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Prepared for the EU Carbon Border Adjustment?

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Over the past decades, the European Union (EU) has emerged as a global leader in the fight against climate change. Backed by its climate policies, the EU's greenhouse gas emissions dropped by 24% between 1990 and 2019, while the economy grew by about 60% in the same period.² The EU is often cited as an example of how to achieve decoupling of economic growth and emissions output. True, the EU could achieve substantial reductions in greenhouse gas emissions, however, we should not forget that it was only possible because large parts of its industrial production were relocated outside the EU - including its carbon emissions (carbon leakage). Now, imported goods carry a substantial carbon footprint. The EU imports goods and services containing over 700 million tons of carbon dioxide (CO₂) generated outside its territory.³ This represents about 20% of the EU's own territorial CO₂ emissions.

Carbon leakage has been an issue discussed and evaluated regularly since the formation of the UNFCCC. There are two major forms of carbon leakage. First, the energy-price-driven leakage.⁴ It refers to carbon leakage through the energy markets. When countries implement climate mitigation

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² European Commission. *Progress made in cutting emissions*.
https://ec.europa.eu/clima/policies/strategies/progress_en.

³ Felbermayr, G., and Peterson, S. (2020). European Parliament Briefing: Economic assessment of Carbon Leakage and Carbon Border Adjustment. Kiel Institute for the World Economy.
[https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI\(2020\)603501](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI(2020)603501).

⁴ Reinaud, J. (2008). Issues behind competitiveness and carbon leakage. Focus on heavy industry. In *IEA Information Paper, International Energy Agency, OECD/IEA*.



policies and switch from fossil fuels to renewable energies, the demand for oil, gas, and coal is lowered. The leading drop in prices increases the usage of fossil-based fuels in countries without climate policies. In that case, climate policies do not result in a reduced overall emissions output but the relocation of global emission sources.

The second form is related to the greenhouse gas intensive industry and competitiveness. In the case of the EU, extensive climate policies increase the production costs for European manufacturers, particularly in energy-intensive sectors. As a result, trade-exposed manufacturers are put at disadvantage against non-EU producers from countries with no carbon pricing. Some European industries may cease operation or consider relocation outside Europe. The negative consequences include job losses and increased greenhouse gas emissions outside Europe (carbon leakage). Hence, carbon leakage can reduce the environmental efficiency of a climate policy when only one group of countries applies climate policies and others do not.⁵ For the EU, it seems meaningless to reduce carbon emissions inside Europe and to import carbon-intensive goods later from outside.

⁵ Nordhaus, W. (2015). Climate Clubs: Overcoming Free-riding in International Climate Policy. *American Economic Review*, 105(4), 1339-1370.



European Green Deal and Climate-neutrality by 2050

Under the 2019 European Green Deal, decarbonization has become one of the main goals - with the ambitious target to make Europe the first carbon-neutral continent by 2050.⁶ To achieve the long-term target of climate neutrality by 2050, European leaders agreed to reduce greenhouse gas emissions by 55% from 1990 levels by 2030.⁷

The EU commits itself to modernize its economy and to decarbonize its energy-intensive industries. However, achieving climate-neutrality requires increased efforts across all sectors and there are concerns that decarbonization efforts could weaken the competitiveness of European industries and result in carbon leakage.

As pointed out by Stiglitz, neglecting to integrate the costs of damaging the environment can be perceived as a subsidy.⁸ While industries in countries with high environmental standards pay the cost of pollution in the form of taxes (e.g., on fossil fuels, carbon taxes), manufacturers in countries without carbon pricing are subsidized. To prevent carbon leakage, the European Union plans to implement a carbon border adjustment mechanism – basically, a tax to compensate differences in production costs to protect European companies against unfair and carbon-intensive competition from the outside.⁹ Goods that are imported from non-EU countries that do not have a carbon pricing mechanism installed would face a tax at the border. The mechanism aims to level the playing field between EU and non-EU manufacturers and ensure the competitiveness of European goods.

⁶ European Commission. *European Green Deal*.

https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en.

⁷ European Commission. 2020. https://ec.europa.eu/commission/presscorner/detail/en/mex_20_2389

⁸ Stiglitz, J. (2006). A new agenda for global warming. *The Economists' Voice*, 3(7).

⁹ The exact form of the mechanism is not yet decided. Several options are discussed. Please refer to:

Pauwelyn, J. and Kleimann, D. (2020). Trade Related Aspects of a Carbon Border Adjustment Mechanism. A Legal Assessment. DG External Policies Briefing:

[https://www.europarl.europa.eu/cmsdata/210514/EXPO_BRI\(2020\)603502_EN.pdf](https://www.europarl.europa.eu/cmsdata/210514/EXPO_BRI(2020)603502_EN.pdf).



According to the Commission's roadmap, the proposal for a carbon border adjustment mechanism is to be released by June 2021, and the carbon border adjustment could enter into force by 2023. Unsurprisingly, the plan raised intense opposition from within and outside the European Union, as it triggers enormous consequences for domestic industries but also EU trading partners. For non-EU trading partners without an appropriate carbon pricing scheme in place, the implementation of a carbon border adjustment at the EU border would mean that exports to the EU would see a price hike.

For the EU, the carbon adjustment mechanism provides several benefits: to counter carbon leakage, to shield domestic industries from unfair carbon-intensive manufacturers, to tap a new source of revenue, and to put pressure on non-EU countries to step-up their decarbonization efforts in their industries. The introduction of a carbon border mechanism in Europe would have major consequences for European trading partners.

Implications for Taiwan

Taiwan is tightly embedded within the global economy and holds crucial positions in technology supply chains (e.g., semiconductors, electronics, communications equipment). And the European Union is Taiwan's fourth-largest trading partner (behind China, the USA, and Japan). Taiwan runs a trade surplus with the EU, and over the past years, trade volumes between Taiwan and the EU have increased steadily. Most traded goods between the EU and Taiwan are office telecommunications equipment, machinery, transport equipment, and chemicals.

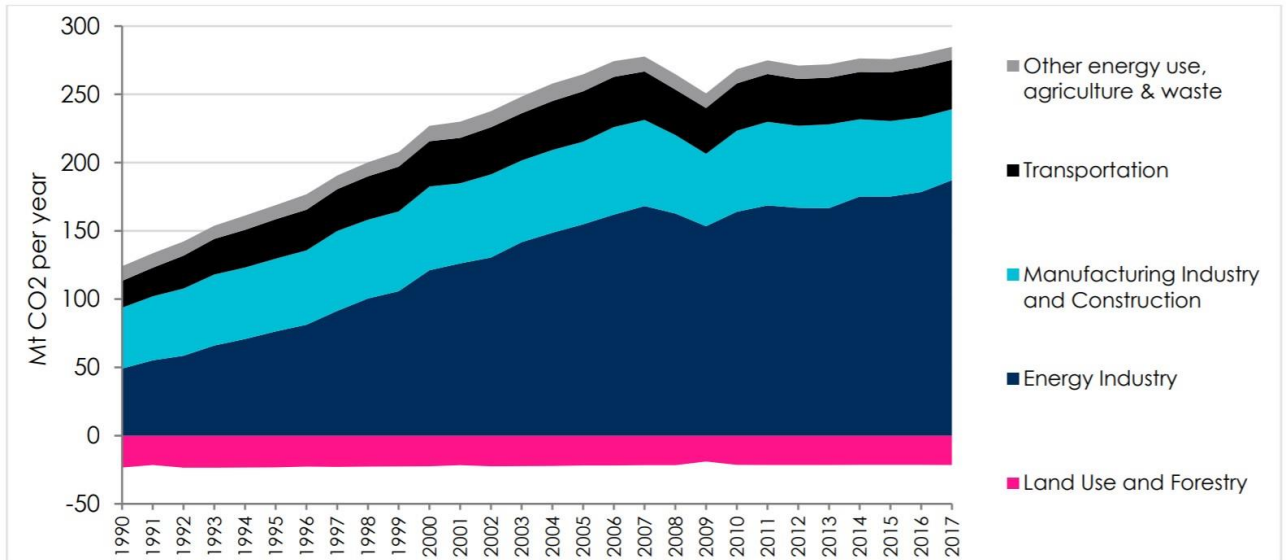


Large parts of Taiwan's manufacturing industries are trade-related and some are emissions-intensive (e.g., steel, chemicals, metals, semiconductors). Emissions-intensive and trade-exposed industries account for 38% of manufacturing gross value-add and employ nearly a million people.¹⁰ The introduction of a carbon border mechanism on goods imported to the EU has the potential to harm local exporters, endanger jobs, and weaken the competitiveness of Taiwanese exports to the EU. But it may also support local efforts to increase efforts to a price on carbon emissions.

Under the 2015 Greenhouse Gas Reduction and Management Act Taiwan committed itself to reduce greenhouse gas emissions to 50% below 2005 levels by 2050. However, Taiwan faces massive challenges in achieving its targets. The annual greenhouse gas emissions reached new records in 2017 (see Figure 1). Particularly the energy sector requires substantial reforms, as the electricity sector alone accounts for 59% (2017) of local carbon emissions.

¹⁰ *Carbon Pricing options for Taiwan* (2020). London School of Economics.
<https://www.lse.ac.uk/granthaminstitute/wp-content/uploads/2020/11/Carbon-pricing-options-for-Taiwan.pdf>.

Figure 1: Trends in carbon dioxide emissions in Taiwan by source, 1990–2017



Note: Energy industry includes the production of electricity and heat, and refineries.
 Source: 2019 National Greenhouse Gas Inventory Report

Five years after the Greenhouse Gas Reduction and Management Act, Taiwan has neither implemented an Emissions Trading Scheme nor a carbon pricing instrument. While some greenhouse gas mitigation policies were implemented in the past, it must be doubted if local measures find proper acknowledgment by the European Commission. The proposed mechanism has the potential to inflict major harm on EU-Taiwan trade relations and should not be underestimated. Based on Taiwan's economic profile and energy system, the implementation of a carbon border adjustment puts some Taiwanese export industries at great risk. However, with the European carbon border tax on the horizon, there is hope that Taiwan is accelerating its sluggish climate policies.

EU Jean Monnet Module at Wenzao Ursuline University Goes Into Second Year

Dr. Armin Ibitz

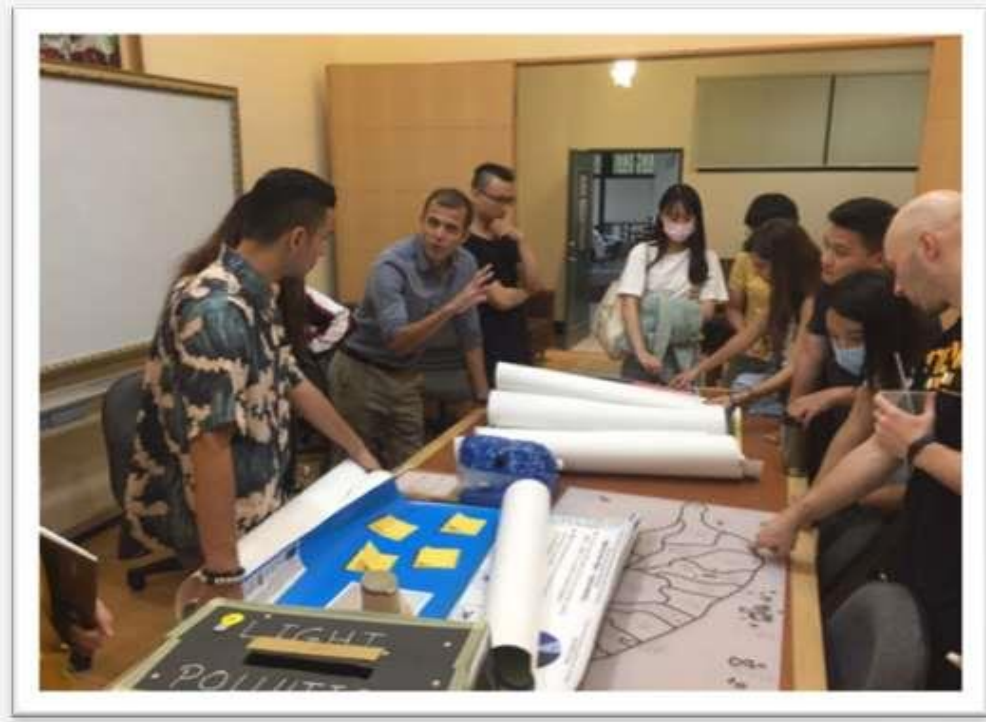
The European Union funded Jean Monnet Module (JMM) on “EU and Environmental Health: Policy, Achievements and main Challenges” led by Prof. Vincent Rollet and Prof. Armin Ibitz goes into its second year. JMM is a teaching programme in the field of European Union studies at higher education institutions across the globe. The aim of the module at Wenzao Ursuline University is to offer a tailor-made course on EU policies and concrete actions in the field of Environmental Health. Students learn how environmental factors can potentially affect health. The course focuses on the EU's regional and international attempts to respond to some of the most urgent and common global issues linking environment and health, such as chemical hazards, air pollution, climate change, water quality, plastics use. The module runs between 2019 and 2021 and includes a semester-based seminar, where students work on health and environmental issues and prepare an exhibition that is displayed in various locations around the country.



文藻外語大學接受歐盟贊助所執行的莫內計畫「歐盟與環境衛生：政策、成就與主要挑戰」，由羅文笙老師(Prof. Vincent Rollet)和華明儀老師(Prof. Armin Ibitz)所指導，計畫目前已進入第二年。莫內計畫是項針對全球高等教育機構關於歐盟研究的教學計畫，文藻外語大學所執行的莫內計畫旨在提供學生，探討歐盟在環境健康方面的政策與具體行動，精心規劃的課程。學生從中將可學習到環境的因素無形之中如何影響人類健康。課程關注歐盟區域性與跨國性應對環境與健康最急迫與最全球化的議題，例如化學危害、空汙、氣候變遷、水質、塑膠應用等。這計畫橫跨2019年至2021年，包括學期課程，學生研究健康與環境議題，並在全國不同地點舉辦相關成果展示。



Picture 1: The JMM Exhibition at the Wenzao EU Center



Picture 2 & 3: Students working on their projects
Please find more information about the JMM [here!](#)



With the support of the
Erasmus+ Programme
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