

---

THINK TANK

ADASTRA



UKRAINIAN  
EMISSIONS  
TRADING  
SYSTEM:  
ALTERNATIVE  
TO THE CARBON TAX

---

20  
20

---

VIKTOR  
KARVATSKYY

## UKRAINIAN EMISSIONS TRADING SYSTEM: ALTERNATIVE TO THE CARBON TAX

According to neoclassical economics, global warming should be considered as a "market failure" because it foresees huge costs and risks for future generations affected by climate change, while these costs and risks are usually not reflected in current market prices. That is why, to combat global warming and stabilize the market, a "polluter pays" system has been put forward, according to which air pollution becomes economically unprofitable. This model envisages the introduction of a fee for greenhouse gas (GHG) emissions.

There are now two most common ways to implement the "polluter pays" scheme: a carbon tax or an emissions trading system (ETS) according to the "cap and trade" principle.

It should be noted that in the case of the EU ETS, not all businesses in the European Union are required to obtain GHG emissions permits and to pay fines for exceeding the limit, but only those listed in Annex I to [Directive 2003/87 / EC](#). Also, Annex A of the [Kyoto Protocol](#) and Annex II of the same EU Directive provides an exhaustive list of greenhouse gases: these include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), hydrofluorocarbons (HFCs), perfluorocarbons (GFD, sulfur hexafluoride (SF<sub>6</sub>).

The actualization of this topic on the Ukrainian agenda is explained by the adoption of the European Climate Strategy (European Green Deal), some elements of which (in particular, carbon border adjustment mechanism) may impair the competitiveness of Ukrainian enterprises in the EU market in case of absence of decisive actions taken by authorities. The introduction of CBAM to prevent the transformation of the European Union's neighbors into "coal offshore" implies the need for higher environmental standards for exported goods to the EU.

Moreover, there are increasing calls for the implementation of CBAM analogs in national legislation in other countries. Almost every climate bill submitted to the US Congress contains provisions concerning additional environmental taxes on imported goods. For example, the Climate Leadership Council, a group of US politicians and economic advisers, has developed a bipartisan climate roadmap outlining a carbon tax plan. The Mexican Republic mentioned an analog of CBAM in its national defined contribution (NDC), the state's dispositive plan to reduce emissions under the Paris Climate Agreement. In the future, other countries will not stay away from this trend.

## UKRAINIAN REALITY

[Ukraine's energy strategy](#) indicates that "the current level of pollutant emissions exceed EU standards by an average of 7-80 times, depending on their type."

In the absence of a definite methodology and a mechanism for verifying polluting enterprises, the environmental tax per ton of CO<sub>2</sub> emissions is [UAH 10](#). For comparison: in 2018, this amount was 0.41 UAH (25 times lower), and in Sweden and Canada, the tax on emissions of tons of CO<sub>2</sub> in 2019 was 130 and 92 US dollars, respectively.

The commitment of Ukraine to reduce greenhouse gas emissions submitted to the Secretariat of the UN Framework Convention on Climate Change look staggering only at first glance. According to Ukrainian plans, in 2030 Kyiv plans not to exceed 60% of emissions as of the 1991 level.

However, as of 2018 ([latest data available](#) from the website of the Ministry of Environmental Protection and Natural Resources of Ukraine), Ukrainian GHG emissions and removals amounted to 344,076 thousands ton of CO<sub>2</sub> equivalent, which is 2.5 times less than the level of emissions in 1990. Given the use of 1990 as a baseline in the Kyoto Protocol, Ukraine de jure has formulated a "safety cushion" that allows it to increase emissions by 2030 at 35%.

Therefore, it is necessary not to postpone the issue of GHG emissions regulation, demonstrating formal positive indicators, but to focus on the things necessary to achieve climate neutrality, particularly on the creation of the national ETS.

## LEGAL REGULATION OF GHG EMISSIONS

The elaboration of the Ukrainian ETS is envisaged in [the Association Agreement between the European Union and its Member States, of the one part, and Ukraine, of the other part](#). In particular, Annex XXXI to Chapter VI “Environment” of Chapter V “Economic and Sectoral Cooperation” indicates the need to develop a long-term action plan and implement long-term measures to reduce greenhouse gas emissions.

The section “Climate change and protection of the ozone layer” of Annex XXX of the Association Agreement indicates Ukraine’s commitment to designate an authorized body to establish a greenhouse gas emissions trading scheme, create a system for monitoring, reporting, verification, and proper implementation, and institutionalize a greenhouse gas emissions permitting system, in which quotas will be sold at the national level between plants / industrial complexes in Ukraine.

Moreover, by ratifying the Energy Community Treaty in 2011, Ukraine has committed itself to implement the basic provisions of EU “acquis communautaire” into national law. The third stage of Ukraine’s energy strategy in 2017 provides for the reduction of greenhouse gas emissions and the introduction of a national system of trade quotas.

An essential step towards settling the issue of greenhouse gas emissions was the [Law of Ukraine](#) “On Principles of Monitoring, Reporting, and Verification of Greenhouse Gas Emissions”, adopted on December 12, 2019. It has the following elements: it provides a list of gases considered as greenhouse gases, envisages the establishment of a Unified Register for monitoring, reporting, and verification of greenhouse gas emissions, defines a monitoring plan, reporting period, authorities responsible for monitoring and verification policy.

Finally, this law makes it possible to collect the necessary data to determine the further effectiveness of the carbon tax and the emissions trading system. For the full-scale launch of the monitoring system in 2021, it is necessary to develop a unified methodology for estimating GHG emissions in various industrial sectors

However, given the existing draft laws on the introduction of a carbon tax, it seems appropriate to conduct a comparative analysis of the characteristics of the two models. The introduction of a tax and as well as an emissions trading system immediately raises some questions (how to determine the price correctly, how much different categories of enterprises have to pay, and at what level the price per ton of CO<sub>2</sub> equivalent should be set). While the answers to these questions are in need to be given regardless of how to resolve the greenhouse gas issue, the ETS mechanism empowers the institutionalization of such decisions.

## CARBON TAX VERSUS ETS

The introduction of a single tax (whether a proportional or a progressive type of taxation) means the payment of a fixed percentage from the profit of a legal entity of a specific kind of activity that is responsible for GHG emissions. Such a trade model involves the regulator setting limits on the maximum level of emissions and creating the necessary permits for GHG emissions. Companies, an exhaustive list of which is provided in Annex I of Directive 2003/87 / EC, must obtain a permit for each emission unit. The permit itself becomes the subject of the purchases: in case of non-use of its permission, the legal entity may sell or use the document during the next calendar year.

According to the commentaries of governmental officials, the introduction of ETS in Ukraine is planned for 2025-2027, so no bills on the future ETS mechanism have yet been proposed. It now seems appropriate to analyze the existing carbon tax reform draft laws.

[Bill №4347](#) “On Amendments to the Budget Code of Ukraine on Establishment of the State Decarbonisation Fund” provides for the following legislative novelties: it is proposed to create a State Decarbonization Fund to co-finance projects that reduce carbon dioxide emissions. 50 percent of the environmental tax levied on emissions of carbon dioxide should be relocated to a decarbonization fund - it should be noted that it seems necessary to expand the sources of funding for the decarbonization fund from "carbon dioxide" to other greenhouse gases mentioned in the Law of Ukraine “On Principles of Monitoring, Reporting, and Verification of Greenhouse Gas Emissions”, in Annex A to the Kyoto Protocol and Annex II to the EU ETS Directive.

[Bill №4346](#) “On Amendments to the Tax Code of Ukraine on Revision of Rates of Certain Taxes” provides for an increase in the tax per ton of CO<sub>2</sub> emissions from UAH 10 to UAH 30. Taxes for other greenhouse gases are regulated by Articles 243-246 of the Tax Code of Ukraine.

It should be noted that these draft laws can serve only as a temporary replacement for the ETS mechanism, but by no means an alternative to it. In particular, one may only praise the idea of creating a decarbonization fund. However, the principle of its functioning can be implemented in the ETS mechanism: 50% of ETS revenues in the EU are used to combat climate change. The activities of the German Energy and Climate Fund are a successful example of such an environmental policy.

One of the disadvantages of the carbon tax compared to the ETS is the institution of a pricing mechanism. Regardless of the subject of the legislative initiative, the submission of the carbon tax bill and the next revision of the fixed price (even if the law foresees price changes, in the long run, there is no guarantee that prices will not be revised in the future) will face a new long-term process of amending legislation.

The process of “delaying” the adoption of changes to the price calculation formula can be leveled by creating an independent regulator authorized to set the minimum price, emission limit and able to adjust the market: such a framework approach will respond effectively to changes in the Ukrainian carbon market and European legislation.

Also, the existence of a regulator allows solving the problem of attracting specialists with the necessary qualifications, able to develop a methodology for calculating the price of GHG emissions for different industries. The possibility of participation of various specialists in the one-time bill drafting is no match to the idea of the functioning of the framework body: future members of the independent regulator will be able to deal regularly with GHG issues and will better understand the realities of the system.

From the point of view of behavioral economics, the mere presence of a tax does not provide the incentives for a gradual reduction in emissions compared to the ETS, where emitters have the opportunity to experience profits through the sale of emission permits directly.

## HOW DOES THE ETS WORK?

The EU ETS was established in 2005 following Directive 2003/87/EC. The EU ETS currently operates in 31 countries - in all 28 EU Member States, as well as in Iceland, Liechtenstein, and Norway. More than 11,000 ETS entities emit about 2 gigatons or 45% of total EU greenhouse gas emissions. According to a 2020 study published in the Official Journal of the US National Academy of Sciences, the introduction of the EU ETS reduced CO<sub>2</sub> emissions by more than 1 billion tons (3.8% of total EU emissions) during 2008-2016. The current stage of development of EU ETS also envisages an annual reduction in the maximum permissible level of greenhouse gas emissions (by 1.76% in 2012-2020 and by 2.2% after 2021).

The general ETS mechanism goes like this: the appropriate national authority sets a cap on greenhouse gas emissions: in the case of the EU, the European Parliament, in consultation with the European Council and the European Commission, sets a Pan-European Cap. Businesses receive free emission permits based on the emission limit (1 copy per 1 ton of CO<sub>2</sub> equivalent).

Companies that exceed the emission limit are forced to buy permits: this can be done both at auction and directly from another company. Those who did not use their permits during the calendar year (in the EU, such a year in the ETS ends on April 30) can sell permits or keep them for years to come.

If the business entity does not report in time that the number of its permits corresponds to the actual emissions of CO<sub>2</sub>-equivalent, it is fined with 100 euros + inflation costs per ton of CO<sub>2</sub>-equivalent, in other words, for 1 permit

It should be noted that during the first and the second period of the EU ETS development (2005-2012), the vast majority of permits were issued for free (95% during 2005-2007 and 90% in 2008-2012). Only the third stage (2012-2020) caused a dramatic reduction in the number of free permits and institutionalized the auction mechanism for companies willing to purchase emission permits. Thus, in November 2010, Regulation №1031 / 2010 was adopted.

At this stage (Phase 3 of the EU ETS development), the system covers more than 11,000 power plants consisting of combustion installations with a rated thermal input exceeding 20 MW (other than those for hazardous or municipal waste), refineries, coke ovens, which produce iron and steel, cement clinker, glass, lime, brick, ceramics, paper and cardboard, cellulose, aluminum, ammonia, nitrogen; this also includes CO<sub>2</sub> capture, pipeline transport and geological storage of CO<sub>2</sub>.

It should be noted that the level of the emission limit varies depending on the sector: by 2027 it is planned to reduce the level of free permits to zero in all industries, while free permits for electricity generation since the beginning of phase 3 of the EU ETS are not provided at all (the exception is only electricity produced from exhaust gases).

One needs to understand that, despite the declared principle of the free market, the relevant authorities may influence the pricing of permits. National regulators within the EU ETS are empowered to define specific price control mechanisms through the setting of minimum or maximum prices. Thus, according to Article 29a of Directive 2003/87 / EC, "if for more than 6 consecutive months the allowance price is more than three times the average price of allowances during the two preceding years on the European carbon market" and such pricing is not associated with fundamental changes in the system, EU ETS member states are allowed to take measures to reduce prices by releasing 25% from the new entrants' reserve or immediately to "bring forward the auctioning of a part of the quantity to be auctioned."



## UKRAINIAN ETS

Given Ukraine's commitment to harmonize its legislation with the "acquis communautaire" in the light of the Association Agreement, Ukrainian ETS will be largely influenced by the EU ETS. First of all, it is necessary to implement the idea of the gradual development of the national ETS to prevent chaos, misunderstanding of the system by enterprises, and possible manipulation of market players. It seems advisable to introduce two key phases ("pilot" and "base") to identify potential weaknesses in the system during the first "pilot" year of operation.

The main task for the viability of the Ukrainian ETS is to create an independent regulator. It should be able to control auctions, adjust the market by setting emission ceilings for different industries, the minimum price per ton of CO2 equivalent, and reduce the sharp rise in prices, the formation of which was not caused by fundamental changes in the system. The regulator should also be empowered to control both the future electronic permit system (through which market participants will have their own "carbon accounts" to monitor the number of permits available and sell permits to other market participants) and the greenhouse gas monitoring, reporting, and verification system.

In contrast to the auction system, which should occupy the main share of the trading system, the segment of bilateral agreements in the Ukrainian reality attracts special attention. When creating a Ukrainian ETS, it should be understood why it is necessary to be able to sell/buy permits for greenhouse gas emissions not at auctions, where the seller is the state, but directly from other private companies. In the case of a system of this type, it is necessary to ensure control over this market segment (in particular, by setting a minimum price per ton of CO2 equivalent) by the regulator to prevent any manipulation of enterprises willing to maximize their profits. The auctions for emission permits themselves must be conducted through a special electronic public procurement system, for example with the help of "Prozorro. Sales".

**VIKTOR KARVATSKYY**,  
Think Tank ADASTRA

# UKRAINIAN EMMISSIONS TRADING SCHEME: ALTERNATIVE TO THE CARBON TAX

THINK TANK

ADASTRA