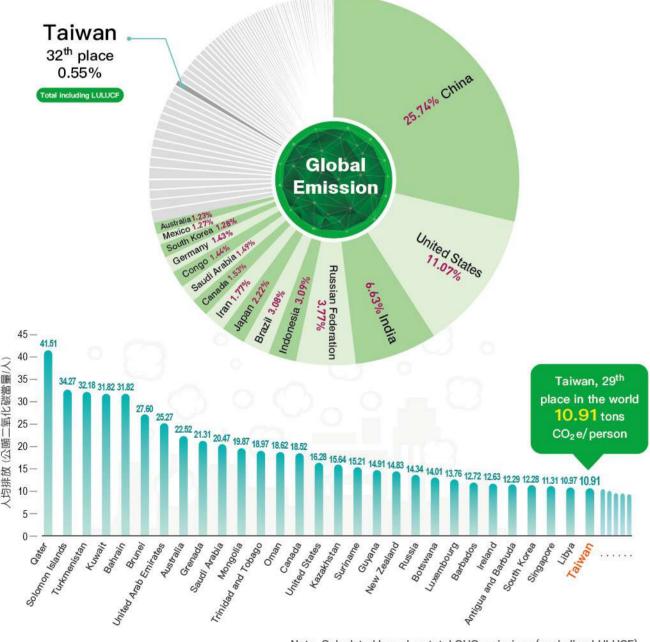
Global Share of Taiwan's Greenhouse Gases Emission

Taiwan belongs to the island-type independent energy system. More than 98% of energy is imported. The economy is quided by export trade.

The industrial structure is mainly manufacturing, in which semiconductor industry output value accounts for 26.2% of the world, ranking the second in the world. The annual growth rate of output value reaches 26.8%, which is better than that of the world(26.2%) in 2021.

But Taiwan's greenhouse gases emission only makes up 0.55% of the global amount. The major industries are continuing to reduce greenhouse gases emission in order to maintain their international competitiveness. However, as it subscribes to the non-nuclear homeland policy, Taiwan is facing greater difficulty as it endeavors to further reduce emissions.

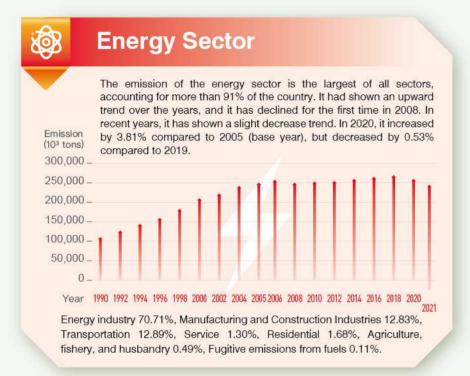


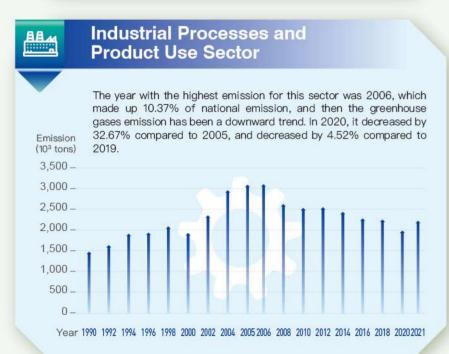
Note: Calculated based on total GHG emissions (excluding LULUCF)
Ref.: World Resources Institute (WRI) Climate Watch

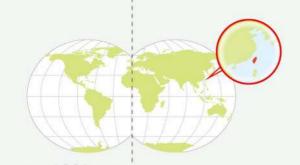


Trends of Various **Emission Sources**

The emission sources in Taiwan come from five major sectors: energy, industrial processes and product use, agriculture, land use change and forestry and waste.









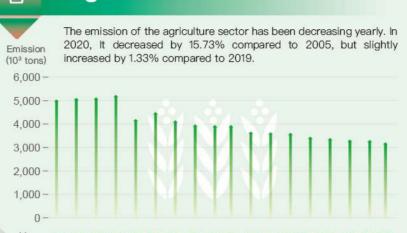


0.90%

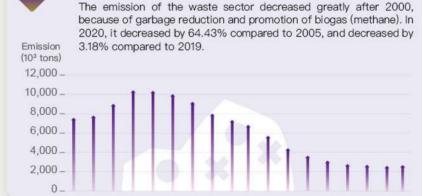
90.55%



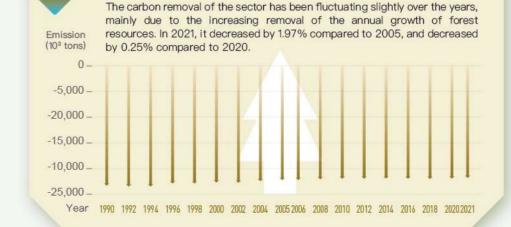
Agriculture Sector



Waste Sector



Land Use Change and **Forestry Sector**



Emission Trends of Greenhouse Gases

Emission share of each greenhouse gas



(103 tons)

14.000

12.000 10,000

8,000

6.000

4.000

2,000

6.000 -

5,000 -

4,000 -

3,000 _

2,000 -

1,000

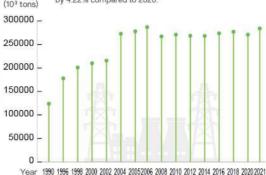
CO₂

CH₄ 2nd

Total fluoride gases 1.36%

CO₂ Carbon dioxide

The primary emission sources are Energy Sector and Industrial Processes and Product Use Sector. In 2021, it increased by 6.25% compared to 2005, and increased by 4.22% compared to 2020.



CH₄ Methane

The primary emission sources are Agriculture Sector and

Waste Sector. The annual emission of methane has been

garbage reduction, zero landfill of waste, biogas recovery

compared to 2005, and decreased by 3.57% compared to

for power generation, rising connection rate of sewage,

decreasing since 2000, mainly due to promotion of

three-stage treatment of livestock excrements, and

Year 1990 1996 1998 2000 2002 2004 20052006 2008 2010 2012 2014 2016 2018 2020 2021

N₂O Nitrous oxide

The primary emission sources are Industrial Processes

Sector. In recent years, nitrous oxide emission has slowed down. Although it increased by 14.08% in 2020

fertilization and the implementation of fallow crop by Council of Agriculture, Executive Yuan

and Product Use Sector, Agriculture Sector, and Energy

compared to 2005, the emission of agriculture sector has

decreased by 19.24%, mainly due to promotion of rational

farmland reduction. In 2021, it decreased by 53.16%

decreased by 0.68% in 2021 compared to 2005. In recent years, the impact of COVID-19 has caused a slight increase in HFC emissions. 3,000 -2,500 2.000 1.500 1.000

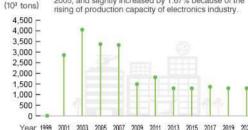
500

HFCs Hydrofluorocarbons

After the closing of the only HFCs producing plant in

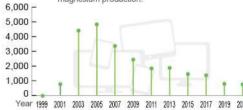
PFC_s Perfluorocarbons

Since 2004. Taiwan Semiconductor Industry Association has cooperated with the government to promote the voluntary reduction scheme, including the introduction of waste gas disposal and the improvement for the manufacturing process by semiconductor and optronic industries, which has led to a gradual reduction of emissions. In 2021, it decreased by 57.59% compared 2005, and slightly increased by 1.67% because of the rising of production capacity of electronics industry.



SF₆ Sulfur hexafluoride

2005, mainly due to the lower usage amount in TFT flat screen display, power equipment, and magnesium production



NF₃ Nitrogen trifluoride

(103 tons) 800 -700 -600 -500 -400 -300 -200 -Year 1990 1996 1998 2000 2002 2004 20052006 2008 2010 2012 2014 2016 2018 2020 2021

