

# Thailand's Industrial and Commercial Sector

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# Presentation outline

**1**

*Thailand: Energy and Economy (Macro level)*

**2**

*Energy Efficiency Plan: EEI*

**3**

*Thailand energy data system: Factory and Buildings (Micro level)*

**4**

*Capacity Building to Factory and Building sector*

**5**

*Lesson learned & Conclusions*

## **Thailand: Energy, Economy**

### **Macro scale indicators**



- **Energy consumption: 0.9% of world consumption**
- **GHG emission: 0.8-0.9% of world emission**

## Energy & Economy

Year **2017**



Final energy  
consumption  
**87,149** ktoe



Petroleum products  
consumption  
**40,667** ktoe



Electricity  
consumption  
**185,066** GWh



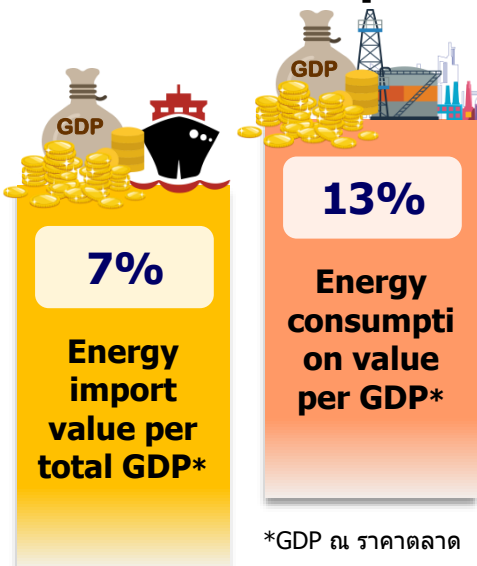
GDP  
**10,207** billion  
Baht



Population  
**66,189**  
thousands

- Energy data from EPPO & DEDE
- GDP from NESDB
- Year 2018: 1 US Dollar = 30.72 Thai Baht

## Year 2017 compared with 2016



\*GDP ณ ราคาตลาด

Energy elasticity to GDP (EE)

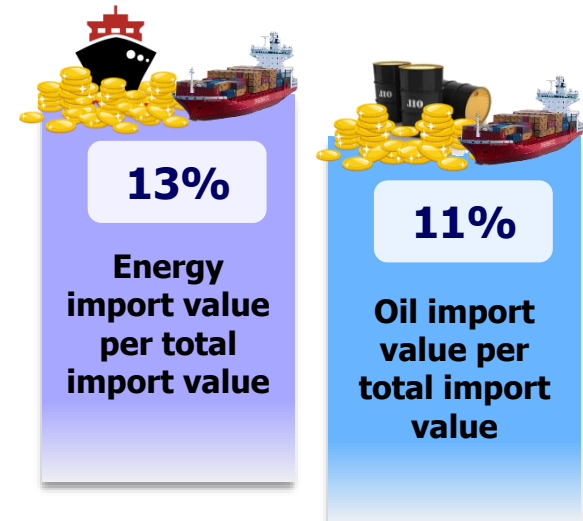
= **0.31**

Energy Intensity (EI)

= **8.49\*\***

\*\* ktoe/Billion Baht

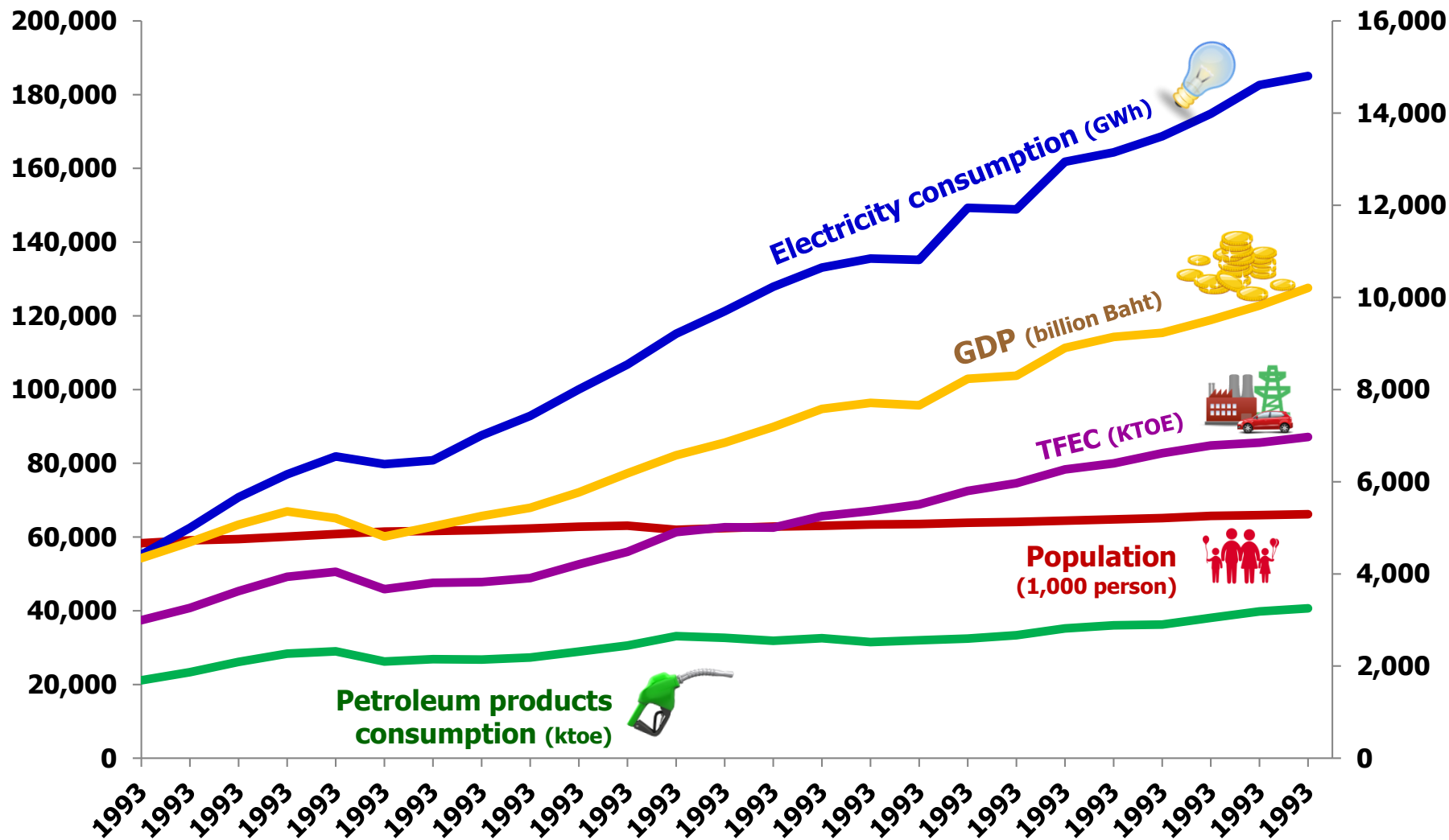
## Major Indicators



# Energy consumption, GDP, Population

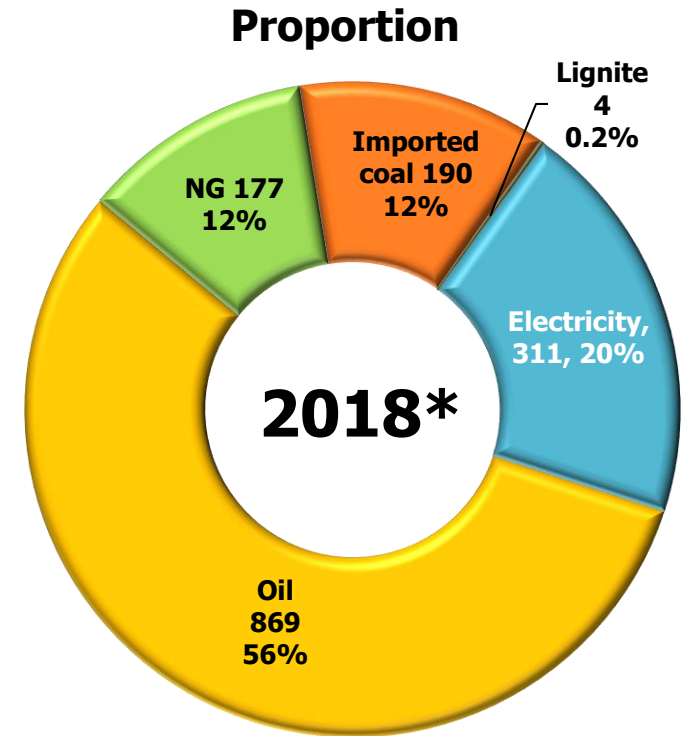
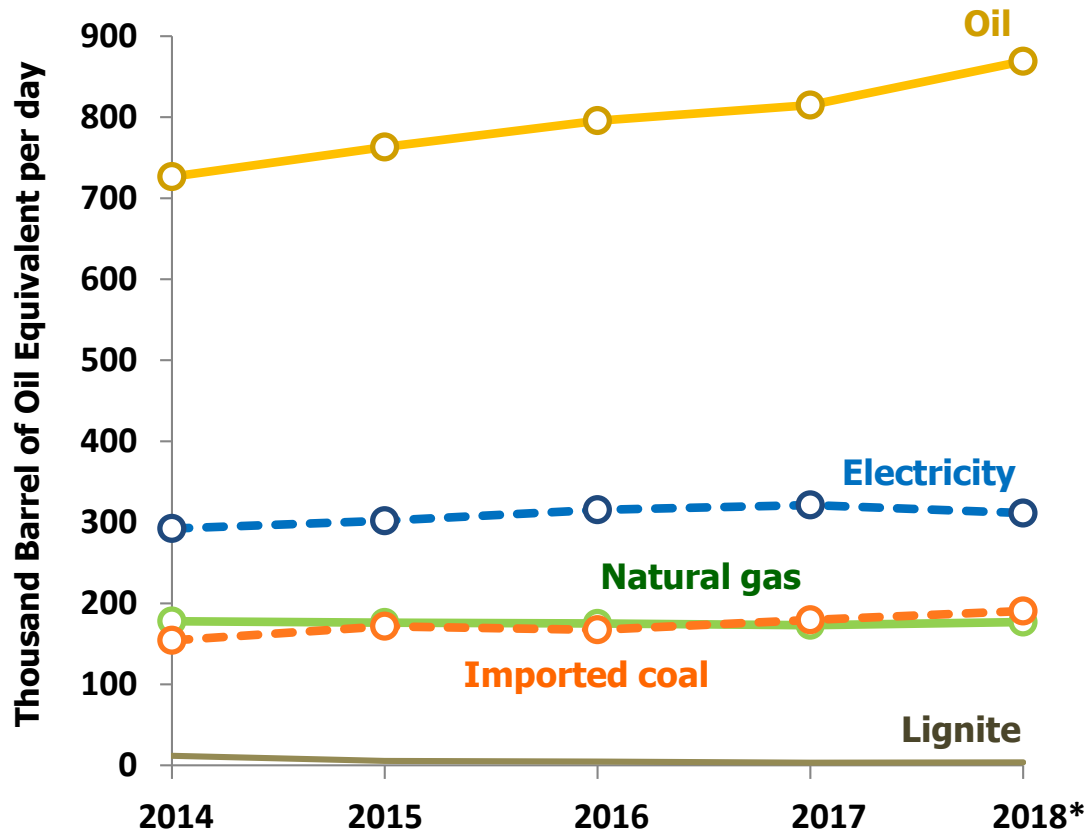
ktoe, GWh, thousand person

Billion Baht



Source: NESDB, EPPO, DEDE

# Final commercial energy consumption: Thailand



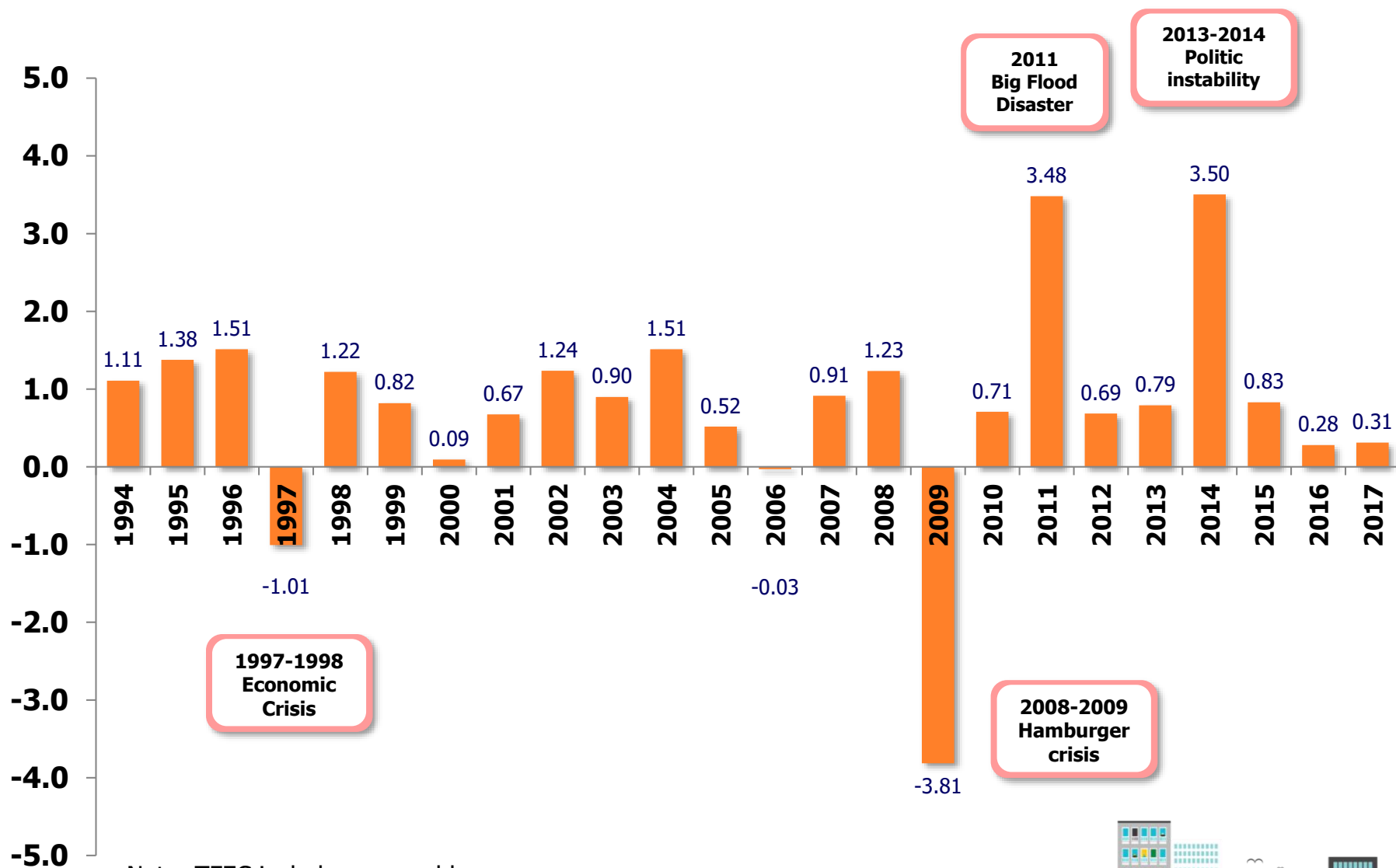
**Total 1,551  
Thousand Barrel of Oil Equivalent  
per day**

\* Jan to March



**Final energy consumption  2.5%**

# Energy Elasticity to GDP : EE (Annually)

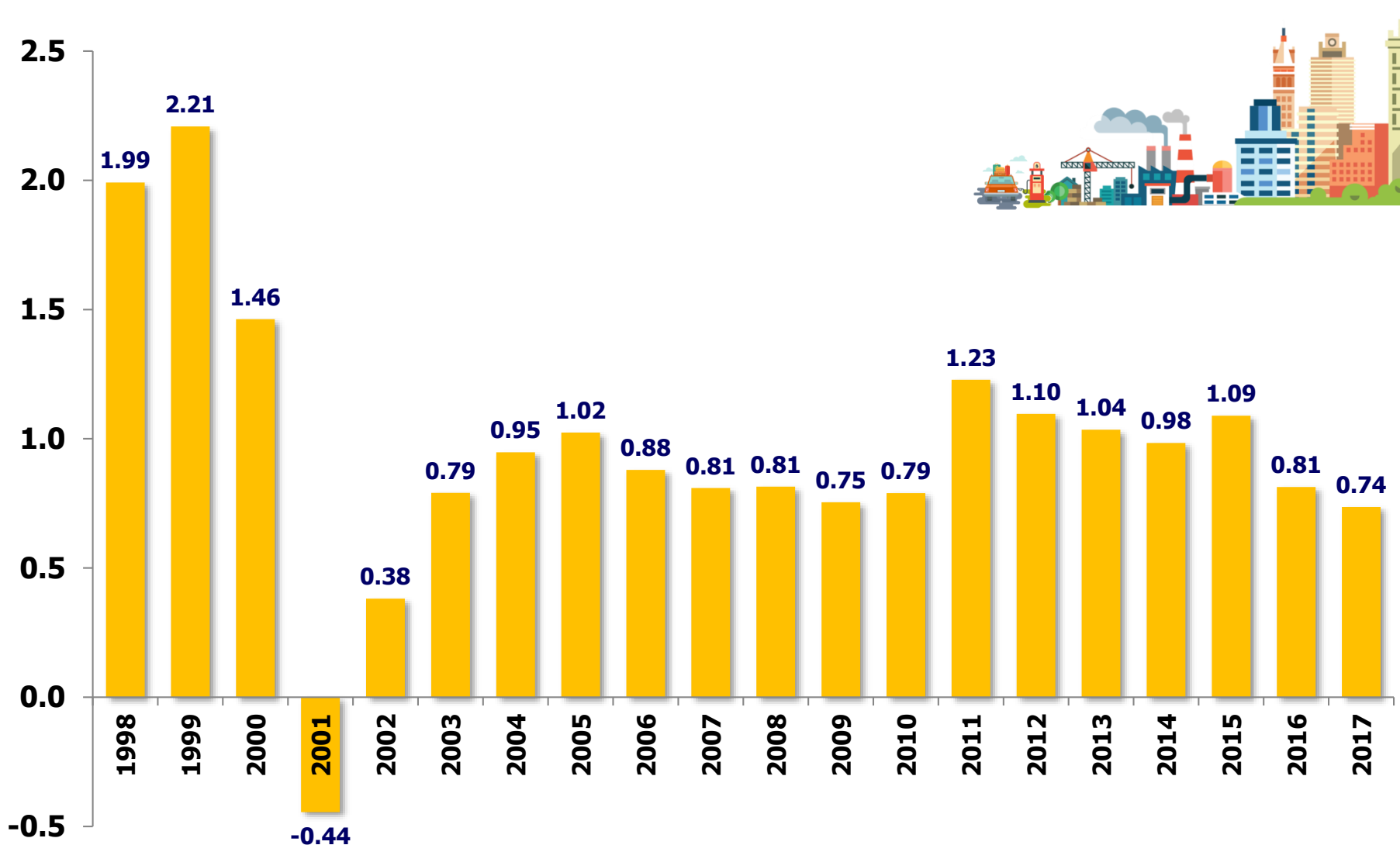


Note: TFEC includes renewable energy

Source: NESDB, EPPO, DEDE



# Energy Elasticity to GDP : EE (5-year average)

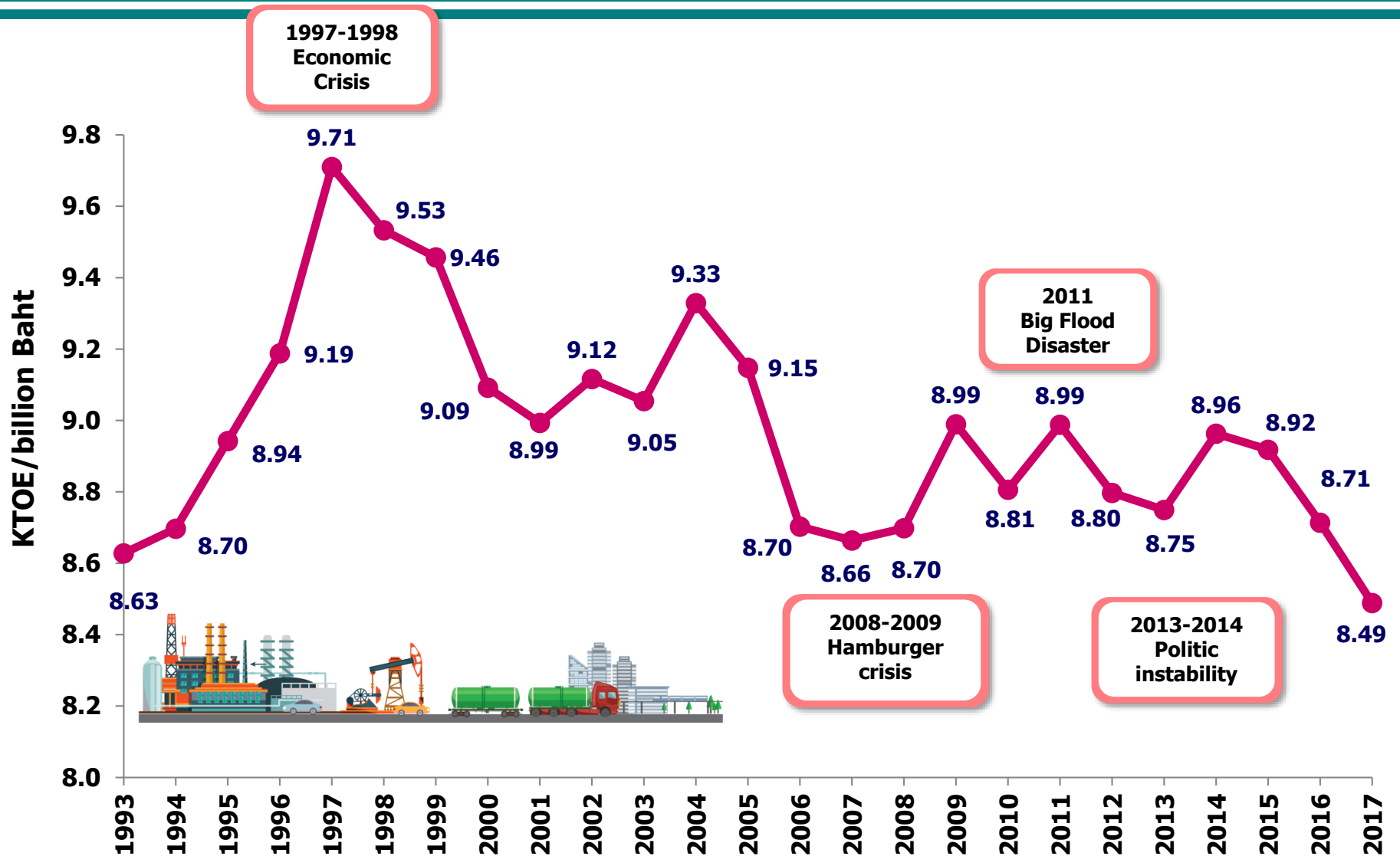


Note: TFEC includes renewable energy

Source: NESDB, EPPO, DEDE



# Energy Intensity : EI



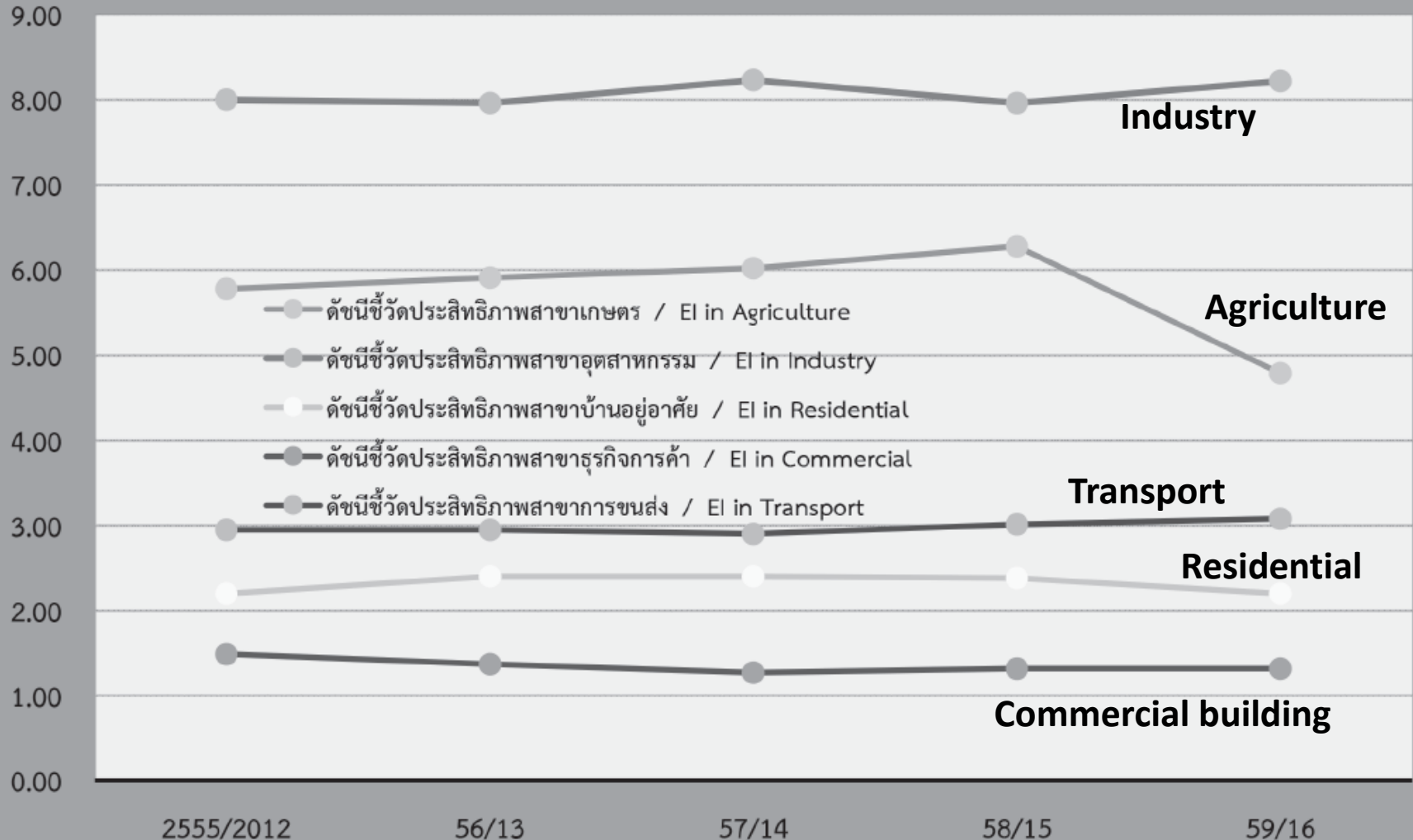
Note: TFEC includes renewable energy

Source: NESDB, EPPO, DEDE

# Energy Intensity : EI

พินตันเทียบเท่าน้ำมันดิบ / พินล้านบาท

ktoe / thousand million Baht



## Energy security

### R/P ratio\*\*\*\*

- Crude oil (year)
- Natural gas (year)

3



5



อัตราส่วนการพึ่งพาตนเอง  
ในการจัดหาพลังงาน  
ขั้นต้น\*\*(%)

57



B100\* domestic  
production (Million litre/day)

4.67



Ethanol\* domestic  
production (Million litre/day)

4.44



### Energy value \*\*\*

- Energy import value  
per total import  
value (%)
- Energy export value  
per total export  
value(%)

13.3



2.7



## Energy Efficiency

Energy elasticity to  
GDP  
(Year 2008 to 2017)

0.9155



Electricity elasticity to  
GDP (Year 2008 to 2017)

1.1408



Energy intensity (EI)  
\*\*\*  
(TOE/billion Baht)

8.5



Electricity per GDP\*\*\*  
(GWh/million Baht)

18.1



Per capita final energy  
consumption\*\*\*  
(TOE/capita)

1.32



Per capita final electricity  
consumption \*\*\*  
(kWh/capita)

2,796



## Energy & Environment

CO<sub>2</sub> emission per  
energy consumption\*\*  
(kton CO<sub>2</sub>/KTOE)

1.96



CO<sub>2</sub> emission per  
capita\*\*\*  
(ton CO<sub>2</sub>/capita)

3.89



CO<sub>2</sub> emission per  
GDP\*\*\*  
(ton CO<sub>2</sub>/million Baht)

25.21



CO<sub>2</sub> emission per  
electricity generation \*\*  
(kg CO<sub>2</sub>/kWh)

0.472



หมายเหตุ : \* as of March 2018  
\*\* as of January to March 2018  
\*\*\* year 2017 data  
\*\*\*\* year 2016 data

= Good = Fair = Need to improve

All indicators evaluate by comparing to same previous year period, except Energy elasticity and Electricity elasticity to GDP compare to 1.0

***Thank you  
Kob khun krub***

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**Please** *Help Save the World !!!*

