CCS
Follow the Money

Institutional and economic conditions for the creating a market
CCS in the EU

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This document includes a summary of the study**«CCS - Follow the Money»**, which focuses on the financing models of CCS projects in the EU. The reader interested in the details can access the full text via the following link[1]The aim of the study is to shed light on the economic side of the problem and the form of financial instruments offered by the EU or demanded by the oil and gas industry lobbies. The key points are:

- *Financing Funds*
- *DesignCCS: Facts and figures*
- *Conditions for Creating aCCS market*
- *Pollution Stock Exchange andCCfD (climate contracts)*
- *Hydrogen Bank*
- *CCS Bank <under Establishment>*

<The summary of the study follows>

[1] https://co2-syntonistiki-thassos.com/prinos/2026_04_08_H2_Bank_vs_CCS_Bank.pdf

Summary of the study

Decarbonising energy-intensive industries is one of the biggest economic challenges of European climate policy. While market-based instruments, such as the EU Emissions Trading System (EU ETS), are considered crucial for reducing emissions in the electricity sector, their effectiveness in capital-intensive infrastructure technologies, such as carbon capture and storage (CCS), remains controversial. The regulatory architecture of CCS touches on several areas of law: environmental law (storage permit and long-term monitoring), energy law (transmission networks), state aid law (state subsidies) and EU budgetary law.**Therefore, the question arises to what extent a systematic, institutional support for CCS is permissible under European law. The case of Prinos is exemplary in this regard**. The risk of investment failure is enormous. CCS is characterized by high sunk investment costs, long payback periods, and the significant regulatory uncertainty mentioned above. These characteristics lead to a high investment risk, which can lead to systematic underinvestment under conditions of variable CO_2 prices.

From an economic perspective, CCS projects are real options with a high "wait-and-see" value. Companies postpone investments as long as there is uncertainty about future CO_2 prices and the regulatory framework. Empirical studies on the reaction of investments to CO_2 price signals show that price volatility significantly reduces the likelihood of investments, even if the expected average price increases.**In this context, the lobby ofCCS industry in the EU raises the question of whether the EU ETS – even with structurally increasing certificate prices – provides sufficient incentives for the development of the CCS market.**

At the heart of this issue is therefore the issue of risk sharing.CCS is characterised by high initial capital investment (CAPEX), long payback periods and dependencies on grid infrastructure. At the same time, avoided emissions do not create a classical product market in the traditional sense. Rather, economic value arises from regulatory CO_2 price signals. The EU Emissions Trading System (EU ETS) is the EU's central instrument for market-based climate protection. The price of CO_2 is subject to significant fluctuations and is determined in the long term by political factors, which limits investment security for capital-intensive projects such as CCS.

In this context, complementary instruments such as carbon contracts for difference (CCfDs) were developed. These aim to balance the difference between a CO_2 reference price and the actual cost of avoidance, thus creating planning certainty. In parallel, there are various EU funding mechanisms – such as innovation and modernisation funds – that support targeted demonstration and scale-up projects. However, the question arises whether these fragmented instruments are sufficient to create a functioning and liquid CCS market in the EU.

The market development in the CCS sector is characterised by several structural challenges:

- First, there is a coordination problem between broadcasters, transmission system operators and storage facility managers.**No guaranteed quantitiesCO_2, there is no basis for infrastructure investments, while without infrastructure there are no incentives for industrial sequestration projects.**

- **Second, there are long-term liability and regulatory risks, particularly with regard to storage and monitoring of CO_2 stocks. Regarding Kavala/Thassos, this is our main problem.**

- Third, the cost sharing between private entities and the public sector has not yet been clarified. definitively. This situation presents the typical characteristics of market failure, network economies and public goods and suggests the need for an active role of state institutions. Private individuals require enormous financial assistance from the public. The system that at least theoretically supports our economic edifice, the free market, cannot work in the case of CCS.**Economic and environmental risks are transferred in the long term to local communities.**

The arena for new financial instruments has therefore opened. In this context,**promoted by The powerful oil industry lobby is increasingly pushing the idea of a European "CCS bank", which would be institutionally linked to the recently established European Hydrogen Bank.**The transferability of this The model for CCS raises the question of whether a centralized auction and subsidy model reduces investment uncertainty more effectively than the existing mix of instruments. The Hydrogen Bank aims to provide, through competitive auction mechanisms, a fixed subsidy per unit of renewable hydrogen produced, thereby reducing investment risks and fostering market development. **Characteristic elements are the combination of centralised resource concentration, standardised financing criteria and price determination through auctions.**The transfer of this model to CCS raises fundamental questions about market design: Can such an institution guarantee price stability, scalability and coordination of CCS infrastructure? Or is there a risk of creating a duplicate structure with existing instruments, such as the EU ETS, i.e. a substitute for the emissions trading mechanism? The EU is still silent despite the thunderous voices we hear from the oil lobby.

This study examines the existing European financing and market mechanisms for CCS and analyses to what extent they are suitable for creating a sustainable market for the capture, transport and storage of CO_2. Based on an analysis of cost structures and market barriers, the EU ETS, the CCfDs and existing EU funds are assessed in terms of investment incentives, risk sharing and institutional coherence. Based on the above, the hydrogen bank model is used as a reference framework for a systematic discussion of the potential advantages and disadvantages of an independent CCS bank.

The main purpose of this study is not the technological feasibility of CCS but mainly the institutional and financial planning that will allow or not the creation of a sustainable CCS market at a European level. The presentation analyses the EU's existing "financial arsenal", its functioningEU Emissions Trading System (EU ETS), the role of Carbon Contracts for Difference (CCfDs) and the proposal to create a CCS Bank by the oil industry lobby along the lines of the European Hydrogen Bank.

Key Conclusions:

- **Cost**
  The presentation highlights that the total cost of the CCS chain (capture, transport, storage) is estimated to be between €150–300/tonne CO_2. This cost is significantly higher than the recent CO_2 price in the EU ETS (~€85/t), which creates an investment gap. The analysis shows that the expected growth of storage capacity**it will not be exponential but linear**, because of

long licensing and infrastructure construction times. So there is a significant gap between political goals and real investment potential.

- **The EU's Financial Arsenal**
  Existing tools often operate piecemeal. In many projects, the State covers a significant part of the CAPEX, but stable OPEX revenues are not ensured. Banks appear cautious, requiring state guarantees. The problem is summarized as follows:**The state pays in advance but the risk goes to society, there is no price competition €/ton and if the ETS price decreases, the project becomes unsustainable.**

- **Conditions for Market CreationCCS**
  The creation of a functioning CCS market requires CO_2 transport infrastructure (network platform), transparent mapping of storage spaces (Investment Atlas), a cost and risk sharing mechanism as well as third-party access to avoid monopoly structures. The central question remains:**Who pays the difference between costsCCS and ETS price**The presentation highlights the three sources:

  the The emissions trading (through
  the ETS) The state budget and
  the consumers through taxes/contributions

- **EU ETS and CCfDs.**
  The EU ETS operates as a cap and trade system. The presentation uses the example of “chocolate bars” to explain the mechanism of limited supply and trading of allowances. However, the ETS does not guarantee a fixed price. This is where the CCfD mechanism comes in. A CCfD:

  the It guarantees a "strike price" (e.g. €150/t).
  the If the ETS price is lower (e.g. €70/t), the state covers the difference. If the
  the ETS price increases, the payment is reduced or zeroed.

  CCfDs reduce investment uncertainty, but they create huge issues of state aid and fiscal risk.

- **Why the oil lobby is proposing theCCS Bank as a solution?**

  CCS Bank will operate with a mechanism**pay-as-bid**: companies submit bids €/ton and those requesting the least aid are funded, until the budget is exhausted.

  Without CCS Bank we have upfront subsidy, political selection of projects with unknown real costs of €/tonne and therefore high fiscal risk.

  CCS Bank will introduce an auction**(call for bids)**, payment per ton of storage, price competition, cost transparency and therefore project scaling. This means that the competent state agency will have to draw up all the specifications on the basis of which the companies will make the offers. The question here of course is whether, for example, the Ministry of Energy and Mineral Resources has this know-how... which I personally doubt based on my experience in the Prinos project.

- **The Hydrogen Bank Model.**

  The European Hydrogen Bank is a model because it uses competitive auctions, provides a long-term premium (15–20 years),**does not "politically" choose the winners**and thus reduces the average cost of capital through fixed income.

  The idea is to transfer this model to CCS, so that the state “buys” CO_2 storage at the lowest possible price, reducing political interventionism and accelerating the creation of a single CO_2 market in Europe.

Conclusions:

The presentation concludes that, beyond the environmental problems we have in Prinos, the challenge of CCS is not only technological but mainly institutional and financial. I believe that a very elegant and sophisticated financial engineering model) with the aim of transferring capital without risk from the public to the private sector. When we read and talk about**bankability**This is exactly what is happening. How will the public sector be able to take the risk for20 to 30 years (after that it will be his anyway) from the investment so that the business has guaranteed income and can borrow from banks without risk.

In this way, we enable not only the shares of these companies to become attractive to small and large institutional investors, but also large asset management companies (e.g. BlackRock with iShares, Vanguard, etc.) to enter and have already entered the game by issuing stock market products that will be based on CO2 Capture and Storage technology. And all these investments will be made in the name of the Green Deal, knowing that the percentage of CO2 storage with CCS technology is negligible in relation to global CO2 emissions. A discussion of long-term investments in sustainable alternative solutions such as natural sources of capture (reforestation, marshes, seagrass meadows, etc.) and environmental protection is stifled at its birth. For these solutions, we do not find any Financial Engineering model in the EU to the extent that we have in the field of decarbonization of energy-intensive industries. The reason is simple: no investor thinks in terms of 30 to 50 years, but only the numbers they must present to the market and their shareholders in the next three months.

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