

## A LOGICAL DISHARMONY IN EUROPEAN UNION LEGISLATION?

Weijia Zhang

### ABSTRACT

*It is undeniable that both of Carbon Border Adjustment Mechanism and Renewable Energy Financial Mechanism of European Union will contribute a lot to the mitigation of climate change. However, some may allege that the legislative logics of these two measures contradict with each other, which may result in the internal disharmony inside the European Union legal system. Following the logic of Carbon Border Adjustment Mechanism, Renewable Energy Financial Mechanism should not limit the location of the applicants of the subsidy, i.e., the renewable source electricity producer in third countries shall also be entitled the right to receive the subsidy. After digging deeper from logical and practice's perspectives, it is found that the result of logical disharmony is a fallacy, and the illimitation of the location of renewable source electricity subsidy recipient will cause practical problem. The logic of Carbon Border Adjustment Mechanism and Renewable Energy Financial Mechanism in fact are harmonised.*

**Keywords:** Carbon Border Adjustment Mechanism, Renewable Energy Financial Mechanism, European Union, Mitigation of Climate Change, Legal Logic.

### INTRODUCTION

With the growing attention to climate change, especially after the conclusion of Paris Agreement, European Union has moved significantly towards the goal of carbon neutrality. It has adopted regulations and directives to reduce greenhouse gases (GHGs) emission, such as the LULUCF Regulation (Parliament & Union, 2018) and Directive 2018/2001 on the promotion of the use of energy from renewable sources (Directive 2018/2001) ("Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (Text with EEA relevance.)," 2018). Every legislation is based on specific logic, and it is easy to be logical respectively. However, are they still logical under other legislation's logic? Theoretically, they must be. Otherwise, European Union is opposing itself. Among all its legislations, people may find some logical disharmony. Is the disharmony a real disharmony?

This essay addresses the issue of logical harmony between Carbon Border Adjustment Mechanism (CBAM) (European Parliament, 2023) and the Renewable Energy Financial Mechanism (RENEWFM) (Commission, 2020). It implicates nothing to their compatibility with international trade rules, such as WTO rules.

As one important instrument in "Fit for 55" package to complement Emission Trade System (ETS) (European Parliament, 2003) which requires the European Union producers emitting GHGs to hold a permit and pay for the emitted GHGs while exceeding its own allowance, CBAM obliges the importers to pay for the GHGs emitted during the production of the goods in third countries (European Parliament, 2023). Since the levies for the GHGs emission will be added into the final price in the market and shifted to the end consumer (Friedman, 2017), irrespective of who pays the levies to the authorities, the final payer is anyway the consumer, which indicates that the sales of this goods may be affected. Thus, the levies imposed on the importer can be regarded as the levies imposed on the producers in the third countries, though indirectly.

RENEWFM is based on Directive 2018/2001 and Regulation 2018/1999 on the Governance of the Energy Union and Climate Action (Regulation 2018/1999) (Union, 2018), Commission Implementing Regulation (EU) 2020/1294 on the Union renewable energy financing mechanism (Regulation 2020/1294) (Commission, 2020).

Directive 2018/2001 has set an objective of at least 32% market share of renewable energy by 2030 and provided an approach to achieve it. Regulation 2018/1999 sets up a financial system at union level for new renewable energy project, namely RENEWFM, which pursues two aims. One with priority is filling the gap in the indicative Union trajectory because the second aim is not allowed to make prejudice to the first aim; the other is achieving the target set for member states in Directive 2018/2001. Subsequently, the Commission has adopted an implementing regulation, namely Regulation 2020/1294 which however deems the two aims equal.

As referred to Regulation (EU, Euratom) 2018/1046 on Financial Rules Applicable to the General Budget of the Union (Regulation 2018/1046) ("Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012," 2018) by Regulation 2020/1294, the form of financial support is divided into four groups, namely financial instruments, budgetary guarantees, financial assistance and grants. The first includes dedicated investment vehicles, loans, guarantees, equity participation and other risk sharing instruments. The third contains loans, credit line and any other effective and appropriate instruments. Nevertheless, Regulation 2020/1294 has only elaborated the detailed procedure of the grant. It did not mention the procedure of other forms of financial support. Its article 8 explicitly sets the requirements of location for the receiver. The practice of the RENEWFM also confirms it. On 18 April 2023, the first call for proposal has been launched (Commission, 2023a). This call intends to incentivise the investment in solar PV industry for the purpose of gap filling function in the form of investment support and technology specific lump sum grant (Commission, 2023b). This call did not limit the nationality of the applicants but requires that the location of the funded project

must be inside the territory of Finland, namely the host member state. Since the electricity produced inside European Union cannot be imported, so the imported electricity producers have no opportunity to receive the support.

### **THE LOGIC OF CBAM REGULATION**

According to the preamble of CBAM, global warming is a global problem which needs the global efforts to fight against. It justifies the levies on third countries producers in the following way.

(1) GHGs emission will cause damage.

(2) No border can limit the GHGs in the air.

Therefore: (3) GHGs emitted anywhere will cause damage to the whole earth.

(4) European Union is in the earth.

Therefore: (5) The GHGs emission outside European Union will cause damage to European Union.

(6) Production of specific goods will emit GHGs.

(7) Importation of specific goods increases the order of the factory, thereby the production of specific goods.

Therefore: (8) Importation of specific goods will increase the emission of GHGs (European Parliament, 2023).

Therefore: (9) Importation of specific goods will cause damage to European Union.

(10) Importation is made by European Union.

Therefore: (11) European Union will cause damage to European Union through importation.

Following another logic, we shall get the result that without CBAM, buying from internal market is more friendly to climate than importing from third countries.

(1) Higher costs in production lead to higher price in market (Friedman, 2017).

(2) Production in European Union must pay for the emission of GHGs, thereby adds the costs.

Therefore: (3) Goods produced in European Union are with higher price.

(4) Higher price results in lower market demands (Asmundson).

Therefore: (5) Market demands for this kind of goods will decrease.

(6) Decrease of demands leads to decrease of order, thereby production.

Therefore: (7) Emission of GHGs will decrease.

In addition, while the GHGs emission in third countries may be unlimited, the GHGs emission allowances inside the European Union are fixed and gradually reduced (European Parliament, 2003), which means that the possible GHGs emission inside the European Union is fixed and reduced. Compared with the result of importation, buying from the internal market is much better for the purpose of mitigation of climate change due to the role played by ETS. However, it is impossible to ban the importation of goods in a liberalised market (Council, 1993). Besides, due to the significance of mitigation of climate change, plus the consensus between Paris Agreement contracting parties to fight against global warming, European Union deems it its responsibility to play the leading role on reducing the global GHGs emission (European Parliament, 2023), including facilitating the reduction of emission in third countries. As a result, the transformation to a no net emission society must leave no one behind (European Parliament, 2023), including the countries outside European Union. To even the scores, European Union should facilitate the adoption of ETS in third countries through indirectly imposing levies on third country producers.

If this logic can apply to the regulation in next section, then their logic is harmonised. Otherwise, they are disharmonised.

### **CBAM LOGIC APPLIES TO RENEWFM**

In the light of the same logic,

(1) Reduction of GHGs emission contributes to the mitigation of global climate change.

(2) The unpolluted air will dilute the effect of GHGs without limit of the border.

Therefore: (3) Reduction of GHGs emission in anywhere will contribute to the mitigation of global climate change.

(4) The third countries are in the earth.

Therefore: (5) The reduction of GHGs emission outside European Union will contribute to European Union.

(6) Producing electricity from Renewable Energy Source (RES) will reduce the emission of GHGs.

(7) Importation of RES electricity reduces the order of fossil fuel electricity producer, thereby the production of fossil fuel electricity.

Therefore: (8) Importation of RES electricity will reduce the emission of GHGs.

Therefore: (9) Importation of RES electricity will contribute to European Union. (p)

(10) Importation is made by European Union.

Therefore: (11) European Union will contribute to European Union through importation of RES electricity.

To reduce GHGs emission by promoting the use of renewable energy in third countries then shall as well fall into the scope of European Union's responsibility to play the leading role on mitigation of the global climate change. Therefore, the subsidy to promote renewable energy "should" also be granted to eligible producers in third countries, irrespective of directly or indirectly (q). Notwithstanding, RENEWFM tells a different story.

## INTERNAL HARMONY OF CBAM AND RENEWFM

Superficially, following the logic of CBAM, we cannot infer that the requirement of location in RENEWFM should exist. On the contrary, the CBAM logic seems to tell us it should not exist. However, if we dig further, take into account the reasons behind the legislation, the superficial disharmony may turn to internal harmony.

The result of disharmony is a fallacy, for the reason that  $p$  is just the sufficient but not necessary condition of  $q$ . In other words, it is true that if  $p, q$ ; whereas it is not true that if  $q, p$  (Blumberg, 1976; Brennan, 2022; Moore & Parker, 2009; Southworth & Swoyer, 2020). Under this situation, there are other sufficient conditions leading to  $q$ , *i.e.*, there are other methods to achieve the goal of reducing GHGs emission. Hence,  $p$  is not necessary. The direction of CBAM logic is from  $p$  to  $q$ , whereas the direction of the logic causing disharmony is from  $q$  to  $p$ . So, the disharmony is a fallacy.

From the perspective of practice, under the situation where the CBAM and RENEWFM have the same final objective, *i.e.*, to reduce global GHGs emission, the market plays paramount role on turning the disharmony to internal harmony. Without prejudice to this final objective, the measures in the meantime must be practicable. Otherwise, it is meaningless.

In the light of the demand and supply curve (Asmundson), when the price of one kind of goods increases, its sales will decrease. Thus, due to the increase of the costs, the price of the goods sold by the importer will be higher or at least be equal when there still exists profit, to the previous level. The order will thereby decrease or remain the same. Thereby the GHGs to be generated during the production will decrease or at least remain the same. It will anyway not increase.

Acknowledging that different level of technology applied in the industry results in the different amount of GHGs emission for one same unit of production, assuming we are in the worst case where the market demands remain unchanged, the GHGs generated for the satisfaction of the market demands will as well remain unchanged, unless the technology is changed, or the change of the price shifts the order.

The CBAM functions on the price to shifts the order. Under the regime of CBAM, the importer must pay for the GHGs emission in third countries during the production of the imported goods. The previous price advantage then decreases or disappears. Therefore, due to the increasing costs of importation, three kinds of consequences follow. Under consequence A, the previous price advantage of the third country disappears, the importer then shifts their order from the third country to the Union, the producer in third countries gets less order. As a result, the producer will produce less, thereby generate less GHGs. Under consequence B, despite the rise of the importing costs which is still lower than or equal to buying from internal market, the importer imports the same amount of goods from third countries. The producers then try to enhance their technology and reduce less GHGs, so that they can lower the levies imposed on the importer, thereby get more orders. As a result, European Union achieves its goal of facilitating the technology reform in the third countries' industry. In addition, the GHGs emission is reduced. Under consequence C, despite the rise of the importing costs which is still lower than or equal to buying from internal market, the importer imports the same amount of goods from third countries. The producers do not enhance their technology, so the GHGs emission will not decrease. However, it also will not increase. The importer then must pay the levies. The money can be used to develop technology. In the long term, the paid levies still will function on the development of clean technology and further reduction of GHGs emission.

Regarding RENEWFM, among diverse type of energy resources, the renewable one is the cheapest due to its almost zero marginal costs (Trebbien et al., 2023). However, theoretically speaking, on the basis of merit order principle, the price of the electricity actually relies on the price of the most expensive one (Consilium, 2023; Trebbien et al., 2023), *i.e.*, the electricity produced by fossil fuels. When the price of RES electricity is lower, the producer would enhance the price because the buyer must pay more to another seller for the same thing and the business always pursues higher profit; when the competitiveness of RES electricity becomes weaker, the RES electricity producer can immediately lower the price to grab more market share. So, the price exactly the same as the one of the fossil fuel electricity is the balanced one. As a result, no matter how much financial support a producer receives, the price for electricity in the market will not change, thereby the market demands will keep the same. The same market demands lead to the same production. Among the same production, when the proportion of RES electricity increases, the proportion of fossil fuels electricity will anyway decrease.

Assuming that the total market demands inside European Union is 1, the existing RES electricity is  $x$ , the RES electricity to be supported by subsidy is  $y$ ,  $x+y$  must be less than 1 on the reason that RENEWFM is trying to enhance the proportion of RES electricity to at least 32% by 2030, which means the current proportion must be less than 32%. No matter the  $y$  locates inside or outside the European Union, it will anyway contribute to the global reduction of GHGs emission. Therefore, in theory, as long as the subsidy functions well, the GHGs emission will inevitably decrease regardless of the location of the RES electricity producer. Their effects are the same.

Another problem comes from the question how RENEWFM can function well, as demonstrated above, though the RES electricity is the cheapest due to its almost zero marginal costs, its investment cost is very high (Administration, 2023; Chatzipanagi et al., 2022; Comstock, 2017; Energy; Laboratory, 2023) because of the expensive infrastructure building. A US national laboratory has published the cost of installation of solar PV. Despite the continuous decrease, in 2022 the installation cost per kilowatt for utility-scale PV is still up to 1060 USD (Energy). Wind turbine is fluctuant. It costs 900-1200 USD per kilowatt and the total installation cost for wind energy is 1360-1730 USD per kilowatt in 2022 (Laboratory, 2023). In the meantime, the cost for fossil fuels electricity is well below the one of RES electricity (Administration, 2023; Comstock, 2017). The data in European Union varies a little, whereas the trend remains the same (Chatzipanagi et al., 2022). Therefore, the investor hesitates when they are considering entering this industry. At this moment, subsidy functions on expanding the infrastructure.

When the subsidy receiver locates inside the territory of the Union, the legitimate use of the subsidy will be more guaranteed. The Union can transfer the money to the receiver before the start of the project. When the subsidy is not used for the purpose of expanding renewable energy infrastructure, it will be easier for the Union to recover the money, to sue and to enforce the judgment.

However, when the Union transfers the money at the beginning to a producer outside the territory, the Union will lose control of the money. If the receiver uses it for another purpose, or sells the electricity to another country, it becomes difficult for the Union to recover it. Thus, for the Union, the risk is very high. When the Union does not transfer the subsidy at the beginning of a renewable energy project, but give the subsidy indirectly through the importer, the producer will feel unguaranteed. The producer should invest huge amount of money at first. Notwithstanding, they cannot ensure that the importer from European Union will buy their electricity. Even the importer buys the electricity, they still cannot ensure the competent authority will approve their application for the subsidy due to the intense competition. Hence, for the producer, the risk is also very high.

In summary, under the situation where only the internal producers are eligible to apply for the subsidy, the internal producer can fully digest the subsidy and expand the renewable energy infrastructure. They will definitely contribute to the reduction of global GHGs emission, and this process can be monitored. Under the situation where external producers as well are eligible to apply for the subsidy, there exists the risks of failure for both the Union and the external producer. Even when the external producer perfectly fulfils its obligation of reducing GHGs, they will not contribute more than the internal producer. In addition, the construction of transportation infrastructure will offset the outcome of this measure. Therefore, from the perspective of practice, the former situation is definitely better than the latter situation.

## CONCLUSION

The logic in CBAM leads to the results that importation of goods will increase the emission of GHGs, thereby cause damage to global mitigation to climate change. Under the situation where ETS can effectively control and lower the GHGs emission inside European Union, it is also feasible to reduce the GHGs emission through facilitating the adoption of ETS in third countries, which is achieved by imposing levies on the emitted GHGs. Following the same logic, we shall get the result that importation of RES electricity will decrease the emission of GHGs, thereby contribute to global mitigation. As far as here, it is still harmonised. The superficial disharmony appears in next step. That it is feasible to reduce the GHGs emission through importation of RES electricity is true. However, it does not lead to the necessity of granting the producer subsidy in third countries. In CBAM's context, the logical direction is from sufficient condition to result, namely from reduction of importation or enhancement of technology to the reduction of greenhouses gases emission, so the result is true. If we reverse the line, in RENEWFM's context, it is from the result to sufficient condition, namely from the reduction of greenhouses gases emission to the increase of importation. This direction is false because the result is only the necessary but not sufficient condition of the former. As a result, the disharmony is a fallacy.

From the perspective of achieving the goal of reducing the GHGs emission, CBAM and RENEWFM are internal harmonised. They both take the issue of practice into account. The rule setting ensures the goal can be achieved. If the subsidy can be granted to the producer locating outside European Union, the outcome of this measure cannot be guaranteed.

## REFERENCES

- Administration, U. E. I. (2023). *Construction cost data for electric generators installed in 2021*. U.S. Energy Information Administration Retrieved 24 November 2023 from <https://www.eia.gov/electricity/generatorcosts/>
- Asmundson, I. *Supply and Demand: Why Markets Tick*. International Monetary Fund. Retrieved 13 December 2023 from <https://www.imf.org/en/Publications/fandd/issues/Series/Back-to-Basics/Supply-and-Demand#:~:text=Supply%20is%20generally%20considered%20to,higher%20prices%2C%20consumers%20buy%20le ss.>
- Blumberg, A. E. (1976). *Logic: A First Course*. Alfred E. Knopf.
- Brennan, A. (2022). Necessary and Sufficient Conditions. In E. N. Zalta & U. Nodelman (Eds.), *The Stanford Encyclopedia of Philosophy*. <https://plato.stanford.edu/archives/fall2022/entries/necessary-sufficient/>
- Chatzipanagi, A., Jaeger-Waldau, A., Langavant, C. C. d., Letout, S., Latunussa, C., Mountraki, A., Georgakaki, A., Ince, E., Kuokannen, A., & Shtjefni, D. (2022). *Clean Energy Technology Observatory: Photovoltaics in the European Union – 2022 Status Report on Technology Development, Trends, Value Chains and Markets*. Publications Office of the European Union.
- Commission Implementing Regulation (EU) 2020/1294 of 15 September 2020 on the Union renewable energy financing mechanism, (2020).
- Commission, E. (2023a). *RENEWFM: The EU Renewable Energy Financing Mechanism launches its first call for proposals*. European Commission. Retrieved 27 November 2023 from [https://cinea.ec.europa.eu/news-events/news/renewfm-eu-renewable-energy-financing-mechanism-launches-its-first-call-proposals-2023-04-18\\_en](https://cinea.ec.europa.eu/news-events/news/renewfm-eu-renewable-energy-financing-mechanism-launches-its-first-call-proposals-2023-04-18_en)
- Commission, E. (2023b). *Union Renewable Energy Financing Mechanism (RENEWFM) Call for proposals*. (RENEWFM-2022-INVEST). European Commission
- Comstock, O. (2017). *Construction costs for most power plant types have fallen in recent years*. U.S. Energy Information Administration. Retrieved 24 November 2023 from <https://www.eia.gov/todayinenergy/detail.php?id=31912>
- Consilium. (2023). *Infographic - How is EU electricity produced and sold?* Retrieved 23 November 2023 from <https://www.consilium.europa.eu/en/infographics/how-is-eu-electricity-produced-and-sold/>
- Council, E. (1993). *European Council in Copenhagen - 21-22 June 1993- Conclusions of the Presidency*. (DOC/93/3). European Council Retrieved from [https://ec.europa.eu/commission/presscorner/detail/en/DOC\\_93\\_3](https://ec.europa.eu/commission/presscorner/detail/en/DOC_93_3)

- Directive (EU) 2018/2001 of the European Parliament and of the Council of 11 December 2018 on the promotion of the use of energy from renewable sources (recast) (Text with EEA relevance.), (2018).
- Energy, N. R. E. L. o. U. D. o. *Solar Installed System Cost Analysis*. Retrieved 24 November 2023 from <https://www.nrel.gov/solar/market-research-analysis/solar-installed-system-cost.html>
- Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (Text with EEA relevance), § article 4 (2003).
- Regulation (EU) 2023/956 of the European Parliament and of the Council of 10 May 2023 establishing a carbon border adjustment mechanism, § article 5 (2023).
- Friedman, M. (2017). *Price theory*. Routledge.
- Laboratory, L. B. N. (2023). *Land-Based Wind Market Report: 2023 Edition*. U. S. D. o. E. s. O. o. E. E. a. R. Energy.
- Moore, B. N., & Parker, R. (2009). *Critical Thinking*. McGraw Hill.
- Regulation (EU) 2018/841 of the European Parliament and of the Council of 30 May 2018 on the inclusion of greenhouse gas emissions and removals from land use, land use change and forestry in the 2030 climate and energy framework, and amending Regulation (EU) No 525/2013 and Decision No 529/2013/EU (Text with EEA relevance), (2018).
- Regulation (EU, Euratom) 2018/1046 of the European Parliament and of the Council of 18 July 2018 on the financial rules applicable to the general budget of the Union, amending Regulations (EU) No 1296/2013, (EU) No 1301/2013, (EU) No 1303/2013, (EU) No 1304/2013, (EU) No 1309/2013, (EU) No 1316/2013, (EU) No 223/2014, (EU) No 283/2014, and Decision No 541/2014/EU and repealing Regulation (EU, Euratom) No 966/2012, § Title X (2018).
- Southworth, J., & Swoyer, C. (2020). *Critical Reasoning: A User's Manual, v.4.0*. Philosophy Open Educational Resource.
- Trebbien, J., Gorjão, L. R., Praktiknjo, A., Schäfer, B., & Witthaut, D. (2023). Understanding electricity prices beyond the merit order principle using explainable AI. *Energy and AI*, 13, 3.
- Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action, amending Regulations (EC) No 663/2009 and (EC) No 715/2009 of the European Parliament and of the Council, Directives 94/22/EC, 98/70/EC, 2009/31/EC, 2009/73/EC, 2010/31/EU, 2012/27/EU and 2013/30/EU of the European Parliament and of the Council, Council Directives 2009/119/EC and (EU) 2015/652 and repealing Regulation (EU) No 525/2013 of the European Parliament and of the Council, (2018).

Weijia Zhang  
Faculty of Law  
University of Macau, 999078 Macau SAR, China  
Email: yc37218@um.edu.mo