



# CHAPTER 3 FACILITATING ENVIRONMENTAL SUSTAINABILITY

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## 3.1 Sustainable Finance

### 3-1-1 Promotion of Green Finance

TPEX hopes to promote sustainable products and green finance encourages enterprises and investors to provide further consideration to environmental, social and corporate governance issues. The virtuous cycle will enable Taiwan to accelerate the low-carbon transition and to realize a sustainable development vision.

In line with the government's "Green Finance", TPEX launched Green Bond, Sustainability Bond and Social Bond Market during 2017 to 2021. To complete the range of sustainable products, TPEX also launched Sustainable Bond Market. The "Taipei Exchange Operation Directions for Sustainable Bonds" helps the green energy technology industry and green investment projects obtain medium and long-term funds, with no investments in fossil fuel power projects. The funds shall not be used for projects that increase greenhouse gas emissions, so as to assist the government to drive Taiwan's transformation into a green economy as moves forward to becoming a low-carbon sustainable environment. Sustainable bond issuers have diversified considerably in recent years, covering local banks, local branches of foreign banks, state-owned enterprises, domestic private producers, and foreign financial institutions, etc.





### Green Bond Qualification Recognition and Required Documents

 <b>Issuer</b>	 <b>Scope of bonds approved for green bond qualification</b>	 <b>Required documents</b>
<p><b>Certification:</b> Acquire green bond accreditation from TPEX</p> <p><b>Issuance and listing:</b> Apply for listing in accordance with product issuance and Main board listing specifications</p>	<p><b>Bonds with no equity nature</b> Ordinary corporate or financial bonds, international bonds, NT dollar denominated foreign ordinary bonds, beneficiary securities, asset-backed securities, Islamic fixed income securities (Sukuk), and government bonds issued domestically</p>	<ul style="list-style-type: none"> <li>Green investment proposal</li> <li>Assessment opinion or certification of the proposal</li> <li>Qualification documents of the certification body</li> <li>Other necessary proof or information</li> </ul>



## Renewable Energy Development and Low Carbon Transition (2017~2021)

### 1 Issuance of Stainable Bonds

Company name	Number of bond(s) issued	Issued amount	Investment plans
 <b>Taipower</b> 台湾電力公司	11	NT\$ 43.85 billion	Solar, wind, hydroelectric and geothermal energy generation
 <b>Orsted</b> 沃旭能源	5	NT\$ 27 billion	Offshore wind power construction
 <b>ECOVE</b> A CTCL Company	1	NT\$ 1 billion	Solar power construction
 <b>Chailease</b> 中租迪和 CHAILEASE FINANCE	3	NT\$ 4.2 billion	Solar power construction

### 2 ESB registration: A total of 21 green energy and 3 renewable energy businesses were registered on Emerging Stock Board

#### 2021 publicity and promotion activities

- 3 online bond promotion and briefing sessions to introduce the sustainable bond market to the issuers, underwriters, and certification bodies respectively.
- 1 online "Promotional Seminar on the Sustainable Bond Market Special Board and Social Bond Market Introduction" to introduce the system of Social Bond and Sustainable Bond.
- There are 12 visits to issuers and intermediaries to introduce and promote the issuance and investment of Social Bond.





#### International participation

- In 2018, TPEX became a member of the Climate Bonds Initiative (CBI).
- In 2018, TPEX received the award and certification of the "Exchanges introducing new listing guidelines in 2017", which was selected and awarded by the Green Bond Pioneer Awards Committee (Note 1).
- In 2021, TPEX became a member of the International Capital Market Association (ICMA).

Note 1: The Green Bond Pioneer Awards Committee was jointly set up by the CBI and the London Stock Exchange Group

## 3-1-2 Climate Change Governance

Given the intensifying impact of climate change, the international community is paying increasing attention to climate-related risks. While facing negative climate impacts, enterprises may also identify climate-related opportunities. As such, exchanges have gradually formed a consensus on the importance of promoting climate change-related disclosures and strategies. In October 2020, TPEX formally support the Task Force on Climate-related Financial Disclosures (TCFD) and performed a preliminary assessment. The relevant impacts and response strategies of TPEX are as follows:

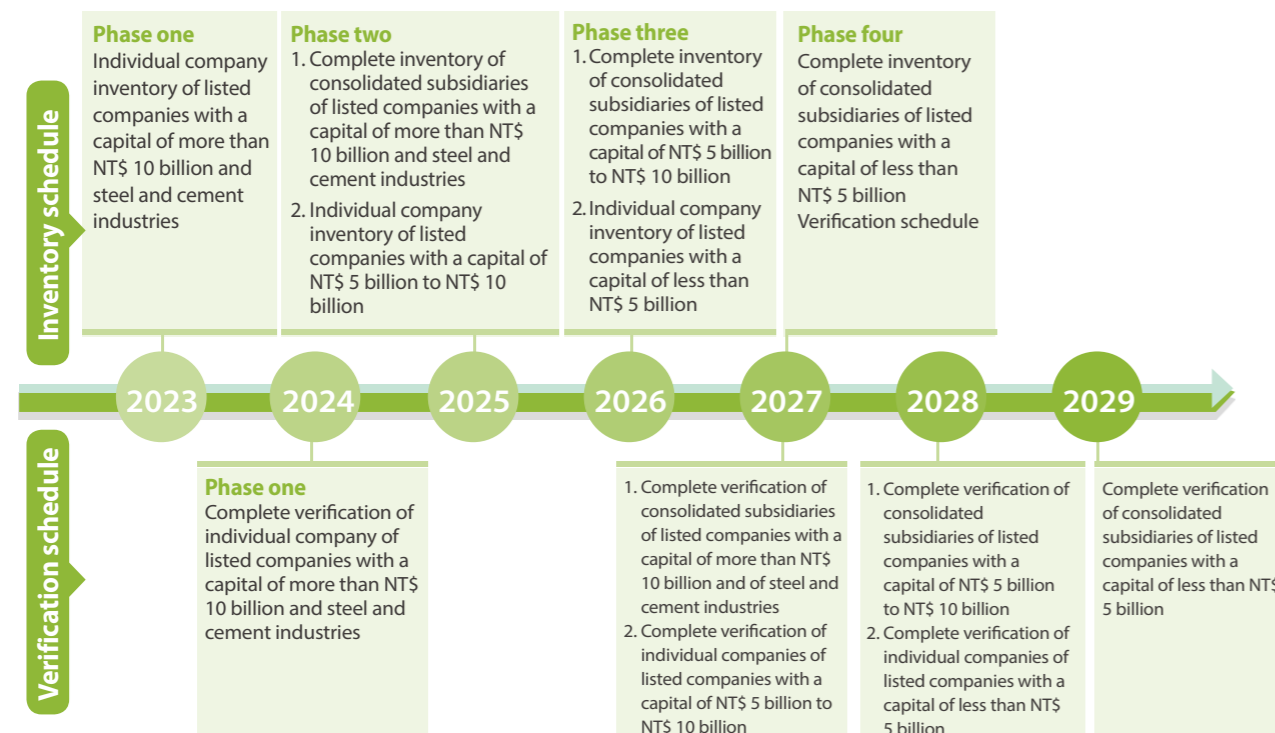
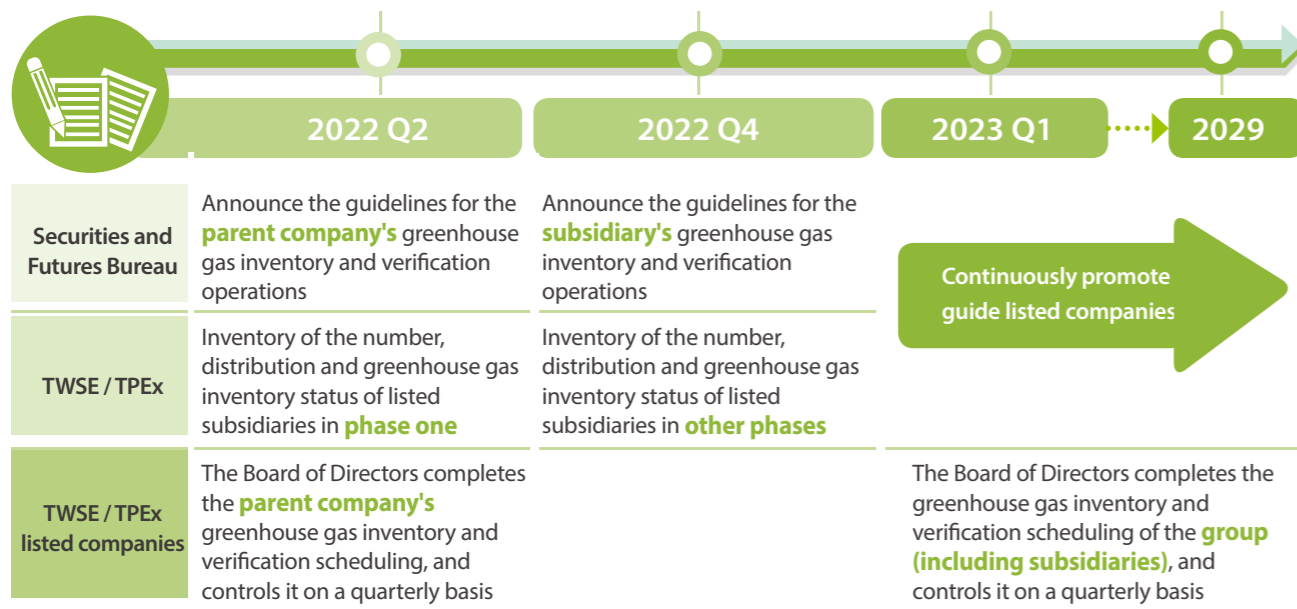
	Climate-related factors	Impact description	Response strategies
<b>Environment-related risks</b> 	The disclosure requirements of carbon emissions	Policies and regulations drive the disclosure of greenhouse gas emissions and proposal of carbon reduction goals, increasing operating costs	<ul style="list-style-type: none"> <li>Plan the requirements and schedule of TPEX's greenhouse gas emissions inventory</li> <li>Promote energy conservation plans and set annual energy conservation goals</li> </ul>
	The government strengthens the requirements and Supervisions of TPEX market enterprises	Policies and regulations strengthen the supervision of energy-intensive or climate change-related industries, impacting industry structure and raise the threshold for entering the capital market	<ul style="list-style-type: none"> <li>Revise relevant laws and regulations such as the "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TPEX Listed Companies" to promote and assist companies in introducing climate change risks and opportunities</li> </ul>
	Extreme weather events strike operating sites and disrupt operations	Extreme weather events affect operating sites as well as facilities and systems, the most severe of which may cause operation disruption.	<ul style="list-style-type: none"> <li>Regularly track and report climate change trends, establish a notification mechanism for major events and conduct regular drills</li> <li>Regularly conduct drills in the remote backup center and review the current ISO 22301 and Business Continuity Plan (BCP) to strengthen the timeliness of key system recovery</li> </ul>
<b>Environment-related opportunities</b> 	Development of products and services related to sustainable finance	<ul style="list-style-type: none"> <li>In response to government policies and regulations to promote sustainable development, guide the investment and development in green energy technology, renewable energy industries</li> <li>Increased market demand for paperless, digital, and mobilized services and products</li> </ul>	<ul style="list-style-type: none"> <li>Assist green finance and climate change adjustment related concept industries to enter the capital market</li> <li>Develop and promote sustainable financial products and digital financial services to invigorate trading</li> <li>Continue to simplify internal processes and promote paperless and digital service</li> </ul>
	Promote green procurement and evaluate carbon reduction plans	<ul style="list-style-type: none"> <li>Become a benchmark for promoting energy saving and renewable energy to enhance potential reputation and increase market opportunities</li> <li>Improve operational resilience in response to future carbon emissions disclosure and carbon reduction plans</li> </ul>	<ul style="list-style-type: none"> <li>Evaluate the renewable energy or purchase the renewable energy certificates</li> <li>Plan the carbon inventory and understand current energy usage</li> </ul>



The "Rules Governing the Preparation and Filing of Corporate Social Responsibility Reports by TPEX Listed Companies" requires listed companies to strengthen climate-related disclosures. TPEX is now mulling over the international standard TCFD examples to promote enhanced disclosure and address listed companies' climate risks with reference to international standards and best practices.

In line with the government's 2050 net-zero carbon emission target, TPEX will establish a schedule for the disclosure of greenhouse gas inventory of listed companies, so that companies can follow and set carbon reduction targets; and cooperating with the government's carbon reduction plan, through connecting the supply chain of listed companies.

### The matters



## 3-2 Green Operations

TPEX mainly engages in securities trading and information services and has been no instance of violations against environmental regulation or complaints received to date. However, TPEX still shoulders the mission of operating sustainably and integrating environmental values into business policies at all levels. These initiatives include digitalized administrative processes, selection of environmentally friendly materials for office equipment, promotion of energy conservation, and reduction of paper consumption. TPEX has signed the contract of solar energy for ten years which will be supplied to TPEX since January 2022.

### 3-2-1 Energy/carbon Management

TPEX offices and information centers use purchased electricity (non-renewable), while a smaller percentage of energy use entails fuel consumption by official vehicles. In 2021, the total electricity consumption of TPEX was 906,900 kWh, an increase of about 1%, which was due to some employees working overtime in line with market testing or related business needs. The total amount of oil used in 2021 was 5,642 liters, a decrease of about 11%, which was due to the reduction of official visits causing by the pandemic.

#### Energy consumption

Energy consumption	2020	2021
Purchased electricity (kWh)	898,697	906,900
Purchased electricity (GJ)	3,235.31	3,264.84
Vehicle gasoline (liter)	6,333	5,642
Vehicle gasoline (GJ)	206.82	184.25
Total energy consumption (GJ)	3,442.13	3,449.09
Energy intensity (GJ/person)	11.59	11.94

Note 1: All data of this report for 2020 and 2021 cover the TPEX Guting Office in Taipei City, Banqiao Office in New Taipei City and remote backup server room in Taichung City. Purchased electricity, vehicle gasoline, total energy consumption, and energy intensity calculations are all rounded to two decimal places.

Note 2: The electricity purchased by the Guting Office in Taipei City is based on the metered number specified on Taiwan Power Company's utility bills; those of other locations are based on the metered numbers stated on respective property management service providers' statements.

Note 3: The heating value coefficient is based on the GHG Emission Coefficient Management Table version 6.0.4 issued by the Environmental Protection Administration, according to which vehicle gasoline is 7,800 kcal/ liter.

Note 4: 1 gigajoule (GJ) = 10<sup>9</sup> joules (J); 1 kilocalorie (Kcal) = 4186.8 joules (J); 1 kilowatt-hour (kWh) = 3.6 megajoules (MJ).

Note 5: Energy intensity is calculated based on the number of employees on December 31 of the year, which was 297 in 2020 and 289 in 2021



### Greenhouse gas emissions

Greenhouse gas emissions	2020	2021
Scope 1 (tCO2e)	14.91	13.29
Scope 2 (tCO2e)	457.44	456.30
Gross emissions (tCO2e)	472.35	469.59
Emission intensity (tCO2e/person)	1.59	1.62

Note 1: All data of this report for 2020 and 2021 cover the TPEX Guting Office in Taipei City, Banqiao Office in New Taipei City and remote backup server room in Taichung City. Purchased electricity, vehicle gasoline, total energy consumption, and energy intensity calculations are all rounded to two decimal places.

Note 2: This report adopted the operational control approach for greenhouse gas emissions inventory check. The calculation goes: activity data\*emission coefficient\*GWP value (the emission coefficient is based on the GHG Emission Coefficient Management Table version 6.0.4 issued by the Environmental Protection Administration and the GWP value is quoted from the IPCC's Fifth Assessment Report (2013)). Greenhouse gases include CO2, CH4, N2O, HFCs.

Note 3: The electricity purchased by the Guting Office in Taipei City is based on the metered number specified on Taiwan Power Company's utility bills; those of other locations are based on the metered numbers stated on respective property management service providers' statements.

Note 4: The calculation of greenhouse gas emission intensity includes Scope 1 and Scope 2 greenhouse gas emissions; Scope 2 GHG emissions comprise mainly purchased electricity. The calculation adopted the 2019 electricity emission factor of 0.509kg CO2e/kWh in 2020, and the 2020 factor of 0.502kg CO2e/kWh in 2021 issued by the Bureau of Energy.

Note 5: Emission intensity is calculated based on the number of employees on December 31 of the year, 297 in 2020 and 289 in 2021

In terms of electricity management, TPEX practices division of responsibility and regular tracking, using energy-saving lamps, enhancing insulation and maintaining air-conditioning facilities regularly to improve efficiency.

In addition, colleagues are reminded to practice energy conservation from time to time, including turning off air-conditioning in unused spaces, using only necessary lighting, and shutting doors to avoid air-conditioning leakage. Before leaving the office, colleagues are asked to turn off the power of all electrical equipment and remove unnecessary plugs. The last person of each department leaving the office should check whether power has been turned off. Before the consecutive holidays, colleagues are also reminded to turn off all unused electrical appliances and unplug power supplies.

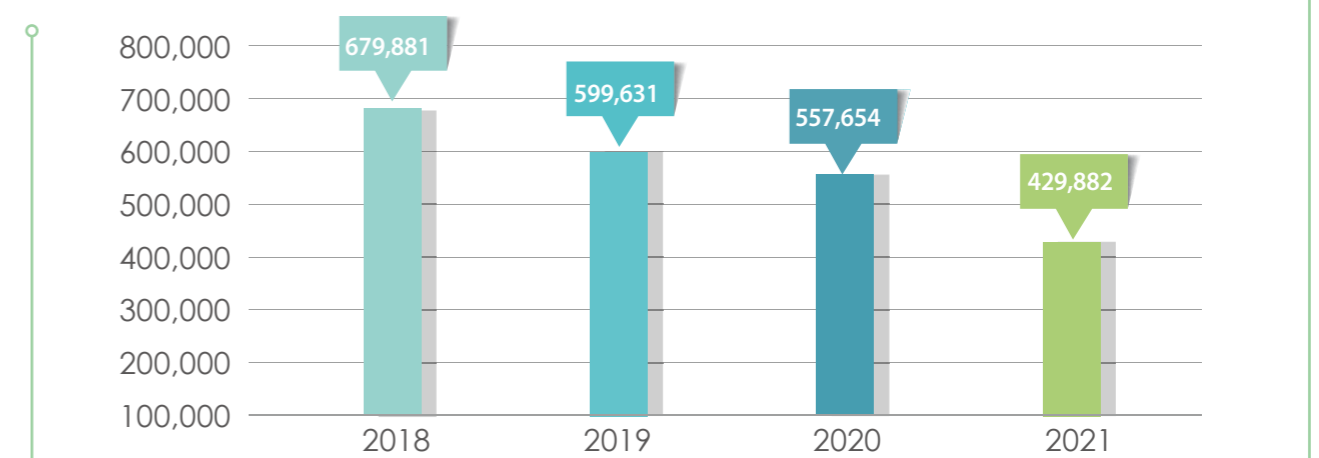
In terms of fuel management, all TPEX departments provide employees with official-use EasyCards to encourage taking public transportation. Private use of official vehicles is strictly forbidden, and rides are shared in principle. Maintenance and inspection are also carried out regularly to maintain fuel efficiency.

### 3-2-2 Resource Management

TPEX's main consumables are photocopy papers. Over the past few years, we have been actively promoting digitalized and paperless processes. In addition to improving productivity, these efforts have also enabled us to achieve resource efficiency.

Internally, TPEX requires colleagues to process official documents electronically. The usage rate of electronic official documents increased from 56% in 2020 to 72% in 2021 with 10,059 signed off. Meeting materials shall be transmitted electronically as much as possible; necessary photocopying or printing should also be double-sided or done using recycled paper. In 2021, the number of paper used by photocopiers reduced by 22% compared to 2020.

### Photocopier Paper Consumption (sheets)



Externally, TPEX has been continuing to promote various electronic reporting services since 2015. To this end, it has successively digitalized declaration operations in place of the paper-based. The issuing company or intermediary agency can now download the necessary information from the TPEX website, and complete declarations using the online system.

TPEX advocates listed / registered companies and pre-registration companies to join the electronic official document exchange system to reduce the transmission of hard-copy documents. As of December 31, 2021, the proportion of listed / registered companies that have accessed the electronic official document exchange system reached 99.66%. All companies applied for registration in 2021 have joined the electronic official document exchange system, totaling 74.

### Document download section and types of online declaration system for listed and registered companies

	<p><b>Company File Download Area</b></p> <ul style="list-style-type: none"> <li>Registration form for press conferences regarding material information of companies, registration statement for listing of new shares for capital increase, registration statement for capital reduction, various checklists, etc., are available online.</li> </ul>
	<p><b>Online declaration system</b></p> <ul style="list-style-type: none"> <li>Listed / registered companies' stock listings, such as new shares from capital increase, cancellation of treasury shares, restricted stock awards, private placement of common shares, and over-the-counter trading of renamed new shares, totaling 34 operations</li> <li>Securities firms joining midway and resigning from recommending ESB stocks</li> <li>Bond online listing</li> </ul>

Taiwan Water Corporation provided all the water used at TPEX, while no groundwater or other water sources are used. TPEX's operating activities have not affected water sources, and the sewage after use is discharged into the sewerage system. In addition to reminding colleagues to practice various water-saving measures, TPEX has installed water-saving devices and regularly inspects water equipment.

### 3-2-3 Waste Management

TPEX mainly engages in securities trading and information services and is therefore not associated with concerns over pollution or waste. At present, resource recycling bins are set up on each floor to enable the sorting of recyclables, and colleagues are required to practice resource recycling. Moreover, environmentally friendly toner is used throughout our offices, and 100% of the used toner cartridges are handed over to the original manufacturer for recycling.