

SHAPING
AN EFFECTIVE
RENEWABLE
ELECTRICITY
MARKET

Carbon Accounting

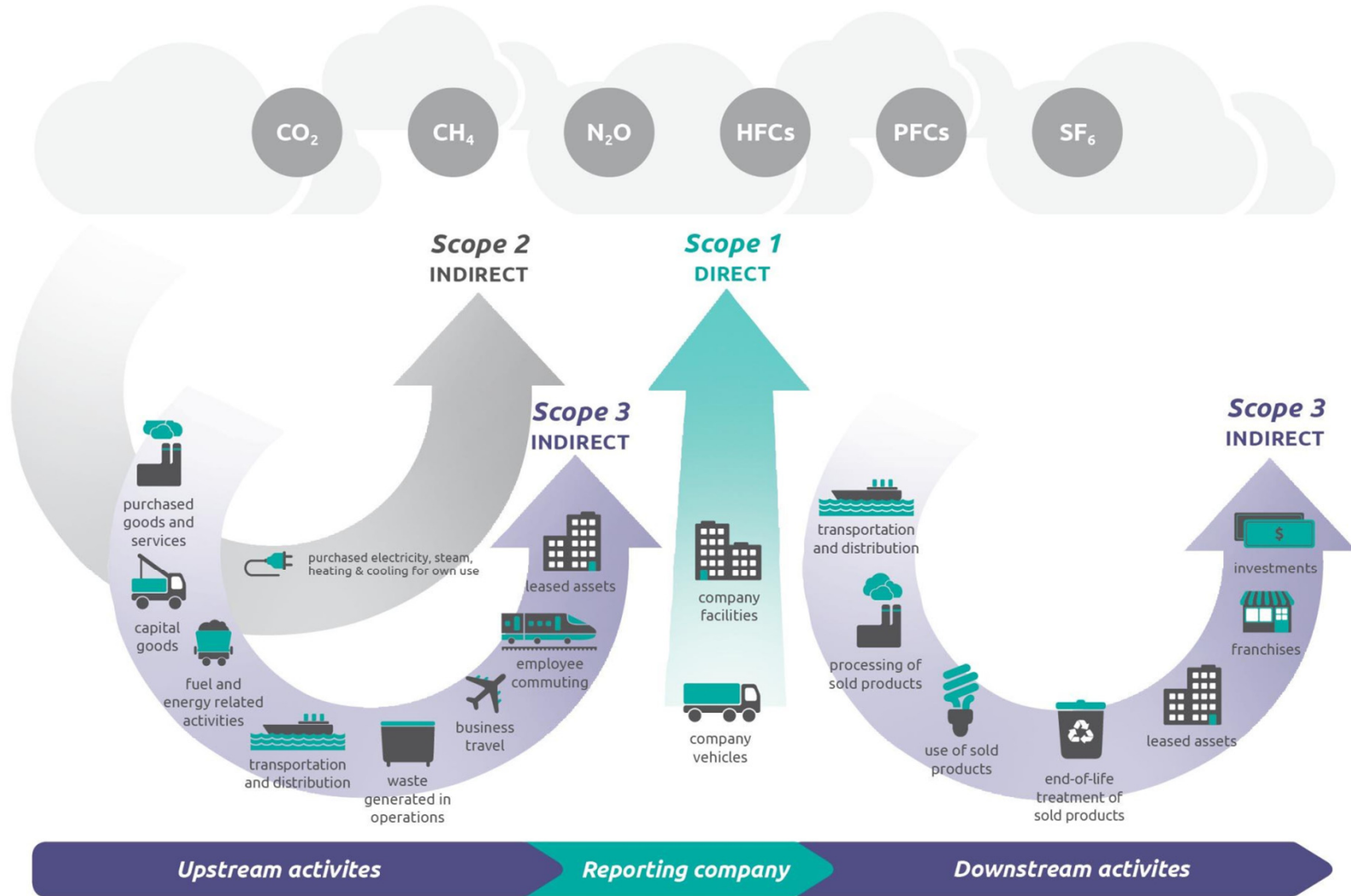
Expert Meeting Iceland

Date: 5 June 2013, Reykjavik

Agenda:

- **Carbon accounting as a driver for green products**
- **The current discussion**
- **Opinion of results**

Figure [1.1] Overview of GHG Protocol scopes and emissions across the value chain

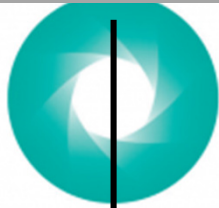


Lack of international standards



72% of Fortune 500 companies reported to CDP in 2012

<http://www.ghgprotocol.org/about-ghgp>



GREENHOUSE
GAS PROTOCOL



Agenda:

- **Carbon accounting as a driver for green products**

- **The current discussion – battles won**

- **Opinion of results**

Battles won

- Consequential versus attribution accounting
- 0-gram renewable consumption
- Production mix versus consumption mix (Europe only)

Still to be decided

- **Hierarchy**
- **2-choice**
- **Deadline....**

Consequential versus attributional

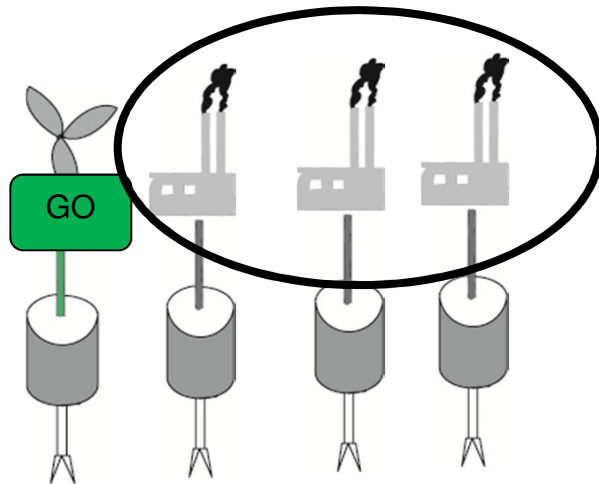
- Consequential approach was deemed outside of scope II
 - Off-sets
 - Business-as-usual assumption
 - Negative scope II possibility
- Nuanced approach was adopted
 - Offsetting if for total reductions
 - After scope I, II and III have been calculated

0-gram renewable consumption

- Life cycle analysis was deemed optional
 - Drawing the border became a problem
 - End-of-pipe emissions were more logical/easy
- Consumption of a reliable tracking certificate (GO)
 - Under the name of the consumer or delivered via a supplier is emission free* (if RES-GO)
 - Ability to track fossil also a possibility (Some of Europe only, maybe other locations)

Production mix versus consumption mix

The Netherlands



Norway

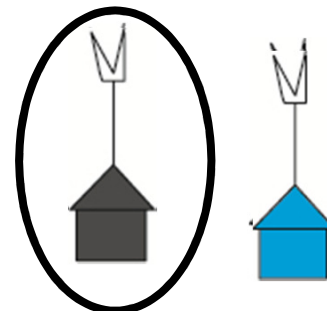
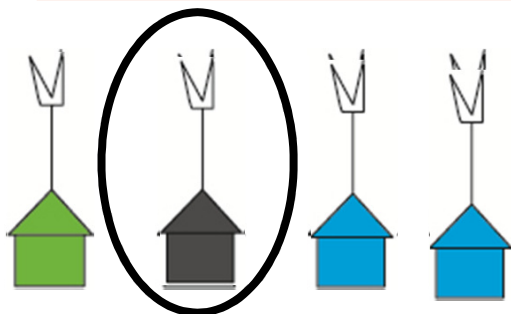
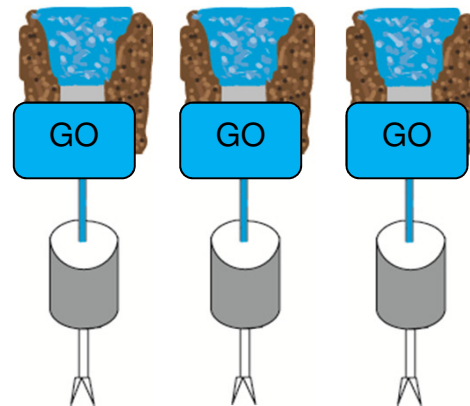
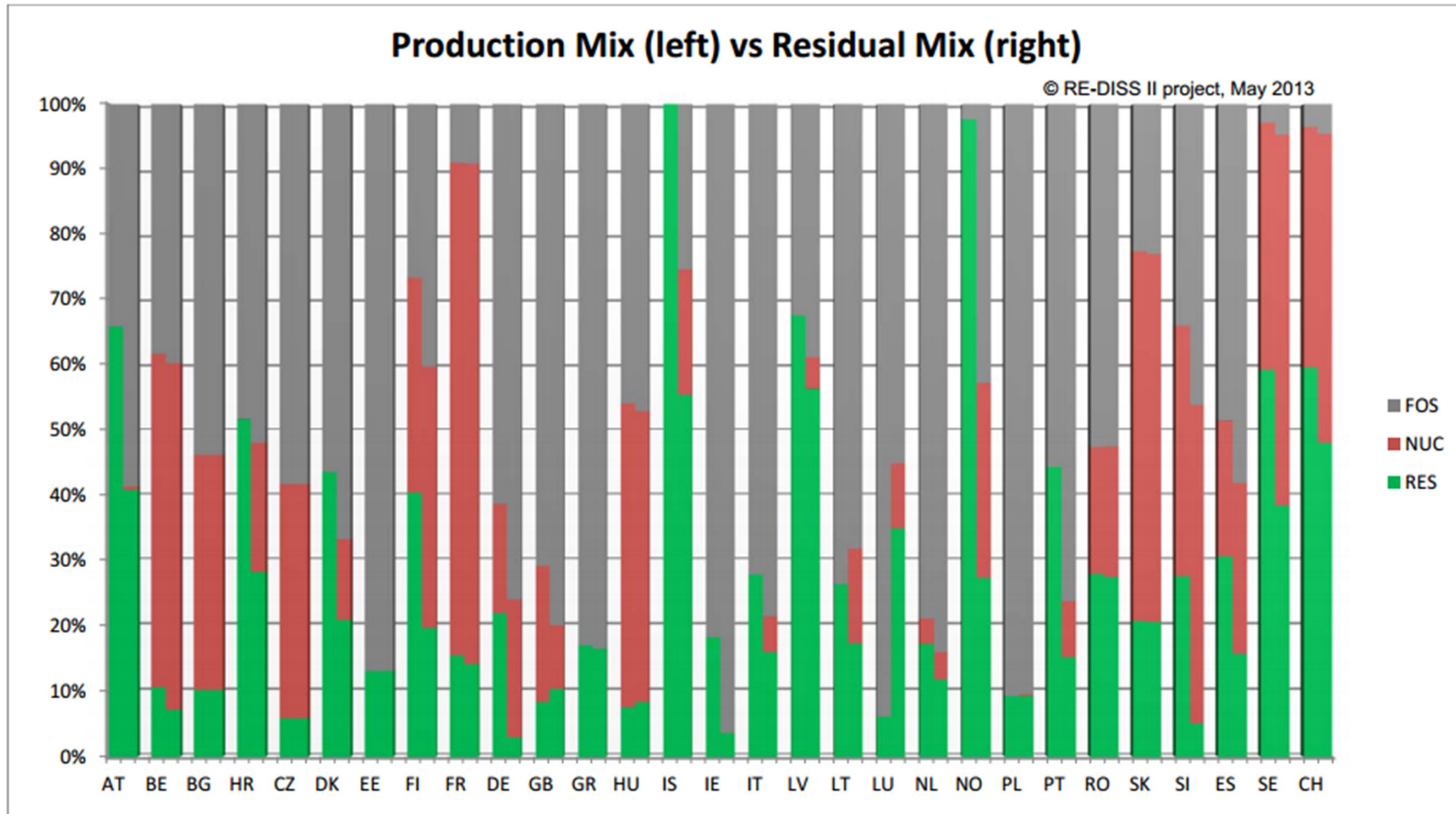


Figure 5: Comparison of country's production and residual mix in 2012

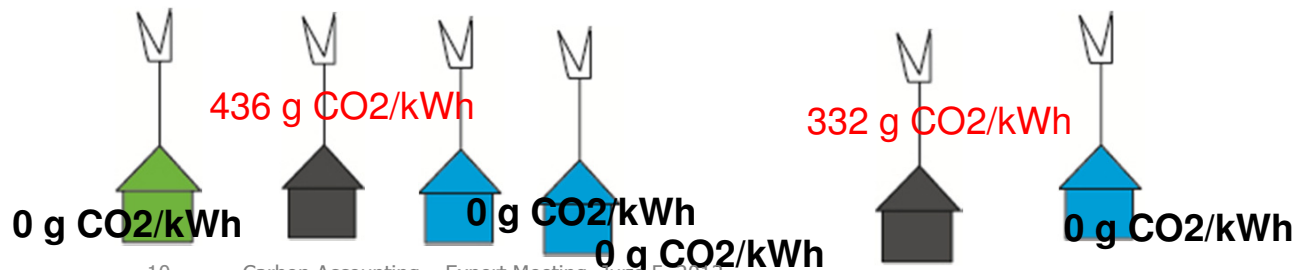
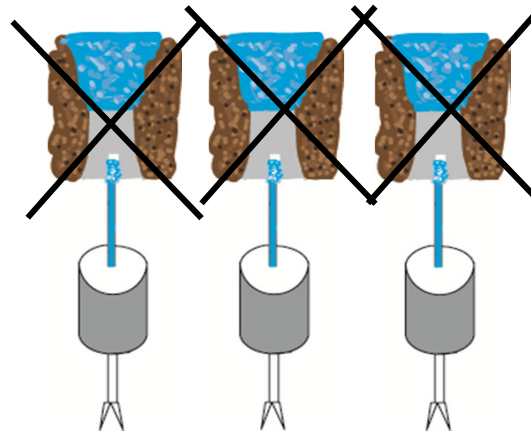
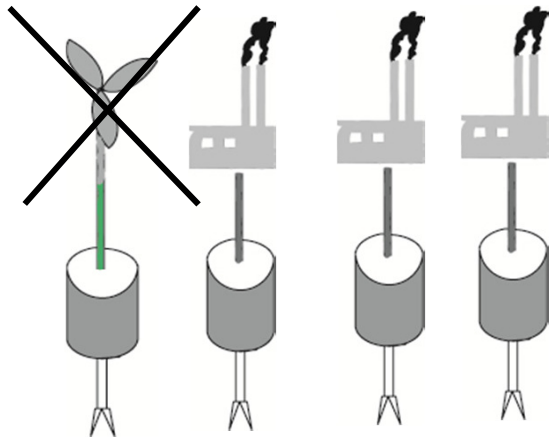


Production mix = 350g CO₂/kWh Production mix = 25g CO₂/kWh
Residual Mix = 436g CO₂/kWh Residual Mix = 332g CO₂/kWh

**ALL
NON-LCA**

The Netherlands

Norway





Contractual hierarchy

Scope 2 quantification

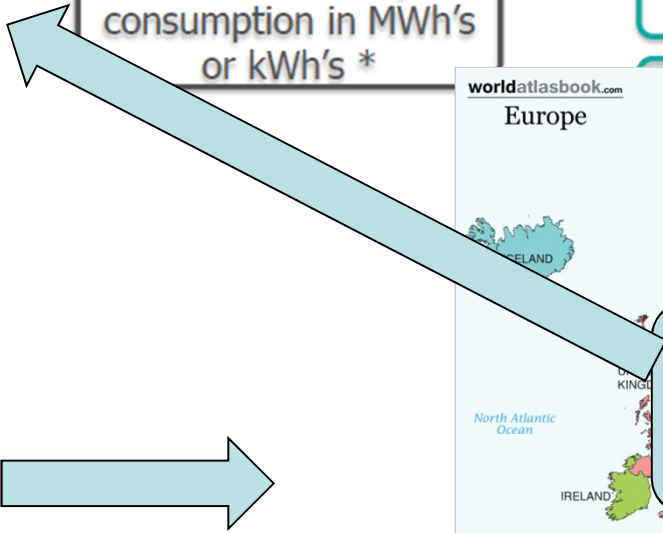
- Certificates/Products
- Contracts
- Supplier-specific emission rates
- Residual mix
- Grid average

Required disclosure

Total electricity consumption in MWh's or kWh's *

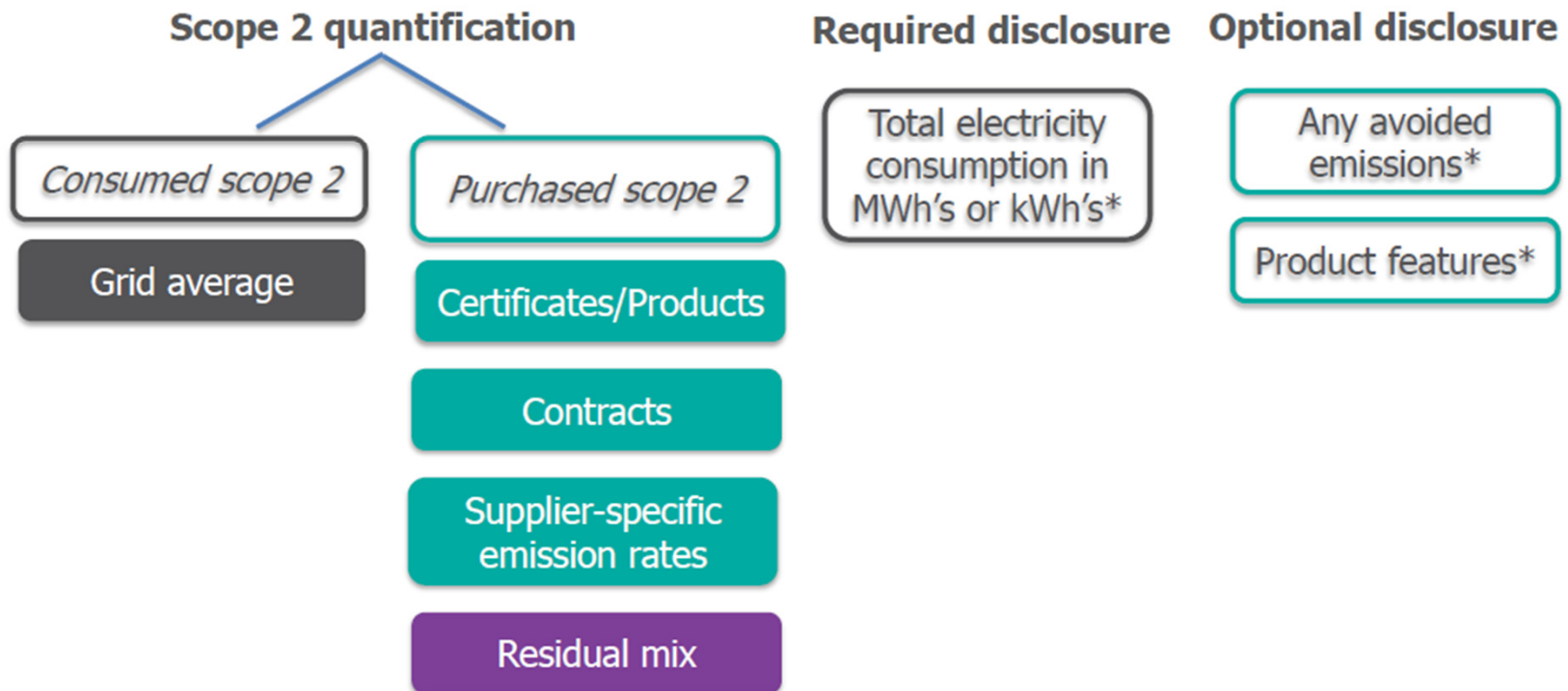
Optional disclosure

Any avoided emissions*





Dual reporting in scope 2



* Pending group discussion

Deadlines

June 2013 – Final report for public comment

Fall 2013 – Workshops

Winter 2013 – Final release