

## **Clarification about the 'Taiwan's Drought Threatens Production of Chips'**

### **I. Background: Foreign media have reported that Taiwan's drought may exacerbate the semiconductor crisis.**

1. The average annual precipitation in Taiwan is 2,600mm. Reservoir capacity is usually filled by typhoons and wet seasons. Yet, in 2020, no typhoons hit the island for the first time in 56 years, putting water supplies in reservoirs around Taiwan at dire levels.
2. As recent foreign media have published, Taiwan's drought may exacerbate the global shortage of semiconductors. Consequently, the international community believes that the excessive concentration of chip production capacity in Taiwan poses risks to global supply chains.

### **II. Taiwan's responses**

#### **1. Chip shortage**

- (1) The global imbalance in the supply and demand for semiconductors during the pandemic is caused by several factors, including:
  - Auto chip customers cut orders for automotive electronic chips after the outbreak of the coronavirus last year.
  - Increase in demand for consumer electronics and home office products.
  - Rising demand of electric cars.
- (2) The Taiwanese government is fully aware of the impacts caused by the surge in global chip demand. The Ministry of Economic Affairs has actively coordinated with chip firms to provide full assistance. The firms have agreed to improve

production efficiency, increase production capacity, and negotiate with pre-existing customers to reallocate product output, thereby meeting demands and alleviating the shortage.

## **2. Taiwan's semiconductors running at full capacity**

Currently, semiconductors in Taiwan are being produced at full capacity. In January 2021 (before the drought), Taiwan's semiconductor exports totaled US\$11.92 billion, for an increase of 46.3%. In March, at the start of the drought, our semiconductor exports reached US\$12.15 billion, up 24.4%. From January to March 2021, the cumulative value of our semiconductor exports amounted to US\$33.81 billion, for a rise of 28.2%. During this period, orders for electronic product exports amounted to US\$46.22 billion, for an increase of 46.4%. Hence, these figures indicate that there should be no concern about Taiwan's semiconductor supplies.

## **3. Taiwan's measures against the drought**

- (1) In the face of Taiwan's most severe drought in 56 years, the government has been implementing proactive measures. In October last year, the water authority launched drought-relief measures to strengthen water supplies by conserving more water, searching for more water sources, and dispatching and using water more efficiently. At present, the water capacity in northern reservoirs is relatively sufficient. Yet, since the semiconductor industry is concentrated in Hsinchu (northern part of Taiwan), work has been accelerated to complete the main backup pipeline and dispatch water from the Shihmen Reservoir to Hsinchu. In addition, measures have been

adopted to establish backup wells, emergency desalination units and other facilities so that backup water resources can reach 272,000 tons per day, which would meet 50% of Hsinchu's daily water consumption of the 540,000 tons.

- (2) Measures are also being adopted in the Taichung area (central Taiwan) to promote water utilization at construction sites, subterranean water development, 88 newly drilled drought-resistant water wells, as well as emergency desalination and large-scale water purification equipment. It is estimated that water capacity will increase an additional 243,000 tons per day by the end of May.
- (3) In the southern region, measures have been taken to efficiently dispatch and use regional water resources, strengthen water diversion and storage, re-pump existing groundwater, and drill new drought-resistant wells. This is expected to increase the daily water capacity by the end of May to 483,000 tons, and thus improve the stability of water supplies.
- (4) The Hsinchu Science Park, Taichung Science Park, and Southern Taiwan Science Park are equipped with water distribution pipes. The pipelines can reduce water supply without cut-offs. Manufacturers are also being assisted through water storage facilities and water-truck supplements to meet demands for production. Therefore, there is no impact on industrial production.
- (5) Mr. Wei Zhejia, president of the TSMC, said that water supplies in Taiwan are indeed tight, mainly due to the lack of rain. However, the TSMC will work with the Taiwanese government

to ensure sustained operations. In addition, the TSMC has formulated an emergency response plan on water rationing, turning wastewater into a backup water source, thereby ensuring that productivity is not affected by the water shortage. Moreover, the TSMC plans to invest US\$100 billion to build new production lines within the next three years in order to expand production capacity.

#### **4. Conclusions**

To date, Taiwan's semiconductor exports and orders are growing. Owing to proactive drought-relief measures taken by the government, the water shortage has not affected any industries, including chips. It also guarantees that Taiwan will continue to provide the necessary semiconductors sufficiently, while maintaining the stability of global supply chains.