruined.

#### **Baht Currency**

The wild fluctuation in Baht currency caused hard control and expectation in economic direction resulting difficult to appraise the direction and launch control measures.