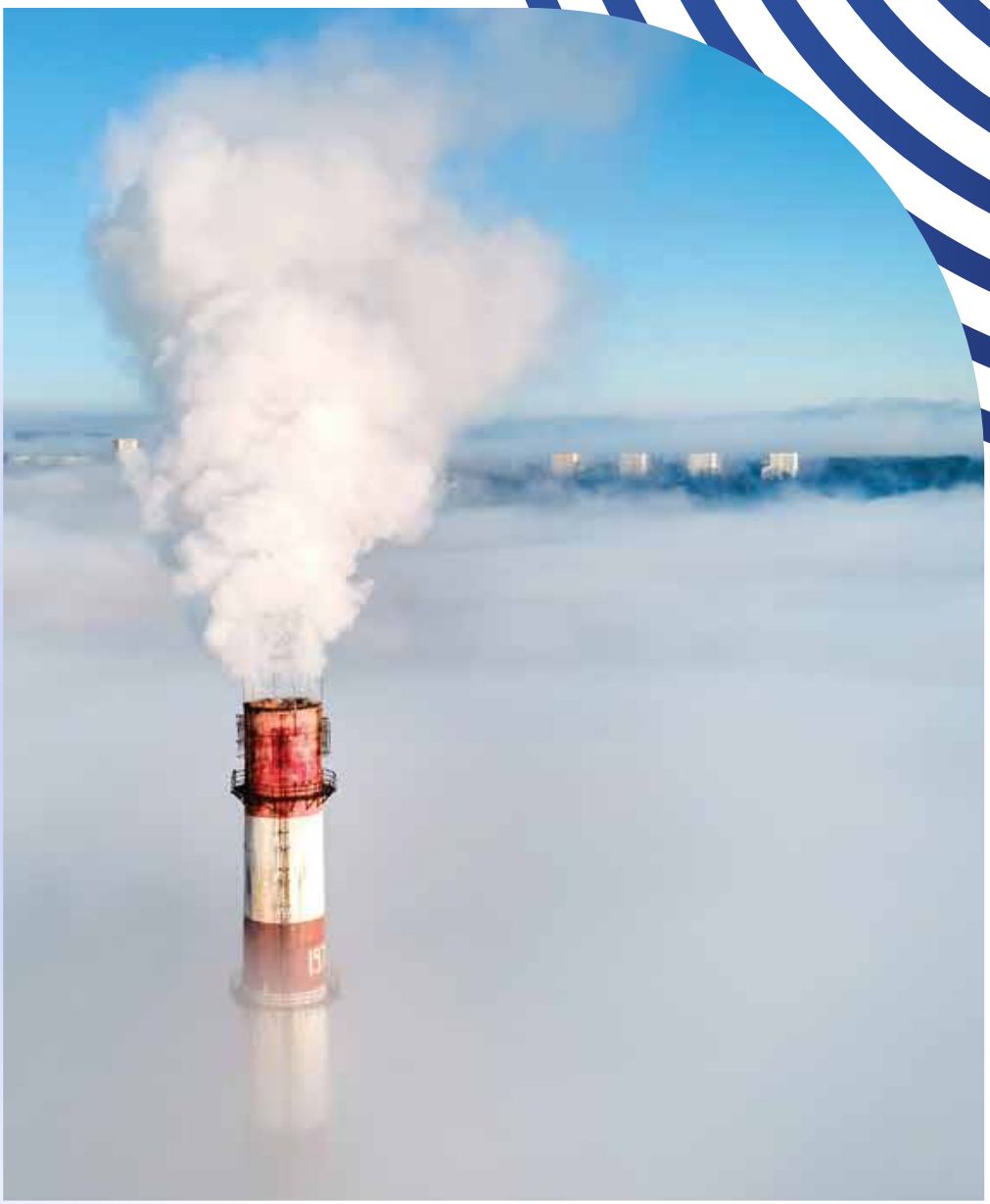

EMISSION TRADING SYSTEMS (ETS): BUILDING A NATIONAL ETS IN UKRAINE AND EU-ALIGNMENT

ПРЯМУЄМО РАЗОМ
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УКРАЇНСЬКИЙ КЛІМАТИЧНИЙ ОФІС
ФЕДЕРАЦІЯ РОБОТОДАВЦІВ УКРАЇНИ

How it works

Emissions trading systems, so-called ETS, are a fundamental component of carbon market mechanisms and applied widely across global efforts in limiting GHGs emissions. An ETS operates under the principles of «cap-and-trade». With a cap set on the total amount of greenhouse gas emissions permitted, the system limits total emissions to a certain amount annually. The cap is implemented through emission allowances, each granting the right to emit one tonne of CO_2 equivalent. Allowances are primarily allocated through auctions and can be traded on the carbon market. As the cap tightens over time, the supply of allowances correspondingly decreases.

The EU ETS

Perhaps the most prominent example is the European ETS system, also known as EU ETS. Its cap is reduced annually in line with the EU's climate objectives, ensuring a steady decline in overall emissions. By 2023, emissions from power generation and industrial installations covered by the EU ETS had fallen by approximately 47% compared to 2005 levels[1]. Companies covered by the EU ETS are required to monitor, verify, and report their emissions annually, purchase allowances at auction, and surrender sufficient allowances to cover their verified emissions. Although most allowances are sold at auction, some may be allocated free of charge to certain sectors that find it particularly difficult to reduce GHG emissions or are prone to carbon leakage (relocation of capacity outside the country). There is also a secondary market where companies can trade allowances among themselves: those that reduce emissions below their permitted level can sell their surplus allowances or save them for future use. All transactions are recorded in the Union Registry. Allowance prices are determined by supply and demand in the EU carbon market, which operates under a comprehensive regulatory framework. The progressively declining cap signals the increasing scarcity of allowances, giving them market value and creating a financial incentive for companies to reduce emissions in a cost-effective manner. Revenues generated from allowance auctions are substantial: since 2013, the EU ETS has raised more than EUR 175 billion[2].

1. About the EU ETS — Climate Action — European Commission
2. About the EU ETS — Climate Action — European Commission

Ukrainian National ETS

Through the EU Association Agreement and EU candidate status, Ukraine is obliged to introduce a national ETS that will path the way for the country's participation in the EU ETS. In response, the «Law of the Basic Principles of Climate Policy», adopted by the Ukrainian Parliament on October 8th, 2024, mandates the establishment of a national ETS to attain the country's climate objectives. In 2025 Cabinet of Ministers of Ukraine also adopted an Order «On approval of the action plan for the creation of a national greenhouse gas emissions trading system».

Possible configurations of Ukrainian ETS presented by the Ministry of Economy, Environment and Agriculture of Ukraine.

At the end of 2025, the Ministry of Economy, Environment and Agriculture of Ukraine presented a vision for a national ETS[5].

The first option outlined by the Ministry is that Ukraine focuses on establishing a credible MRV system first and then joins the EU ETS immediately upon acquiring full EU membership in the 2030s. In this framing, "ETS alignment" before accession is achieved primarily through MRV readiness, while the actual carbon price signal and compliance obligations would arrive directly via the EU ETS once membership is secured.

The practical meaning of this alternative is shaped by how the EU ETS has evolved into a tighter and more harmonised cap-and-trade system. Early EU ETS phases relied heavily on free allocation (and suffered from over-allocation and weak price signals), but later phases shifted toward auctions and benchmark-based free allocation, with an EU-wide cap that declines annually. The scope of the EU ETS also expands over time (e.g., inclusion of maritime emissions in 2024 and the launch of ETS2 for buildings and road transport in 2027), reinforcing a trajectory of broader coverage and stronger carbon-cost exposure.

3. Supporting the implementation of an emissions trading scheme in Ukraine | Internationale Klimaschutzinitiative (IKI)
4. Картка законопроекту — Законотворчість
5. Запрошуємо на онлайн-захід для обговорення Національної системи торгівлі квотами на викиди парникових газів в Україні | Міністерство економіки, довкілля та сільського господарства України

Because of this maturity, direct entry into the EU ETS would likely expose Ukrainian installations to a carbon price level set in the EU market rather than a domestically managed «learning curve». The post-2021 EU ETS logic is described as «all polluters pay» with a higher and more consequential price environment (including a referenced price range of EUR 53–90/tCO_2 and a forward price pathway around ~EUR 88–95/tCO_2 toward 2028–2030). For regulated operators, this translates into immediate allowance-purchasing discipline and faster pass-through pressure across supply chains, particularly for carbon-intensive goods.

The Ministry's modelling for the «join EU ETS in 2030» pathway (with Ukraine keeping a domestic carbon tax prior to accession) illustrates why the timing matters. Under the illustrated assumptions, EU allowances prices rise from about EUR 95/tCO_2 in 2030 to about EUR 140/tCO_2 by 2034, while the share of emissions covered by free allocation declines from roughly 28% (2030) to about 7% (2034).

In the same illustrative pathway, the total economic burden increases from about EUR 6.1 billion (2030) to about EUR 11.6 billion (2034), corresponding to a burden rising from roughly 3.37% to 6.38% of GDP.

At product level, the same analysis highlights how a step change into EU ETS pricing can translate into sizable cost components in carbon-intensive outputs. Illustrative carbon-cost shares in 2034 include around 39% for pig iron, 91% for lime, 35% for ammonia, 63% for Portland cement, and up to 100% for coal-based electricity (with additional figures shown for gas electricity, heat for business, and selected metallurgical products). The narrative conclusion attached to these figures is that an abrupt start would create a level of cost pressure the market may not compensate, with risks for competitiveness and for export-oriented heavy industry.

The second option foresees that the ETS would be introduced gradually, with a clear timeline for how the system develops from preparation into full operation.

The countdown begins with a preparatory phase in 2025–2027. During this period, the focus is on the practical prerequisites without which the ETS cannot be operational for businesses: eliminating gaps in the annual monitoring-reporting-verification cycle, creating a national ETS registry and auction platform, strengthening the body responsible for administering the ETS, establishing rules for the use of revenues from the national ETS, and forming an ETS Fund aligned with EU fund approaches.

Phase 1 of the national ETS starts in 2028 and is designed as an «on-ramp» for covered companies. In this stage, auctions of allowances begin and companies start complying by surrendering allowances against verified emissions, but the system does not begin with an immediately binding national cap on total emissions. The compliance requirement rises gradually: companies initially cover only a defined share of verified emissions with allowances, and that share increases step by step over time (through 2028–2034, reaching 100% coverage later). The initial price signal is formed through auctions with a fixed minimum auction price, which makes it more predictable at the stage of business adaptation to the new regime of emissions planning, allowance purchasing, and investments, but at the same time, it is impossible to accumulate and carry over allowances to subsequent years. An important practical consequence is that, once an installation is included in the national ETS, operators do not pay CO_2tax on emissions.

Phase 2 is the «full» cap-and-trade stage. Here, Ukraine introduces a formal cap (CAP) and a fuller market architecture: a secondary market where companies can trade allowances and the ability to bank allowances between years, which is important for multi-year investment planning and smoothing compliance costs. The system also includes stabilisation elements, including a reserve of unallocated allowances and a managed price corridor. The timeline for moving into this cap-based phase is linked to the post-war context: the Ministry places the start of Phase 2 no earlier than three years after the cancellation of martial law and also frames its negotiating position with the European Commission as keeping Phase 2 from starting before the early 2040s. In parallel, EU membership is presented as a 2030s milestone in the overall trajectory.

For businesses, the impact grows as the system moves along this timeline. In Phase 1, the immediate change is that verified emissions begin to translate into a direct cost via allowances, but that cost ramps up gradually; this gives entities time to put in place emissions management, procurement strategies for allowances, and investment pipelines. In Phase 2, the cap and active trading strengthen the price pressure and make emissions performance more consequential for competitiveness: entities that reduce emissions need fewer allowances and can manage compliance costs more effectively as allowance scarcity increases over time.

The ETS is also designed as a financing channel for modernization. Auctioning allowances generates revenues, and these revenues are directed to investments in decarbonisation and “build back better” reconstruction priorities, including support for meeting best available techniques (BAT) benchmarks across sectors. Institutionally, this is tied to the creation of the ETS Fund during 2025–2027, so that carbon payments recycle into the upgrades and technologies businesses need to reduce emissions and remain competitive under the new rules.

Under the gradual «national ETS from 2028» pathway, the Mineconomy's modelling frames the system as a buffer against a sudden EU ETS-level price shock, with a carbon price and economy-wide burden that rise step by step as coverage expands. In this scenario, the allowance price in the national ETS starts at €4.75/tCO_2 in 2028 and increases to €9.92/tCO_2 by 2034, while the surrender obligation factor rises in parallel from 10.0% (2028) to 100.0% (2034). This translates into an estimated economy-wide burden growing from about €423.83 million in 2028 to €885.89 million in 2034, equivalent to roughly 0.24% of GDP in 2028 and 0.49% of GDP in 2034; the same modelling also shows ETS revenues rising from €42.38 million (2028) to €885.89 million (2034), with a split after EU accession where 25% could be transferred to EU ETS-related funds and 75% retained for domestic decarbonisation needs.

At the product level, the Mineconomy's estimates underline why this pathway is presented as «manageable» for industry: even by 2034, the carbon-cost component as a share of product price remains in single digits for key goods — around 2.8% for pig iron, 6.4% for lime, 2.5% for ammonia, 4.5% for Portland cement, and 7.1% for coal-based electricity (with additional illustrated shares of 2.4% for gas electricity, 2.7% for heat for business, 1.9% for silicomanganese, 0.6% for seamless pipe, and 0.4% for steel billet (EAF)).

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