

The Danish Climate Compass

- Emission factor database and tool for calculating corporate climate footprints

Background

Corporate climate footprint calculation is becoming a **licence-to-operate** due to

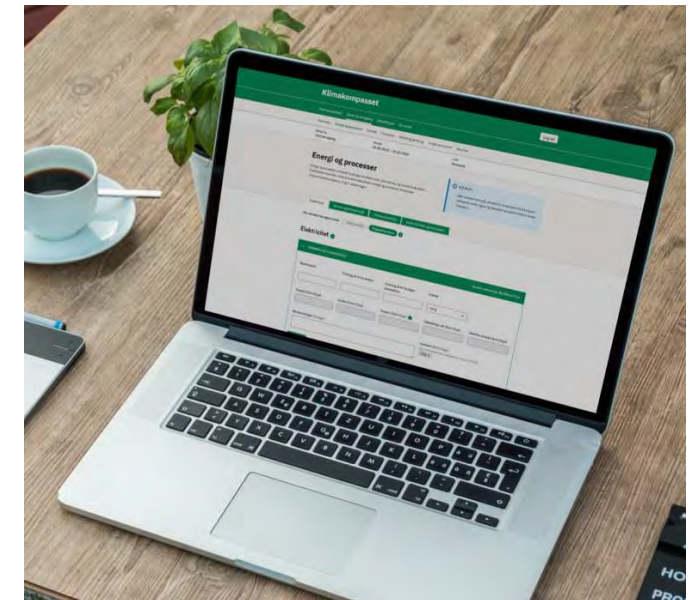
- **EU regulation** on climate reporting
- **Market demands** from clients, investors and consumers

But:

- Companies/SMEs lack
 - **knowledge, calculation tool, data and resources** to do the calculations
 - **authoritative emission factors** with sufficient coverage in materials, geography, etc.

Therefore, the Danish Business Authority – in collaboration with Danish Energy Agency - developed

- **Open-source database** with yearly updated authoritative emission factors
- **Online calculation tool** that is transparent, open-source and free to use
- **Guidance** on methodology, data collection, and best practices for GHG reductions



The database



Emission factor database for 2015-2022 (updated yearly)

Category	Activity	Unit	kg CO2-e		
			Scope 1	Scope 2	Scope 3
Energy & processes	Electricity - Location based	mWh	0,00	116,26	61,04
Energy & processes	Electricity - Market based	mWh	0,00	411,42	81,28
Energy & processes	Natural gas	m3	2,20	0,00	0,34
Purchasing	Aluminum (virgin)	kg	0,00	0,00	8,43
Purchasing	Aluminum (recycled)	kg	0,00	0,00	3,08
Purchasing	Aluminum (recycled)	DKK	0,00	0,00	0,08
Transportation	Trucks (diesel)	litres	2,51	0,00	0,60
Transportation	Employees – car (gasolin)	litres	0,00	0,00	2,78
Sold products	Electricity – Location based	kWh	0,00	0,00	0,17
...

Activity	Sources of emission factors
Electricity	Energinet
District heating	DEA
Gasses	IPCC, DEFRA, EVIDA
Fuels	DEFRA, DEA, TI, DCE, DST
Water	EXIOBASE
Transportation	DEFRA, DEA, EXIOBASE, DST, Energinet, ADEME, DSB
Purchasing	EXIOBASE
Waste	EXIOBASE

Currently:

- **529 emission factors for Denmark**
- **128 emission factors for EU27, NO, UK, US a.o.**
- All documented, verified and yearly updated by the Danish Energy Agency

Emission factor x Activity data = GHG emissions

The tool

- Input of activity data

www.klimakompasset.dk

Baseline

Master data **Energy and processes** Purchase Transportation Waste and reuse Sold products Results

PURCHASE OF MATERIALS IN PHYSICAL UNITS Total emissions: 0.00

Description	Material group	Specific materials	Amount	Unit
Alu	Metals	Aluminum (recycled)	10,000.00	Ton

Scope 1 (ton CO₂e) Scope 2 (ton CO₂e) Scope 3 (ton CO₂e) Total emissions (ton CO₂e) Outside of scopes (ton CO₂e)

Not relevant Not relevant 30,847.37 30,847.37 Not relevant

Scope 3 category *i* Comments (optional) Attach file (optional)
1. Purchased goods and services Maximum 3 files of 20MB can be attached

Dansk | English

Forecast and targets

10 year forecast

Annual growth rate: 5 %
Type of growth rate: Linear (always relative)

Reduction target for Scopes 1 and 2

Target method *i*: Minimum Absolute Emissions Contraction (MAEC)
Target year: 2030
Target: 50.4 %

Reduction target for Scope 3

Target method *i*: Minimum Absolute Emissions Contraction (MAEC)
Target year: 2030
Target: 30 %

The tool

- Results

Baseline

Overview of results on the CO ₂ e emission divided by main and subcategories	
Main category	Emissions in tonnes of (scope 1)
Energy and processes	
Electricity	
Consumption of electricity	
Purchase	
Primary purchases of raw materials for prod	
Products and services (primary purchases)	
Purchase of products in physical units	
Purchase of products in monetary units (ar	
Total	

Figure 2: Percentage distribution of CO₂e emissions (Scopes 1+2+3) divided into main categories

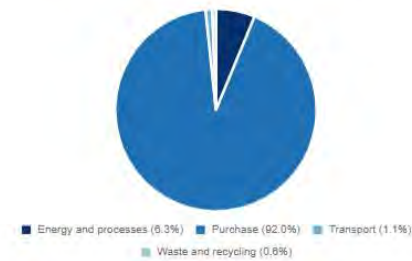


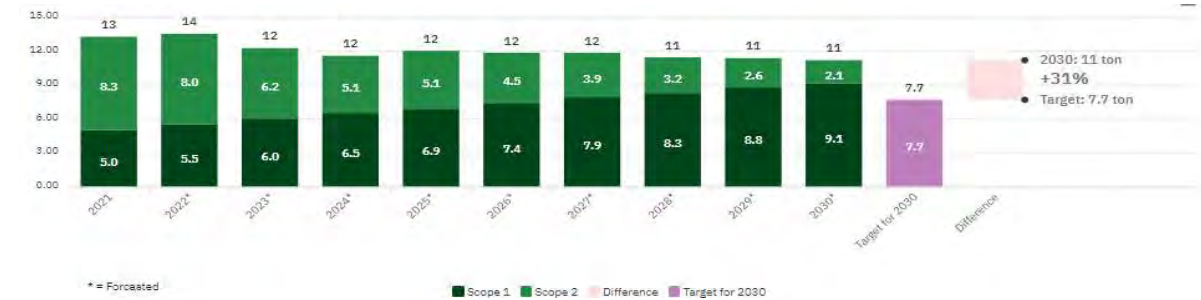
Table 1: Overview of the company's CO ₂ e emissions			
Scope	Ton CO ₂ e	Share of emissions	
Scope 1	0.00	0%	
Scope 2	0.22	0.20%	
Scope 3	109.89	99.80%	
Total	110.11	100.00%	

Scope 3 categories

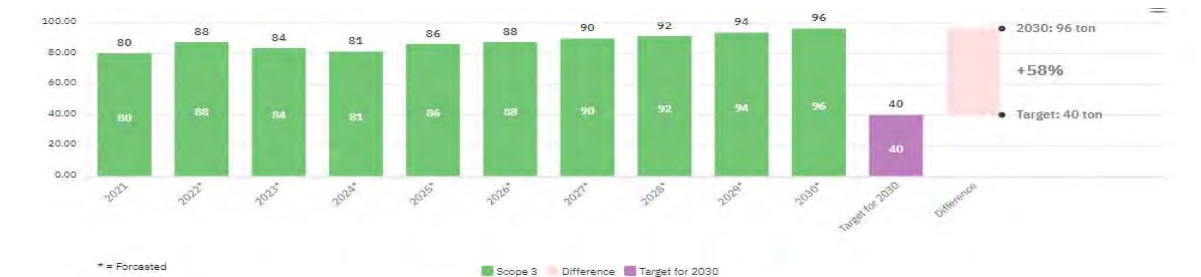


Forecasts and targets

Scope 1 and 2



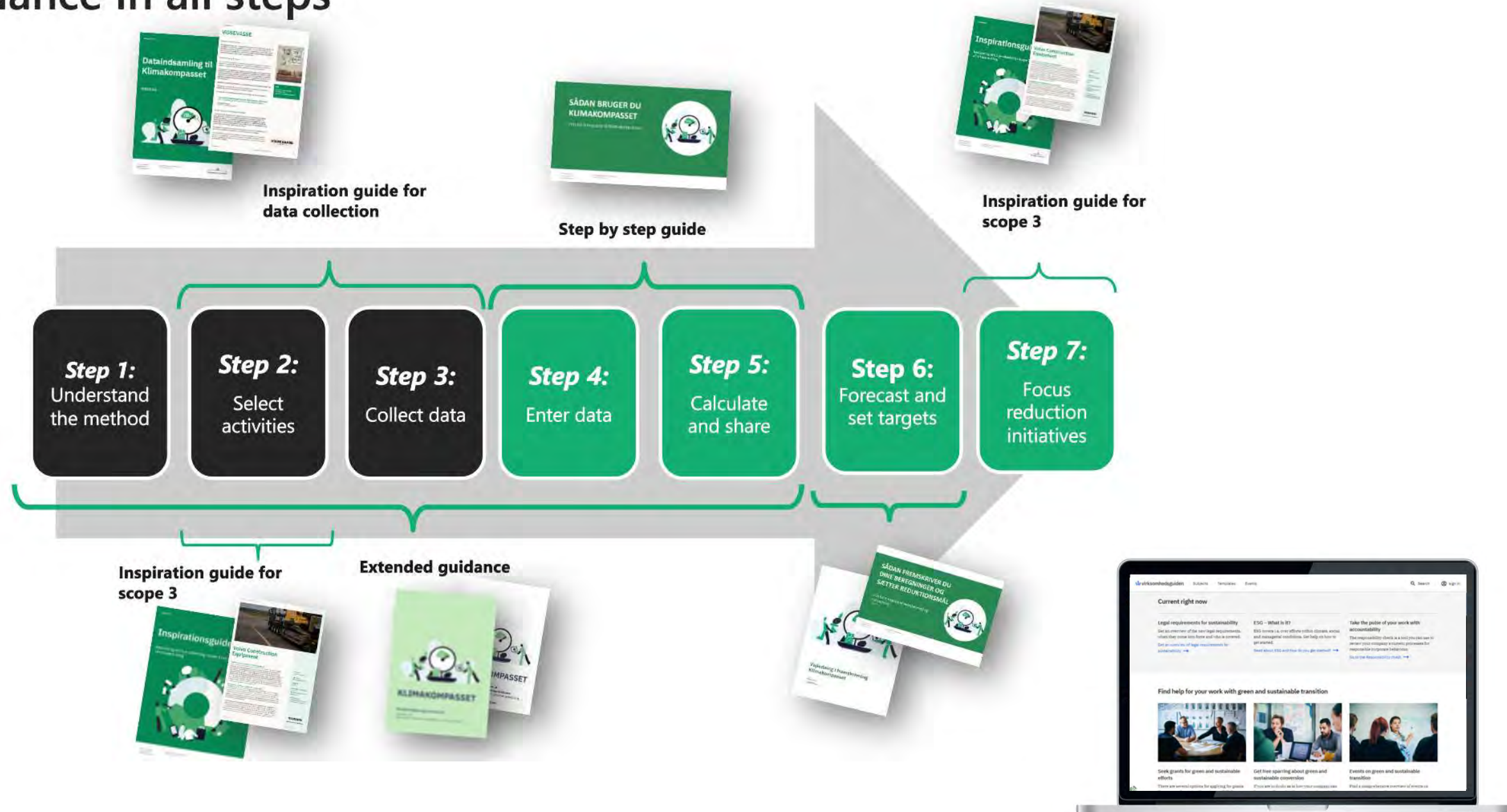
Scope 3



Net zero



Guidance in all steps



Climate Compass and the CSRD

Alignment with ESRS-E1 methodologies

- **GHG protocol** to calculate CO2e-emissions (ESRS E1-6)
- **Science Based Targets initiative** (ESRS E1-4)
- **Climate transition plan** and **reduction levers** (ESRS E1-1, E1-3)
- **Suitable emission factors** - verified by the Danish Energy Agency



ESRS-E1 Climate: Data points currently addressed in the Climate Compass

Scope 1, 2, 3, total

Scope 3 categories

Science Based Targets

Indicators: CO2e and energy intensities a.o.

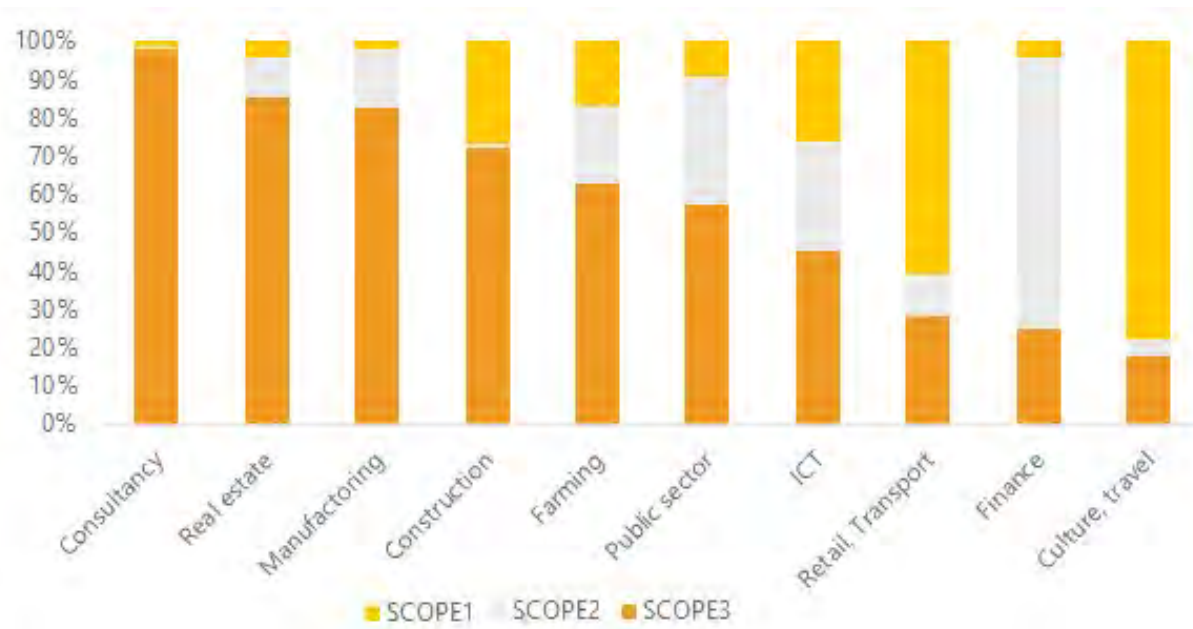
Waste treatment

Reduction initiatives (tbd)

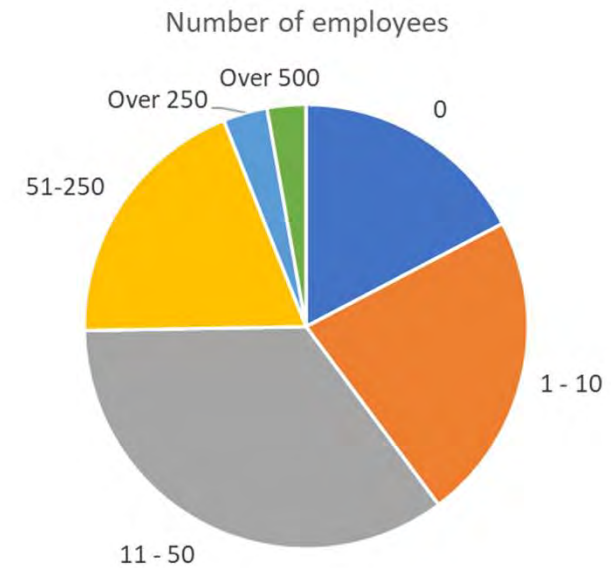
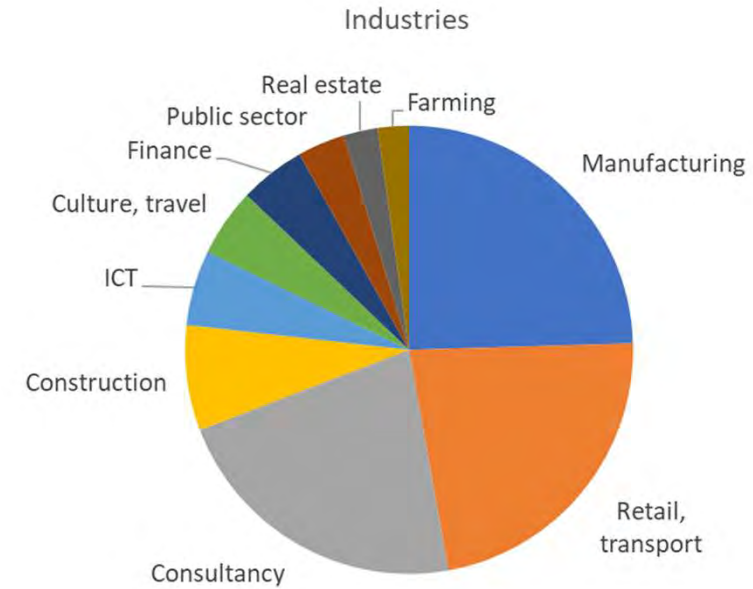
Input to transition plan (tbd)

2 years with the Climate Compass

- Over 10.000 Danish users, mostly SMEs
- Over 600 support inquiries via phone, email, etc.
- Market insights



Note: Incl. draft calculations



Next steps

Next Danish step for the Climate Compass

- Give (limited) access to users outside Denmark (through eIDAS or SSI login) in 2024

Possible next actions at the EU-level

- **EU open-source emission factor database** with emission factors for EU member states
- **EU database with additional relevant sustainable information**, e.g. biodiversity
- **Guidance** for using the database and understanding the methodology

Another great challenge unsolved

- Companies **have great difficulty in obtaining the activity data from their value chain needed** for their calculation
- Gathered **activity data are of poor quality**

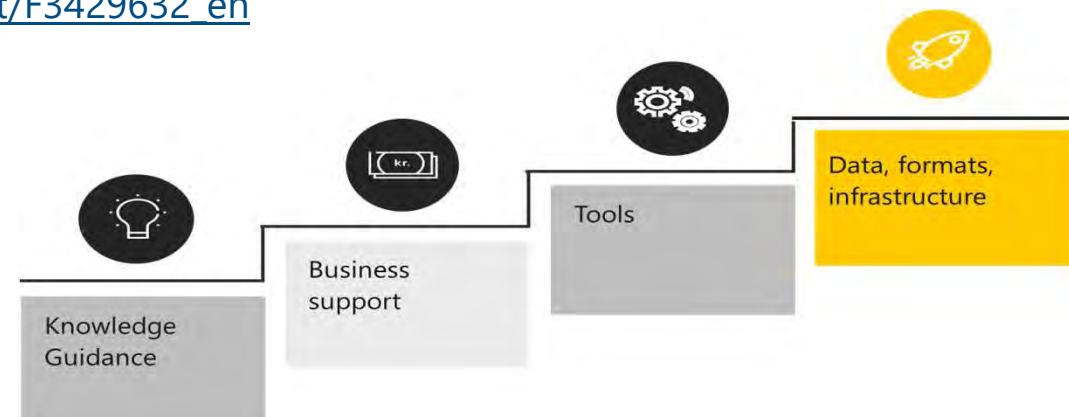
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Possible solution?



Collaboration at EU-level on standardising, digitalization and automation of B2B sharing of data needed for reporting

https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/13765-European-sustainability-reporting-standards-first-set/F3429632_en





Questions?

Markus Bjerre
marbje@erst.dk