

# Suggestions for new energy taxes and net tariffs

## Reports from CITIES Task Force:

DTU, AAU, Danfoss, Teknologisk Institut, Tomorrow, Grøn Energi, Grundfos, Ørsted

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# CITIES Task Force:

- Active from 2017 to 2020
- Members from: DTU, AAU, Danfoss, Teknologisk Institut, Grøn Energi, Tomorrow, Grundfos, Ørsted
- Have made recommendations regarding: Energy Taxes, Tarifs and test zones
- The CITIES Task Force have had significant impact on politicians and the civil service through hearings, meetings and recommendations



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# What do we want to achieve?

We want energy taxes and net tariffs to support and accelerate the transition towards a world that runs entirely on renewable energy

Spur implementation of known technology's at scale, where it is already economically feasible



Boost innovation where there are no mature solutions yet or where cost of converting to renewable energy is too high



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# Recommended principles for energy taxes

The CITIES Taskforce recommends the following principles for energy taxes:

- Energy taxes should be linked to the **real time emissions** of e.g. CO<sub>2</sub>
- Energy taxes should be harmonised between **energy carriers**, ensuring equal taxation of the emissions we want to prevent
- Energy taxes should be harmonised the between **energy consumption types**, ensuring equal incentives for emission reductions across sectors



*Den mest omkostningseffektive vej til 70 pct. målet er en **ensartet afgift** på al dansk udledning på 1.155 kr. per ton (oveni de eksisterende afgifter på knap 500 kr.)*

Otto Brøns-Petersen, CEPOS 29/10-2020

*I den forbindelse er det relevant at minde om, at det fra et klimaperspektiv er mere hensigtsmæssigt at placere **beskatningen af energiprodukter på CO<sub>2</sub>-udslippet** end på selve energiforbruget.*

Morten Munch Jespersen, Dansk Industri 29/10-2020

**Klimarådet** foreslår en bred virkemiddelpakke, hvor et hovedelement er en generel drivhusgasafgift baseret på et princip om, at **forureneren betaler.**

Klimarådet: Kendte veje og nye spor til 70 procents reduktion, marts 2020



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# Recommended actions

The CITIES Taskforce recommends the following actions regarding energy taxes:

- Denmark should actively work for a high **European CO<sub>2</sub>-tax** and common prevention of carbon leakage.
- Taxation of CO<sub>2</sub>-emissions should immediately be **harmonised across energy carriers**, within the different sectors
- Taxation of CO<sub>2</sub>-emissions should gradually be **harmonised across sectors**
- Introduce a **Danish CO<sub>2</sub>-tax** for industry's that only pay EU ETS.
- The revenue from the Danish CO<sub>2</sub>-tax should be **directed back to the individual company's** as support to a sustainable transition of the company.



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# Danish CO<sub>2</sub>-tax for the industry

With a Danish CO<sub>2</sub>-tax and earmarked support to a sustainable transformation we believe that:

- We will observe a big impact on sustainable transformation, even with a relatively low CO<sub>2</sub>-tax
- We will observe a fast implementation of mature sustainable technologies with a positive business case.
- We will observe a significant boost of innovation in hard to abate sectors, with full commitment from the industry.
- We will observe an industry with a sharp competitive edge in a world that runs entirely on renewable energy



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# Electricity tariffs

- Tariffs are driven by investment cost and operational costs of electricity infrastructure
- Objectives for tariffs – often based on politics
  - Need to: Respect requirements in the law, fairness principles, costs ...
  - Nice to: Support integrated energy system, green transition etc.



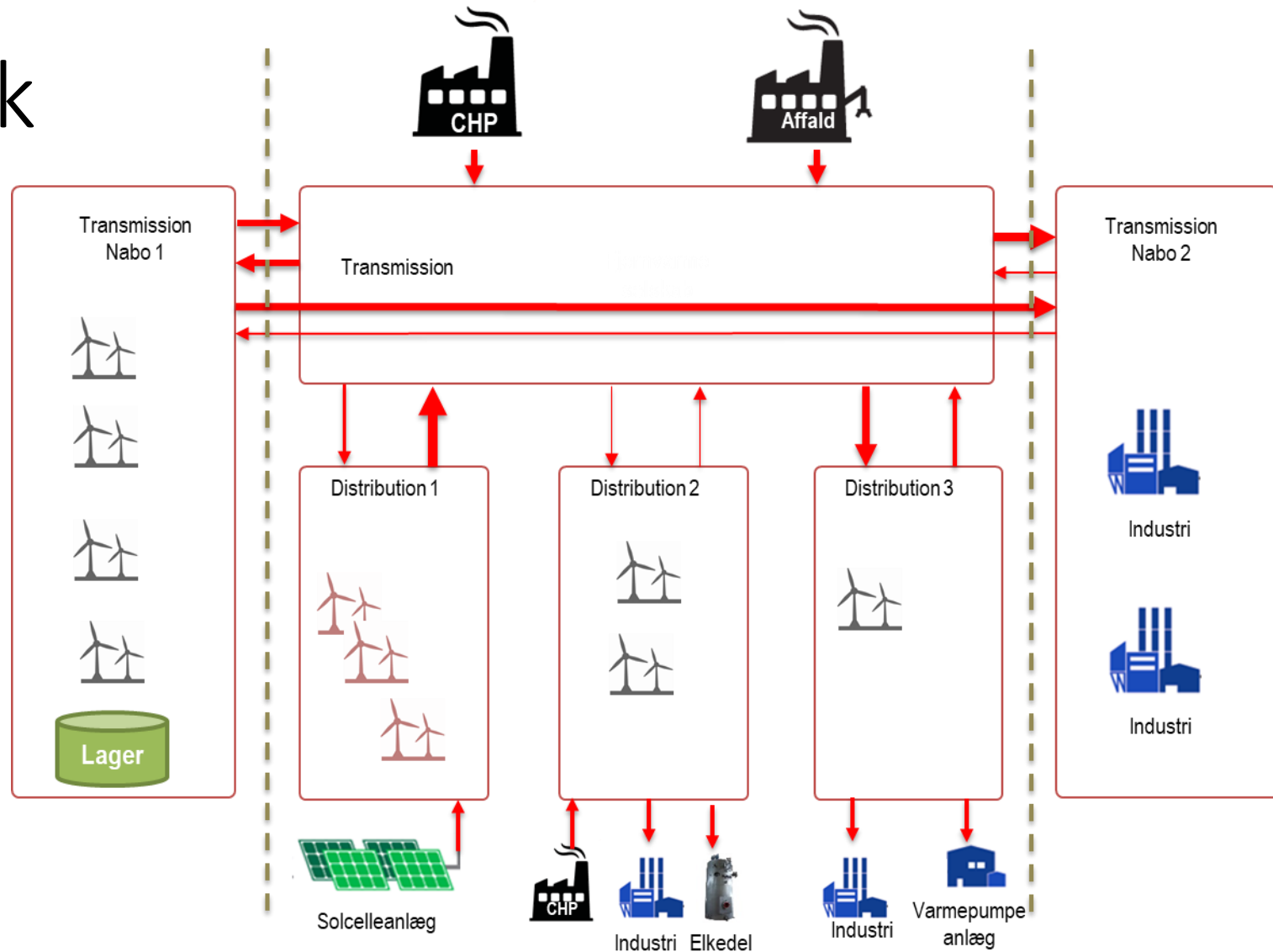
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# Tariffs in Denmark

- Today's principles:
  - Consumption pays majority – production very little
  - Waterfall principle
  - Partitioned into distribution tariff and transmission tariff



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# Electricity tariffs – suggestion from Task Force

- Important that tariffs is based on the time specific, actual load in the network therefore:
- Long term perspective:
  - Dynamic tariffs that depend on the actual traffic in the network and which updates continuously based on load
- Transition period:
  - Partition the tariff payment into
    - Yearly capacity payment
    - Energy based, variable payment



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# Tariffs in the transition period

- Important that they increasingly supports integrated energy systems and green transition
- Capacity payment reflects fixed costs – and – fixed costs depends on necessary investments
  - If fx consumption is flexible and require few investments/reinforcements -> low capacity payment
  - If consumption is interruptible, the capacity payment should also reflect this
- Variable payment support the price signal so that when there is lots of available capacity in the network -> price is low and vice versa



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# Tariffs needs to be “Future-Ready”

- Production and consumption gets more and more distributed – only pay for the actual network used
- Tariffs reflects actual, geographical load in the network



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# Test-zones

- The purpose of test-zones are to accelerate testing of *new solutions*
- *New solutions* to be tested:
  - Taxes
  - Tariffs
  - Increased integrated energy solutions
- Examples: Aarhus Havn, Summerhouses in different areas, Supermarkets, local areas that test activation of flexibility in areas.



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# Thank you for listening

- Cities Task Force: DTU, AAU, Danfoss, Teknologisk Institut, Tomorrow, Grundfos, Grøn Energi, Ørsted

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