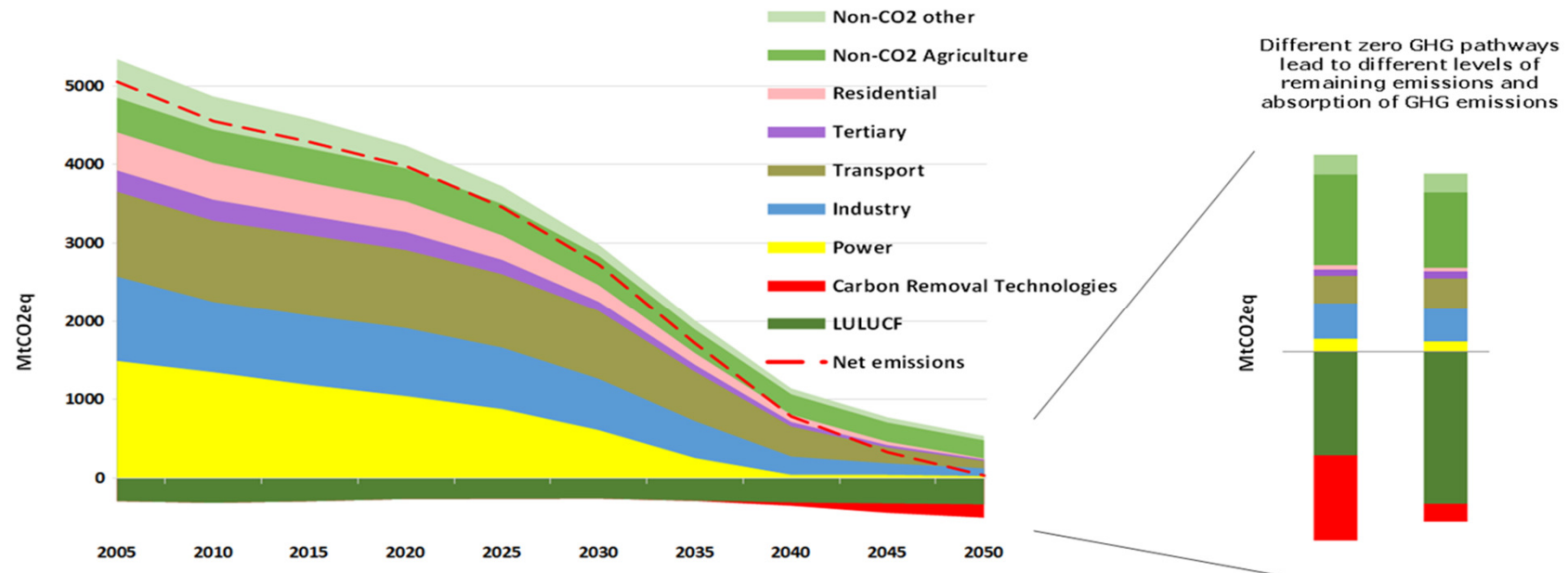


Designing a Policy Package to Decarbonise CO₂-intensive basic materials sectors

IETS, Vienna - 09/10/2019
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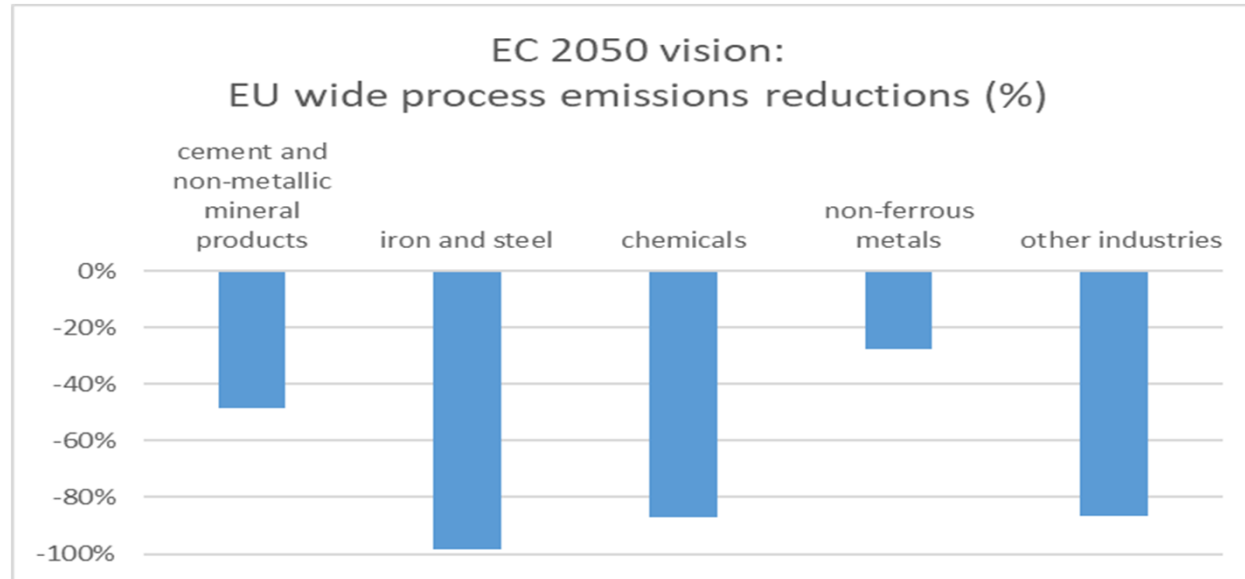
EC Long term strategic vision (TECH scenario)



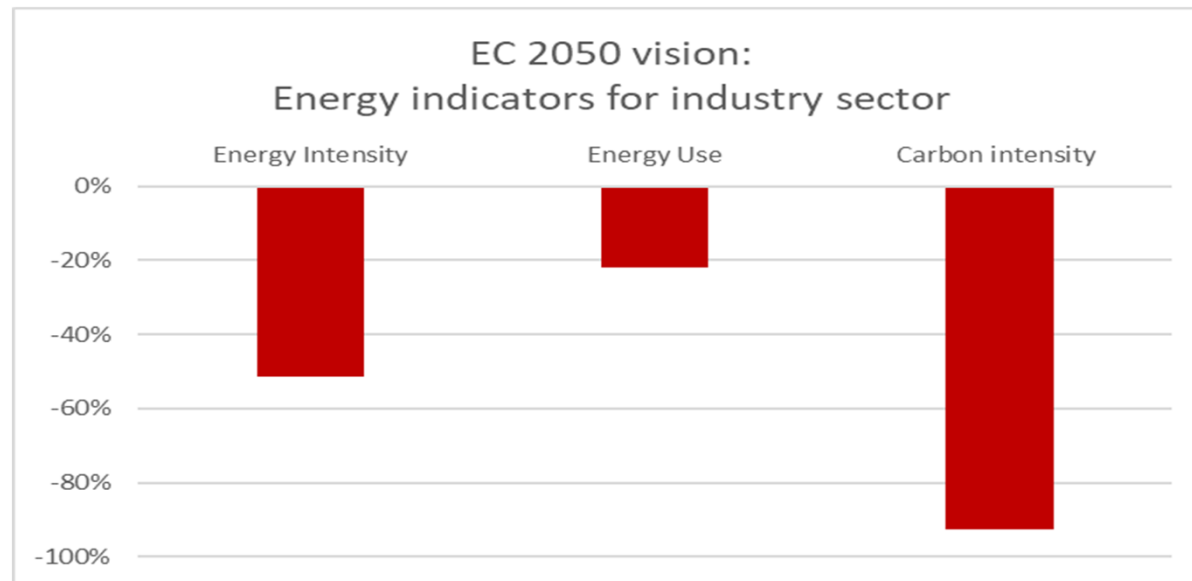
Industry sector emissions reduced by a ~85% by 2050 (-94% combustion & -75% process emissions).

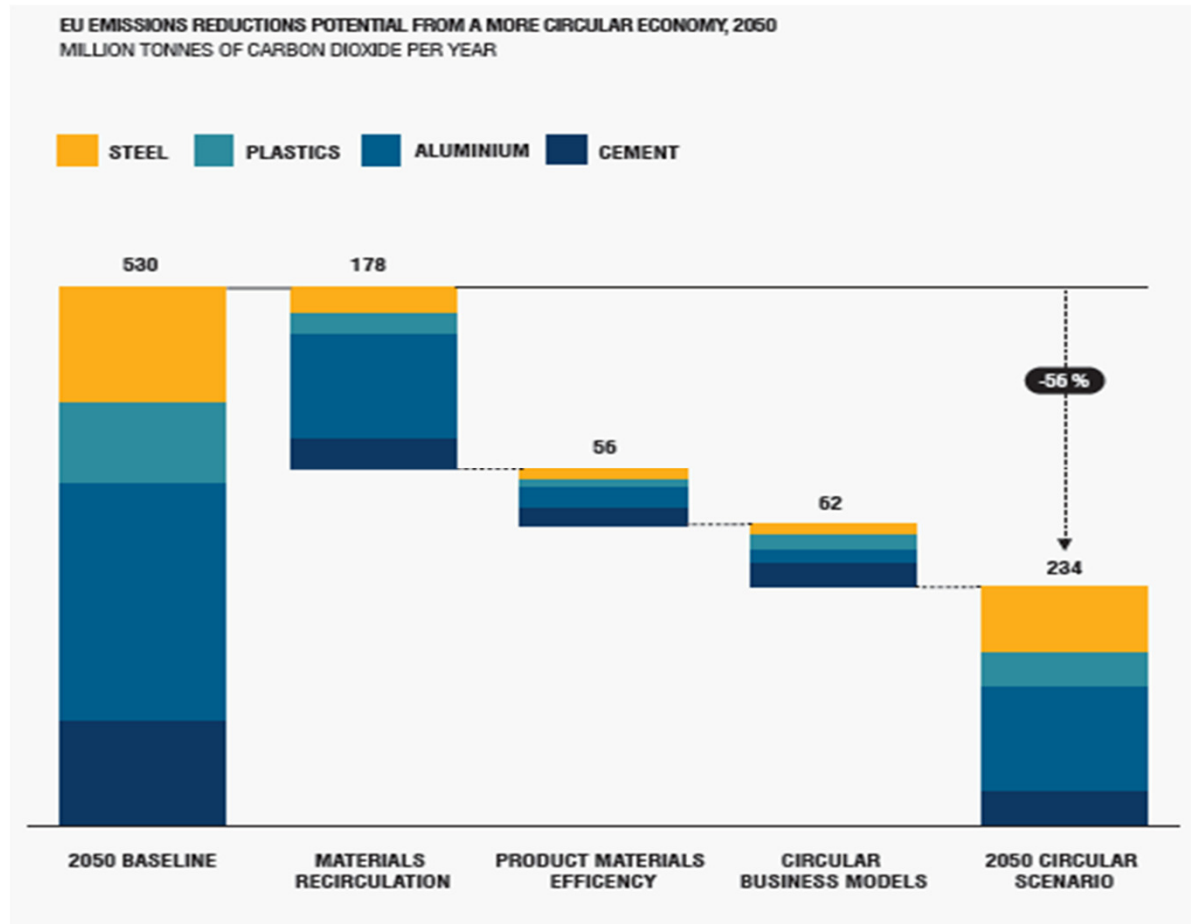
⇒ dramatic scale up and deployment of ultra low carbon tech (supply side) during next 10-15 years.

⇒ significant improvements in material resource efficiency and material recirculation (demand side)



Tech scenario





Net zero also requires significant improvements on demand side, through material efficiency of production, services, and especially enhanced recycling

1. **Create a business case for the first *commercial scale* sites**
2. **Scale up demand for ultra-low-carbon technology**
3. **Phase out for old, high carbon tech**
4. **Infrastructure, including access to significant quantities of decarbonised energy**
5. **A robust long-term anti-leakage framework**

1. Missing business case for first commercial scale projects :

- Carbon price-linked Contracts for Difference (competitive tender)
- Public innovation equity for first commercial projects (compatible with national Long Term Strategy for climate neutrality)

2. Scale up demand for ultra-low carbon materials:

- Public procurement
- Embedded CO2/material labels and ultimately standards for buildings, automobiles, etc.

3. Sunset clauses for old, high carbon tech:

- Set clear phase out schedule (e.g. ICE cars or coal plants)
- Operating licences will not be granted to plant beyond those dates.

4. Infrastructure/access to decarbonised energy

- Zero-CO2 energy infrastructure plans for energy-intensive industrial clusters
- Enable signing of long-term supply contracts for decarbonised energy for certain categories of sites (Competition law issue)

5. Robust long-run anti-leakage framework:

- Border carbon adjustments are desirable but difficult
- Stronger legal (WTO) footing may be to use protect standards (sunset policies relating to what can be sold in internal market).
- Both solutions would require int. coordination and take time...

- 1. Preserve material value to enable high value recycling/re-use**
- 2. Raise material efficiency in production**
- 3. Increase quantity & quality of collection of old scrap**
- 4. Create demand for recycled materials in high quality applications**

1. *Preserve material value for high circularity rates*

- Set policy targets based on quality of recycling
- Strengthen Extended Producer Responsibility schemes
- Eco-design and labelling

2. *Raise material efficiency in production*

- Product design guidelines, reporting, labelling, lead markets and ultimately standards
- Financing for research/pilot demonstration of material efficient production technologies

3. Increase quantity & quality of collection of old scrap

- Disincentive demolition and shredding (prior to full decontamination).
- Promote innovative technology that improve material recovery (e.g. SmartCrusher, automation, prefab)
- Improve collection and tax incentives of single use packaging

4. Enable demand for recycled materials

- Systems to guarantee and track quality of circular material flows
- Promote localised, closed-loop recycling for market niches
- Public procurement and private sector pledging

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Decarbonising basic materials in Europe:

How Carbon Contracts-for-Difference could help bring breakthrough technologies to market

Oliver Sartor, Chris Bataille (IDDRI)

Basic industrial materials—such as steel, cement and concrete, aluminium and certain chemical feedstocks—currently account for about 18% of EU greenhouse gas emissions. However, despite high technological potential, industrial companies still cannot commercialise and develop full-scale operations for these products. The main barrier is basic economics: there are no markets willing to pay the higher production cost of very low-carbon basic materials.

To fill this gap, a variety of policy suggestions has been put forward, including innovation funds, green public procurement, carbon price floors, consumption charges on basic materials and border carbon adjustments (BCAs). However, these options, although potentially helpful as part of a wider policy package, are not sufficiently well targeted to address one core problem, i.e. there is currently no viable business case for commercial-scale investments in these technologies.

This study therefore explores the idea of awarding carbon contracts for difference (CCDFs) to help commercialise the first ultra-low carbon basic materials projects. It argues that this approach would be economically efficient, is compatible with EU state aid and WTO law, and is highly complementary to other policy instruments, such as those mentioned above.

KEY MESSAGES

A project-based "Carbon Contract for Difference" (CCDF) for ultra-low carbon materials could be used to ensure that projects for ultra-low carbon materials face a) a sufficiently reliable, "investible" carbon price and b) that the price is effectively high enough so deep decarbonisation technologies become commercially viable immediately, and can be commissioned during the coming 5-10 years.

This system would be somewhat similar to (although much less expensive than) "feed-in-premium/tariff" (FIT) policies for renewable energy projects to be "investible". However, it would work by guaranteeing producers of ultra-low carbon materials a fixed carbon price, rather than a fixed power, gas or heat price. It also only covers the difference between the current carbon price and the contracted price; if the carbon price were higher than the guaranteed price, there would be no payment.

This system would thus help to ensure that the CO₂ price faced by investors in first-of-a-kind commercial scale projects better reflects the true social cost of carbon in the economy. It would complement the EU carbon market by providing a substantially higher and more predictable (bankable) carbon price based on which large-scale long run investment decisions could be taken. A CCDF would be complementary with other key policies, including national or European innovation funds by providing a viable pathway to market for successful demonstration pilots. They could potentially be funded by a small downstream carbon charge on CO₂ intensive basic materials.

STUDY

NPS6
October
2019

NET ZERO 2050

VUB IRES

Industrial Transformation 2050

Towards an Industrial strategy for a Climate Neutral Europe

VUB IRES INSTITUTE FOR EUROPEAN STUDIES

In collaboration with

ECOS E3G

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EU level initiatives focus increasingly on heavy industry/basic materials:

- Long-term strategic vision for a GHG neutral economy in 2050
- EU Industrial Strategy: 2020
- ETS Reform & Innovation Fund
- Next EU Budget and budget earmark for climate (public procurement?)
- Circular Economy Strategy
- Eco-design regulations
- Revision of Env State Aid rules for 2020
- Discussion about reinforcing carbon pricing and BTAs/Anti-leakage options

However, national competence and leadership will also be important:

- Management of transition for brownfield industrial sites
- Fiscal or public procurement policies
- Reform of local building codes & recycling policies