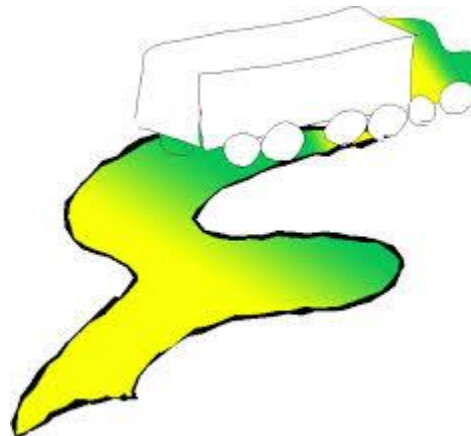# T&E views on truck CO$_2$, VECTO, and transparency

Overview

- Introduction
  - Truck CO_2 – the challenge
  - How to deal with truck CO_2
  - Priorities for the VECTO process

- Transparency in practice – how to achieve it
  - output based approach – benefits and limitations
  - Inputs based approach – benefits and challenges
  - confidentiality & how to deal with it

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Truck CO$_2$ – the challenge

- 25% of road transport emissions

- +36% between 1990-2010

- Truck fuel efficiency "stable" since mid-1990s

- Non-ETS commitment of -30% by 2030; important business and economic cost

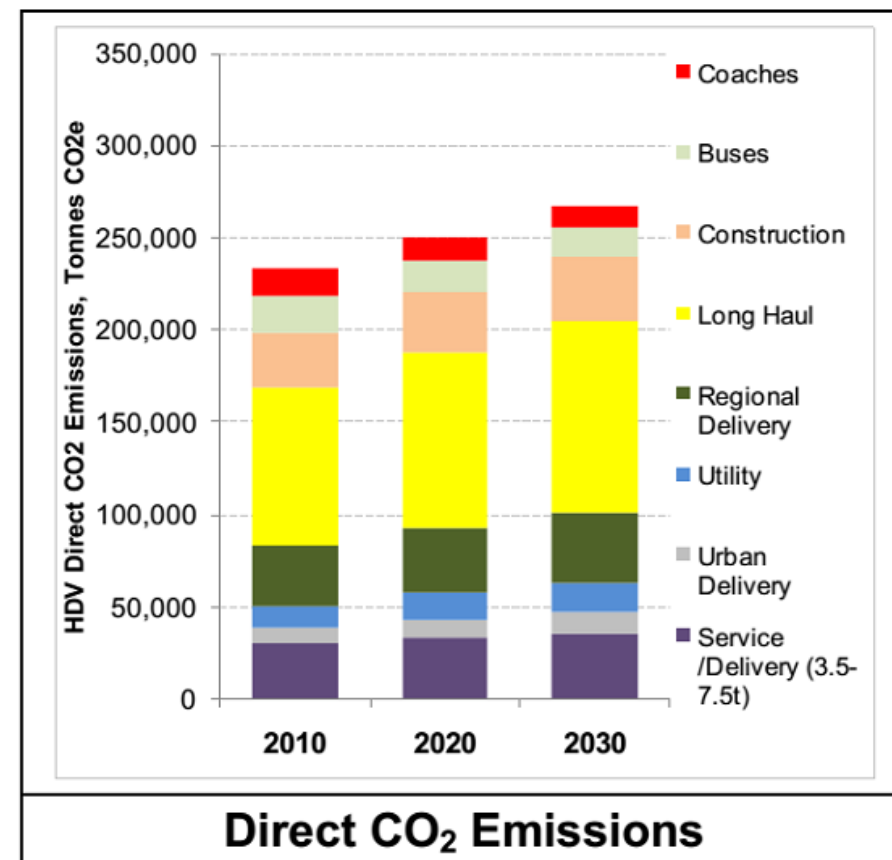- No EU policies to deal with truck CO$_2$ emissions ⇔ japan (2005), US (2011), China (2015)

Figure 1: AEA-Ricardo, study for the EC 2011

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How to deal with truck CO_2

- **Enable improvements**: trailer aerodynamics, cab design, tire label

- **Tackle market barriers**: VECTO, transparency, competition

- **Accelerate improvements**: CO_2 regulation/standards

- **Ensure better use of freight vehicles**: smart pricing/km-charging

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Vecto – our priorities & concerns

Priorities:

1. Ensure VECTO is accurate, reliable and future proof
2. Ensure VECTO leads to increased transparency, competition and drives the uptake of clean technologies

Concerns:

1. Testing systems for technologies/interactions not modelled by VECTO?
2. Lack of real world conformity checking
3. Lack of in-service data collection
4. Lack of access to the tool for everyone except OEMs

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Increased transparency

Commission priority, we agree:

- Need a credible, standardized way of testing fuel economy
- Need more competition, in particular on fuel efficiency
- Need to empower truck buyers, enable easy comparisons, choice
- Need market control to ensure lasting robustness of test

BUT

- Simulation tool that is seen as black box and not verified in real world will NOT convince hauliers
- Simple aggregate type approval value will NOT change market or buying behavior

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What information needs to be public/accessible? - outputs

- VECTO can produce CO2/FC performance values for different drive cycles, under different payload assumptions

- All the outputs should be monitored and be publicly available
  - CO_2/FC for all vehicle configurations
  - All duty cycles
  - different payloads (empty, full, half-full)
  - (second-by-second FC during cycles?)

- Enables a degree of comparability

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Limitations of output based approach

1. Sales database - only vehicles that are sold? New technologies?
2. Fleet or country specific duty cycles?
3. Supplier technologies accreditation
4. Limited information and access for buyers
5. Does not facilitate market/3rd party checks of VECTO values – hides a lot of relevant information

➔ Need to consider input values

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Input values

Input values include aerodynamics, rolling resistance, fuel map, gear ratios, masses, …

Why monitor and make input values public/accessible?

1. Enable VECTO FC determination for fleet or country specific duty cycles
2. Allows supplier technologies to provide FC values for VECTO vehicles & duty cycles
3. Gives vital information to enable informed comparisons (e.g. aerodynamics, rolling resistance, …)
4. Would enable constant, widespread market control on VECTO
5. Would facilitate regulatory checks and improvements to VECTO
6. Important information for regulator (trends, differences, baselines)

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input 'confidentiality'

- **What is really confidential?**
  - Can it be reproduced?
  - Does it show how a result was achieved?
  - Is there a real risk for the companies?

- **Proposal:** conduct independent review to establish what info really needs to be confidential; consider establishing categories of confidentiality/accessibility?

"This is highly confidential, so, yes, we built a little fort."

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input 'confidentiality'

- How to deal with confidential information?
  - Monitor all input values – only publish non-confidential input values
  - Database/platform with all input parameters that can perform calculations but does not show confidential values

- Proposal: establish inventory of options for data handling of confidential inputs that will enable the use of these data for VECTO simulations by 3rd parties without disclosure of the contents.

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