

Energy Taxation Directive

Analysis for Energy Norway

13 March 2020



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Vikram Balachandar

 vikram.balachandar@frontier-economics.com

Dan Roberts

 dan.roberts@frontier-economics.com

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Energy Norway has asked us to consider how relevant the ETD is for electrification and energy-intensives

1 Implications for the energy transition

- Consider both current barriers and ways in which ETD may support electrification
- Focus on:
 - electricity and gas taxation (though recognising that taxation of solid and liquid fuels may also be relevant, where there are interactions with electricity)
 - impact on electrification of heating and transport

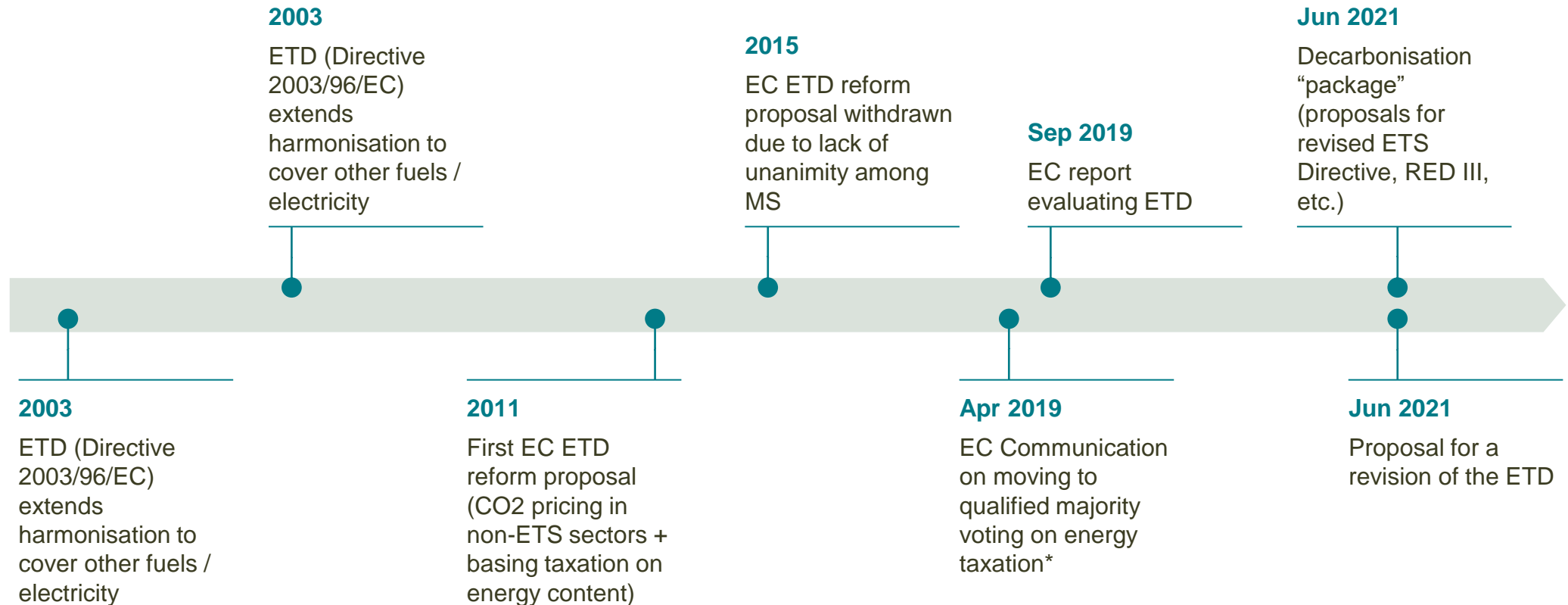
2 Implications for electro-intensive customers

- Identify potential areas of change of most relevance to electro-intensive industry (EII), including possibility that electrolysis might be brought within scope of future ETD
- Describe taxes / exemptions faced today by EIIs (focussing on France and Germany)
- Identification of electro-intensive sectors in France/Germany and their importance (e.g. in terms of GVA as share of GDP)

Allowing an identification of industrial sectors most likely to be affected by reform and a comparison (by Energy Norway) to the situation in Norway

This in turn will help in understanding the implications off potential ETD reforms

The Commission has seen a previous attempt to reform energy taxation frustrated, but the “Green Deal” could provide the impetus needed



Note: *COM(2019) 177 final

The ETD is supposed to allow Member States to support domestic policy objectives while respecting the single market

Member States free to set energy taxes as they wish, subject to respecting:

Minimum levels of taxation for energy products and electricity (by fuel / use)

Possibility for exemptions / reductions below minimum rates (e.g. for renewable fuels)

Mandatory exemptions (jet fuel, intra-EU navigation + inputs to electricity production* (Art 14)

Products out of ETD scope (e.g. final consumption of heat, non-fuel uses) (Art 2)

Other EU legislation (including State aid rules)

Environmental protection

Energy efficiency

Transport policy

International competitiveness

Rebalancing of taxation (e.g. away from employment)

Distortions to competition / intra-EU trade

Source: Frontier Economics, adapted from the Commission's ETD Evaluation Report (SWD(2019) 329 final), Tables 1 and 2. *Note: Member States can still introduce taxes for "environmental purposes" on inputs to electricity production, which then do not need to satisfy the minimum rates of taxation set out in the ETD (see Article 14(a), ETD). That said, even the Commission recognises that the "...Article however lacks clarity and does not define, what is meant by 'for reasons of environmental policy'" (see Commission ETD evaluation report, footnote 129).

A reformed ETD needs to work with the other parts of the policy landscape to ensure cost-reflectivity and efficient cost recovery

Cost reflectivity: taxes should reflect carbon content

- Need participants to internalise the carbon externality (as well as any other externalities, e.g. health)
- At a **minimum, taxes on fuels should reflect their carbon content** and the carbon price (unless there is already a separate economy-wide carbon price)

Single (EU-wide) carbon price would ensure efficient abatement

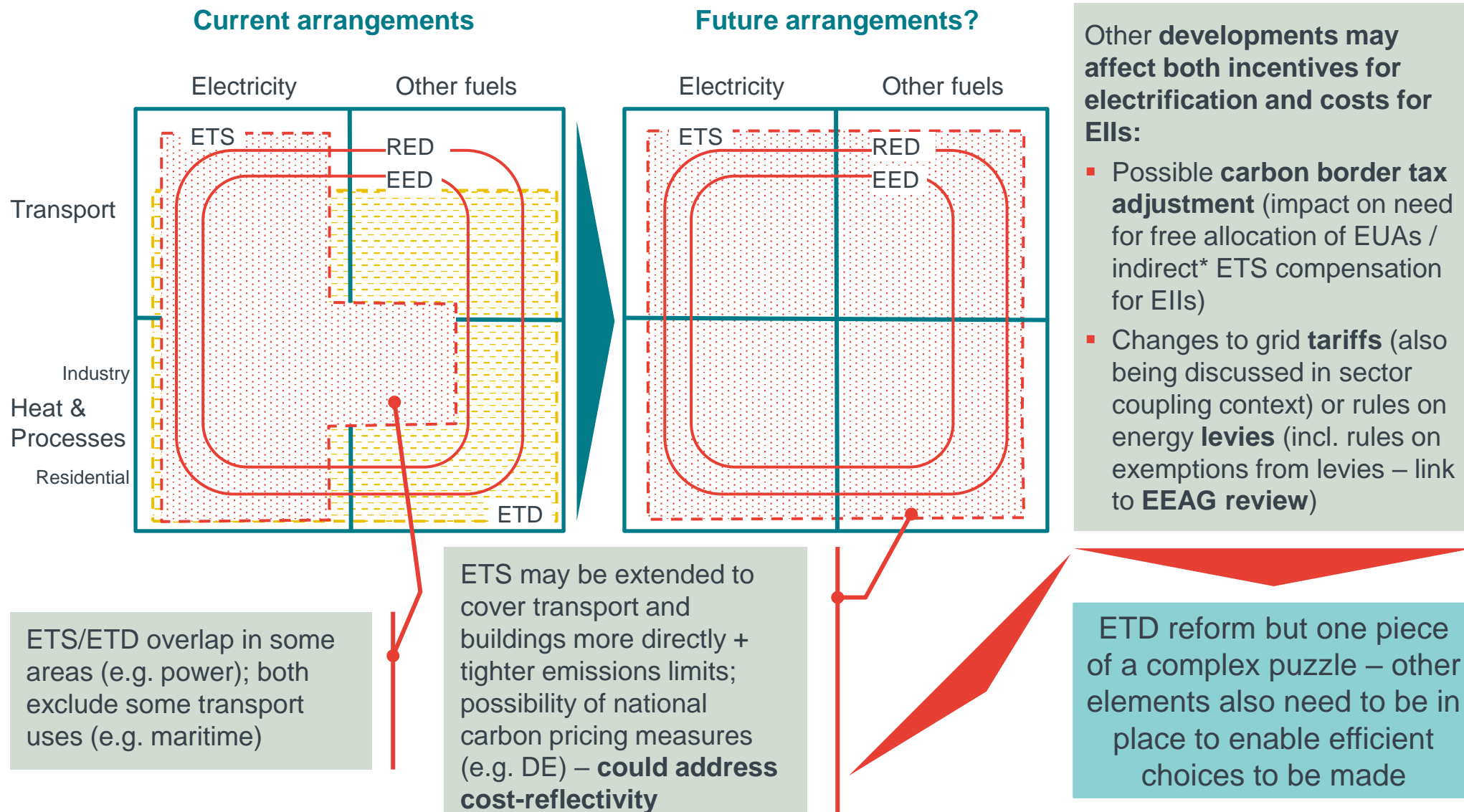
Raising revenues efficiently: differentiation in tax rates should not lead to distortions

- Need to recover revenues to finance government spending in least distortive way possible.
- This **may imply higher tax rates for those goods with relatively inelastic demand** (for example, road transport fuels).
- And **lower tax rates for goods with relatively elastic demand** (e.g. energy-intensive industry exposed to international trade competition)
- Key is to ensure that distortions between fuels that are **likely to be substitutes** are minimised (e.g. electricity v gas used for heating)
- But still possible to subject certain end-uses to higher tax rates compared to others (little substitution between end-use types)

May imply harmonisation in some areas (e.g. energy-intensives) **but not in others** (e.g. less ability for households to arbitrage between consumption location)

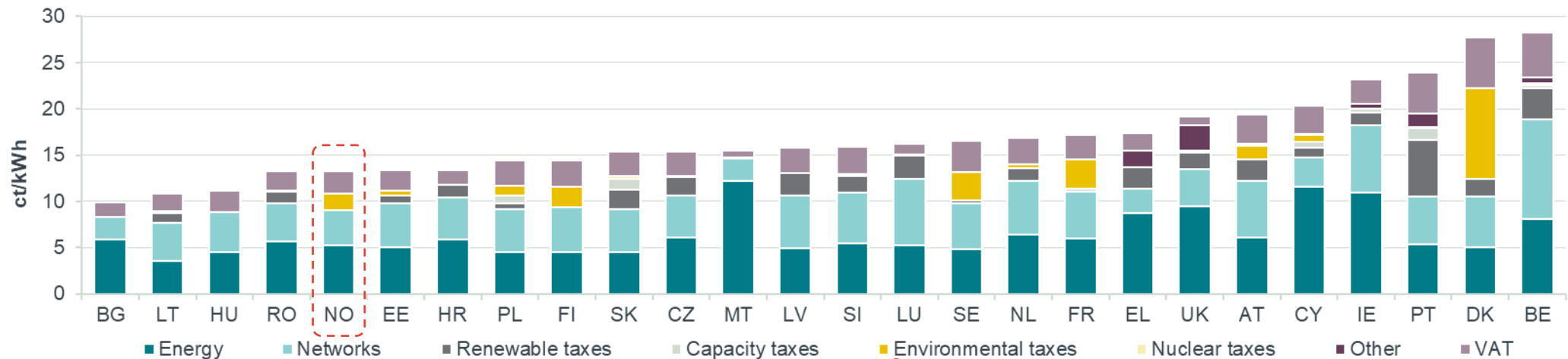
At the same time, any reforms need to be mindful of **distributional consequences** – it may be more appropriate to deal with these through additional tax/policy levers rather than through restricting the level of energy taxation

Other elements of the European Green Deal raise questions regarding the precise role of a (potentially) reformed ETD



While we focus on the impact of energy taxation, other components of retail energy prices will also have important effects on incentives

Household electricity prices in Europe, 2018



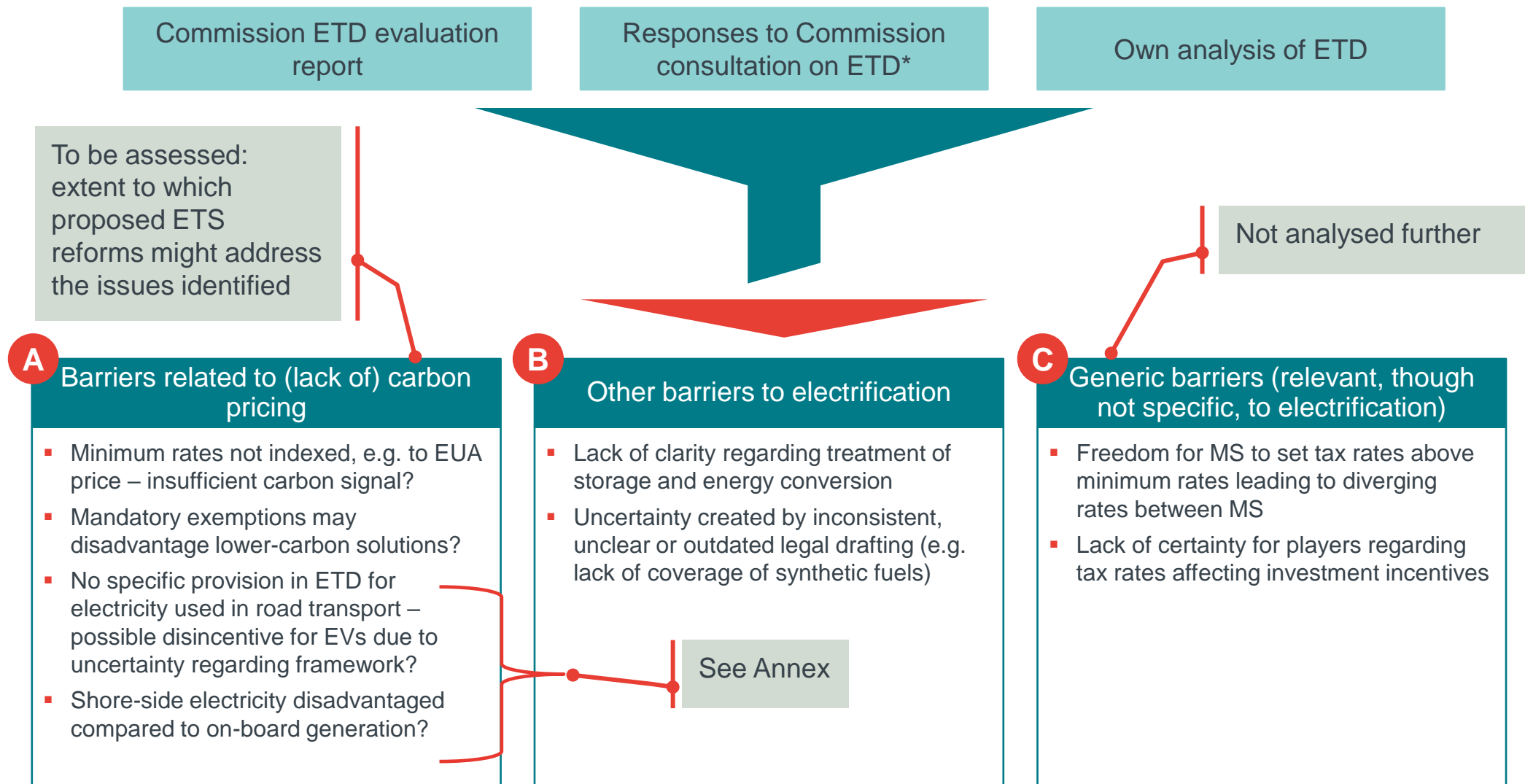
Source: Frontier based on Eurostat data (nrg_pc_204_c). All consumption bands. Note: Spain, Italy and Germany excluded due to data gaps.

Includes energy taxes

- Network charges and renewable (and other) levies, which have significant “revenue raising” components, typically make up greater proportion of retail electricity price than taxes
- If electricity can be substituted with other energy carriers (e.g. gases), then not clear that efficient for electricity consumers to bear sole burden such costs
- Risk of (inefficient) switching away from electricity if the need to raise revenues to finance energy-related costs is not considered in the round

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In our initial review of ETD provisions, we identified a number of potential barriers to electrification, some of which we investigated further



*Summary document prepared by Deloitte + individual responses from selected organisations viewed as being in favour of electrification (Eurelectric, European Datacentre Association, UFE, smarten, APIGEE (Portuguese large electricity consumer organisation), Iberdrola, Eurometaux and Norsk Hydro)

Outside of road transport, minimum rates for fuels are far below the current level of the ETS price

| | As set out in ETD | Converted to EUR/GJ | Implied EUR/tCO ₂ e |
|-----------------------------------|---------------------|---------------------|--------------------------------|
| Motor fuel use | | | |
| Petrol | EUR 359/1000 litres | 11 | 159 |
| Gas oil | EUR 330/1000 litres | 8.9 | 120 |
| Kerosene | EUR 330/1000 litres | 9.5 | 132 |
| LPG | EUR 125/1000 litres | 2.7 | 43 |
| natural gas | EUR 2.6/GJ | 2.6 | 46 |
| Heating use (non-business) | | | |
| Gas oil | EUR 21/1000 litres | 0.6 | 8 |
| Heavy fuel oil | EUR 15/1000kg | 0.4 | 5 |
| Kerosene | 0 | 0.0 | 0 |
| LPG | 0 | 0.0 | 0 |
| Natural gas | EUR 0.3/GJ | 0.3 | 5 |
| Coal | EUR 0.3/GJ | 0.3 | 3 |
| Electricity | EUR 1.0/MWh | 0.3 | Varies by region |
| Heating use (business) | | | |
| Gas oil | EUR 21/1000 litres | 0.6 | 8 |
| Heavy fuel oil | EUR 15/1000kg | 0.4 | 5 |
| Kerosene | 0 | 0.0 | 0 |
| LPG | 0 | 0.0 | 0 |
| Natural gas | EUR 0.15/GJ | 0.15 | 2.7 |
| Coal | EUR 0.15/GJ | 0.15 | 1.6 |
| Electricity | EUR 0.5/MWh | 0.15 | Varies by region |

Key

- Minimum rate implies CO₂ price above EUA price (~EUR 25/tCO₂e)
- Minimum rate implies CO₂ price below EUA price → not cost-reflective

- “Revenue raising” logic supports minimum rates higher than EUA price in transport (and could also, in principle, for heating given inelastic demand)

- Wholesale price of electricity already incorporates impact of ETS
- So if other fuels for heating are taxed below EUA price, then any tax on retail electricity will risk creating a distortion

Additional exemptions mean that there could be no carbon price signal for certain uses, and insufficient signals in others

Mandatory exemptions

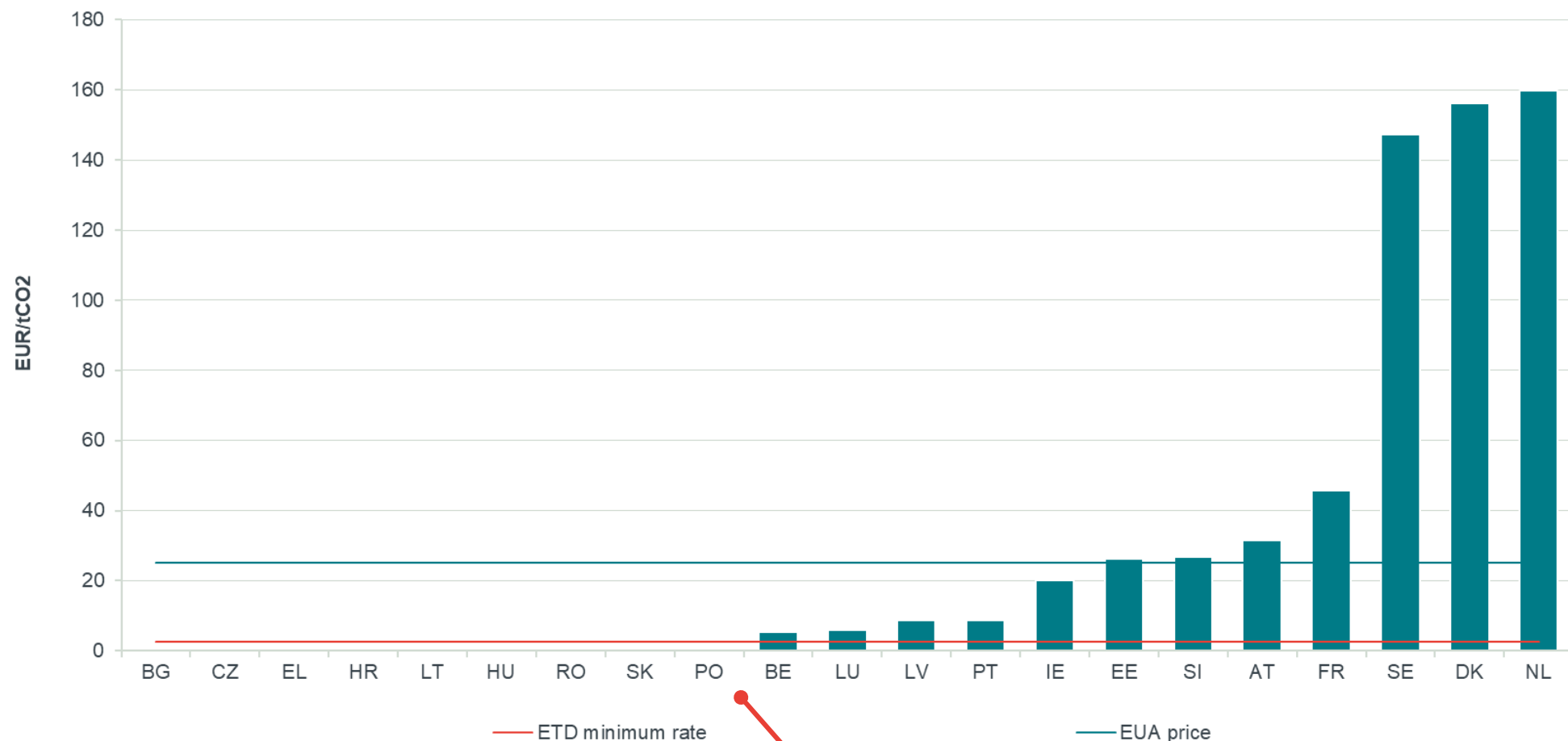
- Art 14 ETD: As well as energy products used to produce electricity, MS shall exempt:
 - Fuel used for air navigation, except private pleasure flying (scope of exemption may be limited to jet fuel)
 - Fuel used for navigation within Community waters (including fishing), other than private pleasure craft / fuel for electricity produced on board a craft
- Rationale for exemptions for navigation and aviation: “international obligations / maintaining EU competitiveness” (recital 23 ETD)
- Exemptions may be waived for transport between MS where there is a bilateral agreement – MS may in such cases apply taxation below minimum rates set out above
- Could imply insufficient carbon pricing for intra-EU navigation and for aviation – and **disadvantage for electrified solutions that do face the carbon price**

Optional exemptions

- Optional exemptions (Art 15 ETD), where total or partial exemptions / reductions (below minimum rates) are possible, e.g.:
 - electricity from renewable sources / mine gas
 - Energy used for CHP
 - Natural gas (in high gas-consuming member states), natural gas/LPG used in transport
 - Fuels used by households
 - Inelastic demand would actually indicate potential for higher energy taxation on households, provided governments can use other tools to mitigate distributional impacts of energy taxation
- Several Member State-specific exemptions

Many Member States tax gas below the minimum rate for households; few tax at/above implied carbon price close to EUA prices

Example: Differentiation in EU taxes on natural gas use by households



Clear that any moves to introduce carbon pricing for buildings will be politically contentious in CEE/SEE in particular

Source: Frontier based on Eurostat data. Germany and Italy excluded due to data gaps.

The “cost reflectivity” principle motivates a possible role for the ETD in addressing the lack of (consistent) carbon pricing in non-ETS sectors

- While MS may go beyond minimum rates, as explained above, these may not always be binding due to the possibilities for exemptions
- But assuming they are relevant, then, they differ in terms of the extent to which they address the carbon externality:
 - For road transport, minimum rates imply rates well above the EUA price
 - For aviation / navigation, zero taxation of fuels is the default position
 - In heating, electricity faces minimum rates implying CO2 taxation above the level of the EUA price, while other fuels do not (outside of use in large industry directly covered by ETS)
- Results in an **insufficient carbon price signal** (compared to ETS) for fuels other than electricity (outside of industry) → **disadvantage for electricity** (which faces ETS) **unless**:
 - ETS is extended to cover heat / transport directly (as proposed under Green Deal)
 - Or member states decide to impose tax rates higher than EU minimum (which as previously shown, is not always the case)
- If the goal is eventually to achieve harmonisation of the carbon price through ETS reforms, might **ETD reform be a potential nearer-term fix ahead of ETS reforms?**
 - In practical terms, would need to ensure that, **for sectors/fuels remaining outside the ETS, minimum rates reflect at least the EUA price** (or some measure thereof, e.g. average prices over a certain period)
 - But to avoid distorting competition between firms in sectors on the carbon leakage list, there would still be a case for relief from minimum rates for smaller installations (not currently subject to the ETS), to ensure a level playing field with larger industry receiving free allocation of EUAs

The “efficient revenue raising” principle means further care is needed to avoid distorting choices

- **Efficient revenue raising → higher energy taxes for road transport** (→ higher implied carbon price, compared to ETS price) – if ‘tank tourism’ is significant, this implies role for EU harmonisation to support countries’ ability to raise revenues
- In principle, a similar rationale could apply to electricity and fuels used in heating – since demand is relatively inelastic, though clearly policymakers are concerned about distributional impacts of doing so (and in any case less of a reason for harmonisation at EU level of taxes on households, given lack of ability to arbitrate between consumption locations)
- However, need to **avoid new distortions** when making any changes to minimum tax rates

Other ‘externalities’ need to be priced (e.g. air quality)

- It would be more transparent (and less complicated) if these were dealt with through separate tax instruments
- Especially as there may not always be a case for harmonisation at EU level (e.g. severity of air quality impacts may differ significantly from region to region depending on population density and income levels)

Choices between electricity / different fuels should not be distorted

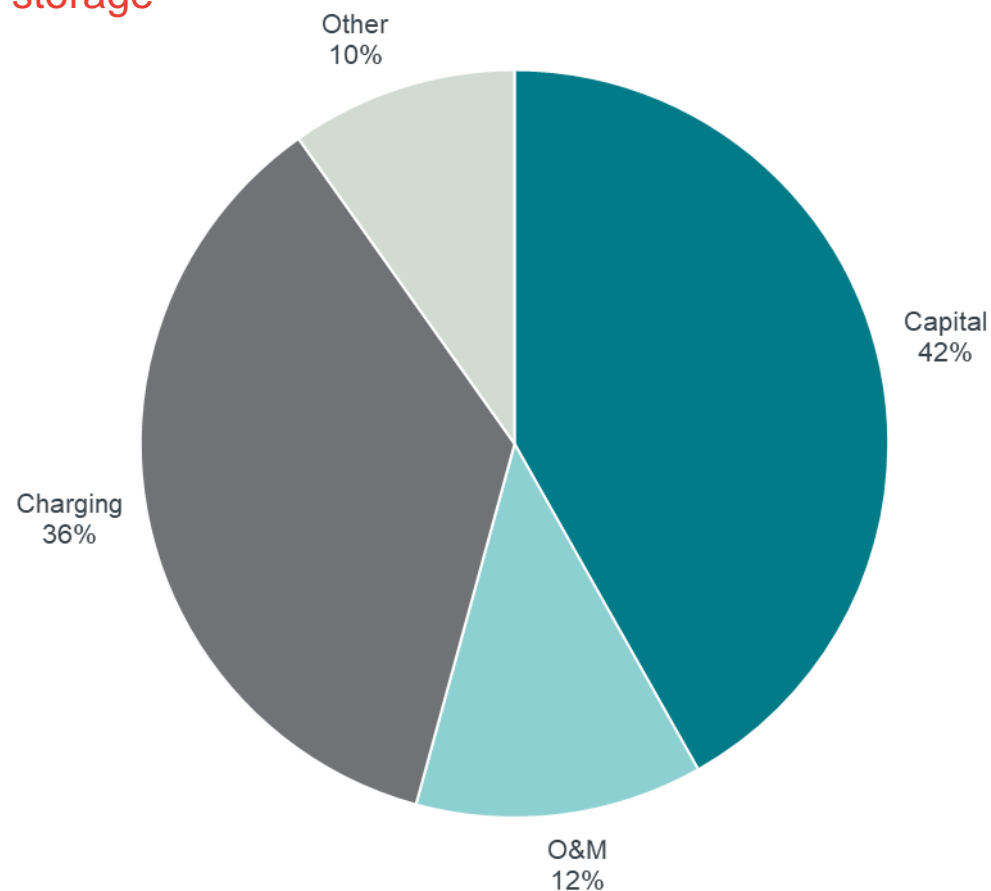
- Higher tax rates for electricity and/or (natural) gas while leaving rates for other fuels (e.g. coal, heating oil) unchanged could lead to unwarranted advantage for higher-carbon solutions
- Political constraints on raising tax rates on certain products (e.g. fuel oil in heating) may make it inefficient to seek to tax (potential) substitutes at higher rates

Need to preserve international competitiveness

- For trade-exposed businesses, taxes that are too high relative to international competitions could lead to a re-location of industry – i.e. demand is not inelastic
- Need therefore to preserve scope for relief for at-risk sectors (see next section for more detail)

Other issues may remain, even with an economy-wide carbon price

Illustration: Breakdown of levelized cost of battery storage



Source: Frontier based on Lazard (2019) levelized cost of storage analysis. Based on Wholesale use case, low cost scenario, 100MW capacity/400MWh usable energy case.

The framework might cause distortions by taxing electricity used by energy storage and conversion facilities

- Electricity costs are principal driver of costs of synthetic gas/ fuel and electricity storage
- ETD does not apply to electricity used principally for “electrolytic purposes”, but may apply to other ways of using electricity to produce fuels (e.g. production of hydrogen from reforming natural gas)
- In addition, ETD states that electricity is taxed when released for consumption, but does not define whether energy supplied to storage (or energy conversion) is “consumption”
- If electricity storage / energy conversion treated as consumers for purposes of taxation, risk of distortion of the level playing field between:
 - Energy conversion and other renewable/low-carbon gas/fuel production less dependent on electricity (e.g. biomethane production)
 - Energy storage and energy production
- ➔ Reformed ETD should clarify that any electricity taxation applies only to **final consumption of electricity**

The framework should be updated in view of technology developments

- ETD scope defined using CN codes: may mean products such as synthetic methanol and hydrogen are excluded, leading to uncertainty ➔ **need for an improved way of defining technologies that is robust to technological innovation**
- Also applies in public transport, where MS are allowed to apply complete exemptions to taxes in certain public transport uses, but not others (e.g. “trolley buses” mentioned, but not electric/fuel cell/hybrid buses)

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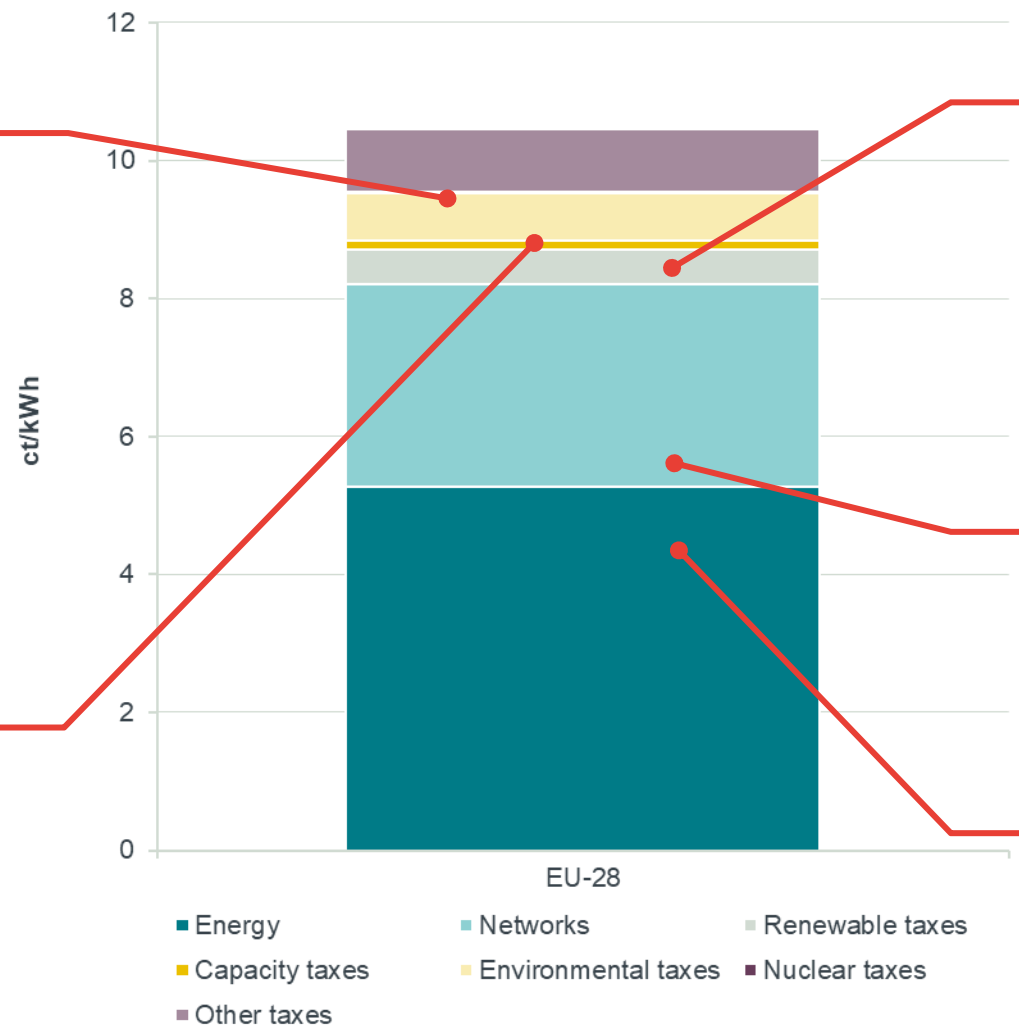
The rules for relief for electro-intensives differ by type of cost – with inconsistencies in generosity of aid and eligible sectors

Energy taxes: Energy Taxation Directive 2003

- Full exemptions for 'energy' intensives
- Energy intensive: energy costs >3% of production value (or energy taxes 0.5% of value)

Capacity mechanism levies:

Unclear framework (Commission has launched formal investigation into relief on charges in Poland)



RES levies (and, in practice CHP): EEAG

- 68 eligible sectors
- 85% reduction in surcharge or limit to 4% of firm's GVA (0.5% for firms with electro-intensity >20%)

Network costs:

StromNEV case (DE) suggests full relief from 'cost' recovery possible – though not fully tested

Carbon price component of (wholesale) energy cost: ETS State aid guidelines (not focus of this presentation)

The Commission is concerned that ETD may not strike the right balance between preserving competitiveness and minimising distortions to trade

The ETD fails to contribute to the functioning of the internal market while maintaining the international competitiveness of EU industries

...[The] broad flexibility left to the Member States increases the fragmentation of the internal market. While exemptions and reductions might have a positive impact on the global competitiveness of EU industries, their lack of harmonisation has a negative impact on the functioning of the internal market. The ETD therefore, fails to cater to the dual objectives of the single market and of international competitiveness...

Source: 2019 Commission ETD evaluation report

ETD criteria

Out of scope of ETD application (minimum rates do not apply):

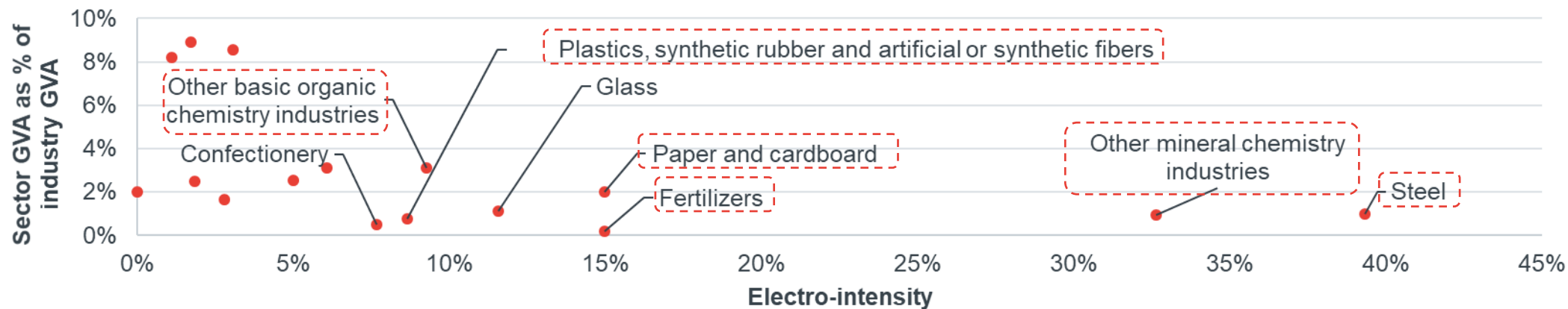
- “Electricity used principally for purposes of chemical reduction and in electrolytical and metallurgical processes”
- “Electricity, when it accounts for more than 50% of the cost of a product”

In ETD scope, but possibility of relief:

- **“Energy-intensive” business:** purchases of energy/electricity $\geq 3\%$ of “production value” OR national energy tax $\geq 0.5\%$ of value added
 - May benefit from full energy tax exemptions
 - Possibility for MS to restrict scope of exemptions further
- **Other businesses:**
 - May benefit from 50% reduction on minimum tax rate
 - Subject to entering into alternative arrangements (e.g. tradeable permit schemes, energy efficiency agreements) that lead to equivalent environmental / energy efficiency levels, had minimum tax rates been observed

We have assessed the importance and reliance on electricity of industrial sectors in France and Germany...

France

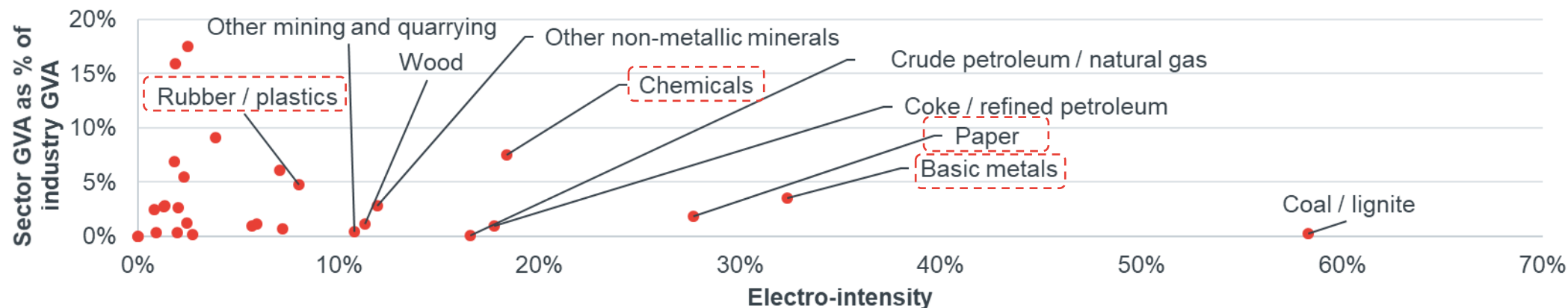


Source: Frontier Economics, based on INSEE and Eurostat.

Key

Key areas of overlap between France and Germany

Germany



Source: Frontier Economics, based on Eurostat and Statistisches Bundesamt

...however, reliance on electricity is not all that matters

The Commission may draw on the framework applied more recently for State aid in the form of relief from other aspects of electricity costs

Possibility Commission may seek to apply similar principles as used for relief from indirect ETS costs and RES-E support levies. Compared to ETD, differences with such approaches include that:

- Eligibility for relief depends on whether sectors are exposed to international trade
- Data centres not eligible (we understand due to data limitations making it difficult to demonstrate international trade exposure for sectors outside of manufacturing/mining)
- No blanket relief for electrolytical/metallurgical processes – depends on the sector/product and whether it is eligible
- Defining eligible sectors ex-ante for duration of guidelines, may reduce incentives for non-eligible industries to move towards electrification (e.g. oil/gas platforms[†] in Norway considering electrification), as more limited opportunity to benefit from relief

Indirect ETS costs (Phase IV)

- Rules for relief from ETS price passed on in electricity price
- Existing rules (ETS State aid guidelines) currently in process of being updated for 2021-30 - draft approach out for consultation
- 8 industrial sectors (defined at 4-digit NACE level) eligible* (leather, aluminium, inorganic chemicals, lead/zinc/tin, pulp, paper, iron/steel, refined petroleum)
- For other sectors, possibility to demonstrate eligibility through qualitative assessment
- Eligible sectors (at 4-digit NACE code level):

*ETS Guidelines: sectors are eligible if:

-Indirect carbon leakage indicator ($\text{trade intensity} \times \text{indirect emission intensity}$) ≥ 0.2 ; AND if

-Trade intensity $\geq 20\%$ and Indirect emission intensity $\geq 1\text{kgCO}_2/\text{EUR}$

Trade intensity calculated as ratio between:

-the total value of exports to third countries plus the value of imports from third countries; and

-the total market size for the European Economic Area (annual turnover plus total imports from third countries)

Indirect emissions intensity equal to kgCO_2 of emissions from sector, divided by sector value added (in euros)

Relief from RES-E support levies

- Energy and Environment Aid Guidelines (EEAG): Rules for relief from levies used to finance RES-E support costs. In place for 2014-2022, revision process in early stages
- Much wider scope for exemptions, compared to ETS State aid guidelines:
 - 68 sectors eligible**
 - + Individual businesses w/ electro-intensity (EI) $\geq 20\%$ in sectors w/ trade intensity $\geq 4\%$ (non-exhaustive list at Annex 5 of EEAG)

**EEAG: sectors eligible if:

-Electro-intensity (EI*) $\geq 10\%$ AND Trade-intensity (TI) $\geq 10\%$

-OR EI $\geq 20\%$ AND TI $\geq 4\%$

-OR EI $\geq 7\%$ AND TI $\geq 80\%$

+ 3 metals casting sectors + recovery of sorted materials

Electro-intensity equal to electricity costs divided by value added

[†]Not eligible for relief from indirect ETS costs, but included in Annex 5 of EEAG

In France, relief is more generous for sectors defined as being at risk of carbon leakage, but is also given to other electro-intensive sectors

| | TICFE (national electricity tax) | TCCFE (community electricity tax) | TDCFE (departmental electricity tax) |
|----------------------------|--|---|---|
| Tax 2019 (€/MWh) | 22.50 | between 0 and 9 | between 1 and 3.2 |
| Eligible for tax exemption | Target sectors and electro-intensive sites | Sites with a subscribed power of more than (or equal to) 250kVA | |
| Amount of relief | Up to full exemption | Full exemption | |

Definition of an electro-intensive industrial installation

- Electro-intensive: If the amount of the tax is at least equal to 0.5% of the value added of the company
- Industrial installation: If they carry out at least one of the following activities (Mining and Manufacturing; production and distribution of electricity, gas, steam and air conditioning; water production and distribution; sanitation, waste management and decontamination)

For electricity used in EII installations

- The applicable rate depends on the level (range) of consumption of the site or the company; it is obtained by dividing the electricity consumption of the site or the company, by the added value (expressed in €).
 - For a consumption / added-value ratio of more than 3 kWh: the tax rate is 2 €/MWh
 - For a consumption / added value ratio between 1,5 and 3 kWh: the tax rate is 5 €/MWh
 - For a consumption / added value ratio of less than 1,5 kWh: the tax rate is 7,5 €/MWh

EII installations with high risk of carbon leakage

- For sectors on the EU ETS "carbon leakage list" (direct ETS costs), the applicable rate depends on the level (range) of consumption of the site or the company; it is obtained by dividing the electricity consumption of the site or the company, by the added value (expressed in €).
 - For a consumption / added-value ratio of more than 3 kWh: the tax rate is 1 €/MWh
 - For a consumption / added value ratio between 1,5 and 3 kWh: the tax rate is 2,5€/MWh
 - For a consumption / added value ratio of less than 1,5 kWh: the tax rate is 5,5 €/MWh

Hyper EII

- For electricity used in hyperelectro-intensive installations (more than 6 kWh for the a consumption / added-value ratio), the applicable rate is 0.5 €/MWh

Most key electricity-consuming industrial sectors in France appear to already be covered in Annexes 3 or 5 EEAG so appears to be limited risk for FR industry from a potential EEAG-style restriction on eligibility

In Germany, neither eligibility for, nor the generosity of, relief is explicitly linked to trade exposure

Stromsteuer

| | |
|---------------------|---|
| Level of tax (2019) | €20.5/MWh |
| Reliefs given | <ul style="list-style-type: none"> 100% exemption: Companies that use electricity for specific processes: electrolysis, glass, ceramics / bricks, cement, lime & plaster, concrete, goods from asphalt / bituminous products, goods from graphite / other carbon, metals production and processing, chemical reduction procedures (§§9a StromStG) Up to 90% exemption: Companies that don't use specific processes mentioned above (depends on energy efficiency and pension payments of companies). Reduced concession fee for special clients with a consumption equal to or more than 30MWh/a (up to 100%) |
| Amount of relief | Up to full exemption |

- While some sectors eligible for relief (e.g. metals) will be exposed to international trade, eligibility for relief is not explicitly linked to exposure to international competition
- So under any EEAG-style restriction in eligibility, **some (sub-)sectors in Germany may be at risk**, as they are not listed in either Annexes 3 or 5 EEAG.
 - Certain sub-sectors currently receiving 100% relief: Manufacture of bricks, tiles and construction products (NACE 23.32), cement, lime and plaster (23.5), concrete products for construction purposes (23.61) ready-mixed concrete (23.63), mortars (23.64)
 - Other electro-intensive sub-sectors in DE (which may still benefit from relief, though less than 100%): Manufacture of ice cream (10.52), bread, fresh pastry goods and cake (10.71), finishing of textiles (13.30), extraction of peat (08.92), mining of lignite (05.20)
- Unclear implication of current DE blanket exemption for electrolysis:
 - EEAG lists many chemicals sectors (including manufacture of gases, which includes hydrogen production) and metal manufacturing sectors, which are likely to use electrolysis
 - But we have not carried out a comprehensive review of which sectors may rely on electrolysis

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Conclusions

1 Implications for the energy transition

- Insufficient carbon price signal for fuels in heat / transport (due lack of EU ETS in heat / transport combined with applicable ETD minimum rates not consistently reflecting EUA price) disadvantages electricity (which does face the ETS directly)
- Harmonised economy-wide carbon pricing could be achieved either by proposed ETS extension to additional sectors or (perhaps in the meanwhile) through aligning minima with ETS price
- Setting minimum rates at an even higher level might be justified to support governments' ability to raise revenues, but care is needed to avoid creating new distortions (e.g. affecting choices between electricity and other energy carriers)
- Broader issues with the ETD also need addressing:
 - Making explicit that there should be no “double taxation” of electricity used by energy storage/conversion facilities
 - Ensuring robustness to technological developments

2 Implications for electro-intensive customers

- Many electro-intensive industrial sectors in France and Germany (e.g. metals, chemicals, glass, paper)
- But these typically benefit from relief on domestic taxes on electricity consumption
- The Commission has in other contexts (e.g. relief from RES levies) restricted relief to trade-intensive sectors – not the case currently under ETD
- Were the Commission to adopt such an approach for a future ETD revision:
 - certain sectors in Germany might be exposed to the risk of having their relief from electricity taxes removed or reduced (e.g. lignite, bricks)
 - Key sectors in France appear to already be covered
 - Data centres might be at greater risk of higher taxes
- We have not been able to establish the precise implications of a potential removal of the current ETD blanket exemption for electrolysis:
 - Some sectors (e.g. manufacture of gases, many metals sectors) would be covered (but perhaps not all)
 - But – as noted in Section 1 – case for continuing to exempt electricity used to produce synthetic gases/fuels (i.e. not for final consumption)

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Specific issues related to lack of economy-wide carbon pricing: charging points and shore-side electricity

No specific provision in ETD for electricity used in road transport – possible disincentive for EVs?

- ETD does not contain specific minimum level of taxation for electricity used as a propellant – only minimum tax rates for electricity for (generic) business and non-business use
- So far, only NL has specific Council approval for preferential tax treatment to electricity supplied to EV charging stations
 - limited for 4 years*
 - In this case rates still respect the generic minimum rates for business / non-business electricity use
- **At current rates for fossil fuels in use for road transport, EVs are unlikely to be disadvantaged, but clarity is needed** going forwards:
 - As noted previously, need to take care to avoid disadvantaging electrification
 - Motivation for setting **low minimum rate for electricity use in transport, at least in transition period** (when the cost of doing so, in terms of lost revenues, is relatively lower)

Shore-side electricity disadvantaged compared to on-board generation?

- Fuels used for on-board generation can be exempted from energy taxes
- Compared to grid electricity:
 - Wholesale price will include effect of ETS
 - May also be additional electricity taxes on consumption
- Results in disincentive for taking electricity from grid while ships are berthed in ports
 - **ETS extension / ensuring minimum rates for non-ETS sectors** (see previous slide) may help
 - But if (grid) electricity consumption also taxed, **still need to ensure level playing field** – either by exempting / granting relief from tax for electricity supplied to vessels** or by ensuring higher fuel taxes for on-board generation

*Note: *Derogations under the ETD may be approved for a maximum of 6 years. **As of 2019, four Member States have applied for a derogation in order to be authorised to apply a reduced tax rate to electricity directly supplied to vessels berthed in ports.*



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