DATALAND

THE ALTERNATIVE TO DATA MONOPOLIES

Dataland Data Frameworks

Pathways to Paris

Document Information

Version	Date	Editor	Comment
0.1	2023-06-20		Initial Draft
0.2			Completed First Draft
0.3			Completed Second Draft
0.4			SME Review and Sign Off
1.0	2023-08-09		Final version
1.1			-

Responsibilities

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Contents

Introduction

This document introduces and describes the Pathways to Paris (PtP) Data Framework that has been implemented in Dataland for capturing companies' progress on Paris-compatible transformation paths that are necessary to achieve the goals of the Paris climate protection agreement. The international community set ambitious **climate targets** in 2015 with the Paris Agreement[1] to limit global warming to well below 2°C by the end of the century. The EU aims to achieve climate neutrality by 2050.

The Pathways to Paris Project[2] was funded by the German federal ministry for economic affairs and climate action and is driven by WWF Germany and PwC Germany. It aims at fueling a close cooperation between the real economy and the financial sector. Key is the dialogue between both parties for exchanging hands-on experiences with measures undertaken, available technologies and legal, economic and environmental framework conditions. Based on this groundwork the PtP Project developed a Transformation toolkit that companies, covered by the focus sectors of the project (e.g. energy, transport, steel), can use to define tailored, concrete plans for emission reduction and alignment with the German climate neutrality goals. On top the Project offers indicators that can be used to assess a companies' actual transformation progress.

The PtP Data Framework is based upon the above mentioned Indicators and enables companies to provide a detailed overview on where they stand on their 'pathway to Paris', underpinned by specific figures. By documenting the PtP Data Framework in Dataland, companies can showcase their sustainable adherence to the net-zero aspiration in an efficient manner. The Framework is visible to all the stakeholders such as customers, suppliers or other interested parties and can be updated at any time.

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[1] https://unfccc.int/process-and-meetings/the-paris-agreement
[2] https://pathwaystoparis.com/en/

PtP Data Framework

1. General

This section contains general information that is applicable for ALL sectors.

1.1 Validity of data

Nr	Metric name	Metric description	Format	Additional Information/ Example
1	**Data Date**	The date until when the information collected is valid	YYYY-MM-DD	

1.2 Sector specification

Nr	Metric name	Metric description	Format	Additional Information/ Example
2	**Sector**	To which sector does the company belong?	Text: Ammonia, Automotive, HVC - Plastics, Commercial Real Estate, Residential Real Estate, Steel, Freight Transport by road, Electricity Generation, Livestock Farming, Cement, Other	

1.3 General Governance aspects

Nr	Metric name	Metric description	Format	Additional Information/ Example
3.1	**Organizational responsibility for Paris compatibility**	Whether or not the organizational responsibility for Paris compatibility in the company lies with the Executive Board/Management	Yes/No	

3.2	**Paris compatibility in executive remuneration**	Share of (executive) managers with variable pay for meeting climate targets and transformation plans (%)	Number	
3.3	**Paris compatibility in average remuneration**	Average share of variable pay linked to climate targets in the remuneration system (%)	Number	
3.4	**Share of employees trained on Paris compatibility**	Share of employees who have been trained at least once, on how to integrate a Paris-compatible strategy into everyday work processes (%)	Number	
3.5	**Qualification requirements on Paris compatibility**	Qualification requirements and/or mandatory Paris-compatibility training for top management and employees established	Yes/No	Qualification can be reached either by completing certification classes such as Business Sustainability Management by CISL, or by relevant work experience.
3.6	**Mobility and travel policy**	Existence of a Paris-compatible mobility and travel policy	Yes/No	
3.7	**Upstream supplier engagement strategy**	Existence of a fit-for-purpose engagement strategy with relevant processes for the upstream supply chain	Yes/No	An adapted procurement policy should be asking supplies to consider climate aspects within their production line. It could also include joint projects to e.g. increase energy efficiency in the production process,

				changing to alternative materials, reduction of waste and establishing a circular economy
3.8	**Upstream supplier procurement policy**	Existence of a Paris-compatible procurement policy. If yes, please share the policy with us.	Yes/No	
3.9	**Downstream customer engagement**	Existence of a fit-for-purpose engagement strategy with relevant processes for customers	Yes/No	This should address e.g. possibilities for prolonged use of products, recycling options and explain why certain specifications for previously used materials are no longer up to date.
3.10	**Policymaker engagement**	Lobbying/advocacy: support for Paris-compatible lobbying activities in industry and business associations	Yes/No	Relevant, if adjustments in policy framework are needed, see e.g. infrastructure for renewables, and can be achieved via e.g. public statements on issues relevant to climate protection in the sector.

1.4 Climate Targets

Nr	Metric name	Metric description	Format	Additional Information/ Example
3.11	Short-term science-based climate target	Existence of a science-based Paris-compatible climate target (short-term target: 5-10 years)	Yes/No	SBTi
3.12	Long-term science-based climate target	Existence of a science-based Paris-compatible climate target (long-term target: > 10 years)	Yes/No	SBTi

1.5 Emissions planning

Nr	Metric name	Metric description	Format	Additional Information/ Example
3.13	Absolute emissions	Transparent accounting & disclosure of all greenhouse gas emissions (Scope 1, Scope 2, Scope 3) along the following metric: absolute emissions (t CO2e)	Number	
3.14	Relative emissions	Transparent accounting & disclosure of all greenhouse gas emissions (Scope 1, Scope 2, Scope 3) along the following metric: relative emissions (if applicable) (t CO2e / output unit) (%)	Number	
3.15	Reduction of absolute emissions	Use of a science-based, sector-specific Paris-compatible GHG emission reduction trajectory (Scopes 1-3) to meet climate targets and net-zero commitments represented in absolute emissions (t CO2e)	Number	GHG Protocol-compliant, fully disclosed and annually updated GHG inventory for Scopes 1, 2 and 3
3.16	Reduction of relative emissions	Use of a science-based, sector-specific Paris-compatible GHG	Number	Relative GHG emission values should be in

		emission reduction trajectory (Scopes 1-3) to meet climate targets and net-zero commitments represented in relative emissions (if applicable) (%)		the following units: Electricity generation (g CO2e/kWh); cement (t CO2e/t cement); steel (primary and secondary steel/rolled steel: t CO2e/t steel); freight transport by road (g CO2e/tkm); commercial and residential real estate (kg CO2e/m2); plastics (t CO2e/t HVCs); ammonia (t CO2e/t ammonia); livestock farming - dairy cows/beef cattle/pigs/poultry/livestock (t CO2e/large livestock unit); automotive (t CO2/per km)
3.17	**Climate action plan**	Existence of a transition plan to meet climate targets and net-zero commitments. Plausible emission reduction measures to achieve these GHG reduction targets (the sectoral indicators, among others, are used for Scopes 1 and 2); Ideally: Min. every 5 years, external validation of the progress achieved compared to the selected Paris-compatible	Yes/No	

		transformation pathway to achieve set climate targets (ideally SBT -1.5 °C).		
3.18	**Use of internal carbon price**	The internal/imputed/shadow carbon price and its dynamic structure is derived from science-based models and scenarios that are consistent with the Paris targets.	Yes/No	

1.6 Investment planning

Nr	Metric name	Metric description	Format	Additional Information/ Example
3.19	**Investment plan for climate targets**	Investment planning consistently reflects emissions and GHG-reduction measures planning	Yes/No	This should include (sectoral) key reduction measures that are aligned with a Paris-compatible scenario and / or EU taxonomy-compatible activities.
3.20	**CapEx share in net-zero solutions**	Share of CapEx in net-zero solutions over the next 10 years of total CapEx (%)	Number	
3.21	**CapEx share in GHG-intensive plants**	Share of CapEx on GHG-intensive production plants over the next 10 years of total CapEx (%)	Number	
3.22	**R&D expenditure for net-zero solutions**	Share of CapEx on research & development activities for net-zero solutions of total CapEx (%)	Number	This can include investments in knowledge acquiring, patents and / or in developing, piloting or acquiring climate-friendly solutions to reduce

				emissions.

2. Environmental

This section contains environmental information for specific **sectors**. Note, for a given company information for **multiple** sectors can be provided.

2.1 Ammonia

2.1.1 Decarbonisation

Nr	Metric name	Metric description	Format	Additional Information/ Example
4.1	**Energy mix**	Share of renewable energy in total electricity consumption (%)	Number	
4.2	**CCS technology adoption**	Share of emissions accounted for by captured emissions in total emissions (%)	Number	
4.3	**Electrification**	Degree of electrification of the ammonia production plant(s) (%)	Number	

2.1.2 Defossilisation

Nr	Metric name	Metric description	Format	Additional Information/ Example
4.4	**Use of renewable feedstocks**	Share of alternative, renewable feedstocks in total raw material use (%)	Number	

2.2 Automotive

2.2.1 Energy

Nr	Metric name	Metric description	Format	Additional Information/ Example
5.1	**Production site energy consumption**	Absolute total energy consumption of the company's production sites (MWh)	Number	
5.2	**Energy mix**	Share of renewable energy in total electricity consumption (%)	Number	

2.2.2 Technology/Value creation

Nr	Metric name	Metric description	Format	Additional Information/ Example
5.3	**Drive mix**	For manufacturers: Share of zero emission vehicles in new vehicles registered. For suppliers: Target use of the drive-relevant technologies	Number (%)	
5.4	**IC & hybrid engine phase-out date**	Phase-out date of internal combustion engine and hybrid engine (end or exit date)	YYYY-MM-DD	In EU: No later than 2035
5.5	**Future value creation strategy**	Strategy for generating future value creation in the changing marketplace	Yes/No	

2.2.3 Materials

Nr	Metric name	Metric description	Format	Additional Information/ Example
5.6	**Material use management**	Share of CO2-free or low-carbon metals in total material use (%)	Number	
5.7	**Use of secondary**	Share of secondary materials	Number	

| | **materials** | in total material use (%) | | |

2.3 HVC Plastics

2.3.1 Decarbonisation

Nr	Metric name	Metric description	Format	Additional Information/ Example
6.1	**Energy mix**	Share of renewable energy in total electricity consumption (%)	Number	
6.2	**Electrification**	Share of electricity-based production (%)	Number	

2.3.1 Defossilisation

Nr	Metric name	Metric description	Format	Additional Information/ Example
6.3	**Use of renewable feedstocks**	Share of alternative, renewable feedstocks in total feedstock use (%)	Number	Heavily dependent on the end product, possible alternative materials could be synthetic naphtha or synthetic methanol.
6.4	**Use of bioplastics**	Share of bioplastics in total feedstock use (%)	Number	
6.5	**Use of CO2 from Carbon capture and re-use technologies**	Share of CO2 as feedstock from non-fossil sources (%)	Number	CO2 extracted from own steam cracker or from e.g. agricultural or cement production substitutes fossil raw

Nr	Metric name	Metric description	Format	Additional Information/ Example
				material.
6.6	**Carbon capture and use/storage technologies**	Set up / use of own CCS/U plants	Yes/No	

2.3.3 Recycling

Nr	Metric name	Metric description	Format	Additional Information/ Example
6.7	**Contribution to circular economy**	Circular economy, which includes avoidance, reduction and reuse as well as recycling, is strategically anchored in the company through, for example, plans for the use of recycled materials in production or adjustments to the product design to enable reprocessing.	Yes/No	(How) Is the suitability of the primary product for reprocessing reflected?
6.8	**Material recycling**	Share of recyclates in total feedstock use (%)	Number	
6.9	**Chemical recycling**	Share of materials from chemical recycling in total feedstock use (%)	Number	

2.4 Commercial Real Estate

2.4.1 Building Efficiency

Nr	Metric name	Metric description	Format	Additional Information/ Example
7.1	**Building-specific refurbishment roadmap**	Share of buildings with a building-specific refurbishment roadmap that corresponds to the GHG emission reduction trajectory in total commercial buildings portfolio (%)	Number	This includes a combination of measures to improve building energy efficiency (e.g. insulation, windows) and measures for

Nr	Metric name	Metric description	Format	Additional Information/ Example
				renewable/low greenhouse gas heating (e.g. heat pump, renewable local or district heating).
7.2	**Zero-emission building share**	Share of zero-emission buildings in the total commercial building portfolio (%)	Number	A "zero emission building" has a very low energy demand due to efficiency gains, through energy renovation, etc. This demand is covered exclusively by renewable energy sources)
7.3	**Building energy efficiency**	Average energy requirement (kWh/m²a)	Number	

2.4.2 Energy source

Nr	Metric name	Metric description	Format	Additional Information/ Example
7.4	**Renewable heating**	Share of heat from renewable sources of total heat supply (%)	Number	Renewable sources include for example, solar thermal energy, heat pumps, geothermal energy, biomass and green hydrogen.

2.4.3 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
7.5	**Use of (district)**	Share of heat from (district)	Number	

	heating networks	heating networks (%)		
7.6	**Heat pump usage**	Share of heat from heat pumps (installed or implementation planned) (%)	Number	

2.5 Residential Real Estate

2.5.1 Building Efficiency

Nr	Metric name	Metric description	Format	Additional Information/ Example
8.1	**Building-specific refurbishment roadmap**	Share of buildings with a building-specific refurbishment roadmap that corresponds to the GHG emission reduction trajectory in total residential buildings portfolio (%)	Number	This includes a combination of measures to improve building energy efficiency (e.g. insulation, windows) and measures for renewable/low greenhouse gas heating (e.g. heat pump, renewable local or district heating.
8.2	**Zero-emission building share**	Share of zero-emission buildings in the total residential building portfolio	Number (%)	A "zero emission building" has a very low energy demand due to efficiency gains, through energy renovation, etc. This demand is covered exclusively by renewable energy sources)
8.3	**Building energy efficiency**	Average energy requirement in kWh/m²a	Number	

2.5.2 Energy source

Nr	Metric name	Metric description	Format	Additional Information/ Example
8.4	**Renewable heating**	Share of heat from renewable sources of total heat supply	Number (%)	Renewable sources include for example, solar thermal energy, heat pumps, geothermal energy, biomass and green hydrogen.

2.5.3 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
8.5	**Use of (district) heating networks**	Share of heat from (district) heating networks (%)	Number	
8.6	**Heat pump usage**	Share of heat from heat pumps (installed or implementation planned) (%)	Number	

2.6 Steel

2.6.1 Energy

Nr	Metric name	Metric description	Format	Additional Information/ Example
9.1	**Emission intensity of electricity**	Applies especially for use of Electric arc furnace (EAF) (gCO2e/kWh)	Number	
9.2	**Green hydrogen usage**	Use of green hydrogen according to the EU Taxonomy (only for hydrogen-based steel production)	Yes/No	

2.6.2 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
9.3	**Blast furnace phase-out**	Phase-out pathway: Share of steel produced without CCS in steel production of the blast furnace route (%)	Number	
9.4	**Low carbon steel scale-up**	Scale-up pathway: share of no /low carbon steel in total steel production (%)	Number	No/low carbon steel: scrap-based Electric arc furnace (EAF) and green energy; hydrogen-based steel production with green hydrogen, blast furnace route with CCS)

2.7 Freight transport by road

2.7.1 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
10.1	**Drive mix**	Share of alternative drive types per fleet segment (%) Small trucks (<3.5t), Medium trucks (3.5t < x < 7.5t), Large trucks (> 7.5t)	Number	Examples of drive types are diesel hybrid (plug in, eHighway HGVs), battery electric vehicles (BEV), eHighway BEV HGVs, internal combustion engine.

				Alternative drive types are electric drives and fuel cells (H2).
10.1.2	Total amount of vehicles	Total amount of vehicles per fleet segment	Number	
10.2	**ICE phase-out**	Internal combustion engine phase-out	YYYY-MM-DD	

2.7.2 Energy

Nr	Metric name	Metric description	Format	Additional Information/ Example
10.3	**Fuel mix**	Share of biofuels blended into Diesel (%)	Number	

2.8 Electricity generation

2.8.1 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
11.1	Electricity mix emissions	Emission intensity of the created electricity mix	Number (t CO2e /MWh)	
11.2	Share of renewable electricity	Share of electricity produced from renewables in total electricity production (%)	Number	
11.3	Natural gas phase-out	Phase-out plan, including year	Plan and date (YYYY-MM-DD)	
11.4	Coal phase-out	Phase-out plan, including year	Plan and date (YYYY-MM-DD)	
11.5	Storage capacity	Share of storage of average	Number	

	expansion	daily production in total electricity production (%)		

2.9 Livestock farming

2.9.1 Emissions from manure and fertilizer and livestock

Nr	Metric name	Metric description	Format	Additional Information/ Example
12.1	**Composted/fermented manure**	Share of composted or fermented manure in the total amount of manure produced in indoor livestock systems (%)	Number	
12.2	**Emission-proof fertilizer storage**	Share of emission-proof storage of fertilizer in the total amount of fertilizer from indoor livestock system (%)	Number	

2.9.2 Animal welfare

Nr	Metric name	Metric description	Format	Additional Information/ Example
12.3	**Mortality rate**	Annual rate (%)	Number	Complementary indicators, if the mortality rate is unknown, are e.g. animal welfare labels in food retail, antibiotic use/animal, stable area/animal, free-range area/animal.

2.9.3 Animal feed

Nr	Metric name	Metric description	Format	Additional Information/ Example
12.4	Own feed percentage	Share of own feed in total feed quantity (%)	Number	
12.5	External feed certification	E.g. deforestation-free feed, feed production in compliance with minimum social standards (e.g. ILO labour standards, exclusion of displacement of indigenous people). If yes, please share the document(s) with us.	Yes/No	Appropriate certificates for soy as feed are e.g. DonauSoja/Europa Soja, ProTerra Certification, Roundtable for Responsible Soy - RTRS Non-GMO Credits (RTRS NON-GMO).
12.6	Origin of external feed	Qualitative assessment of regional risks of origin (e.g. deforestation of rainforest, displacement of indigenous peoples for feed production) and the transport route	Text	
12.7	Excess nitrogen	Excess nitrogen in kg/ha	Number	
12.8	Crop rotation	Number of crops in rotation	Number	Diversity and rotation in the cultivated arable crops promote humus formation and biodiversity.
12.9	Climate-friendly protein production	Share of climate-friendly proteins farmed in the total amount of protein in the concentrated feed used (%)	Number	Proteins: e.g. legumes, soy, insects
12.10	Green fodder	Share of green fodder in the	Number	

	percentage	total feed quantity (%)		

2.9.4 Energy

Nr	Metric name	Metric description	Format	Additional Information/ Example
12.11	Renewable electricity percentage	Share of electricity from renewables in total electricity consumption (%)	Number	
12.12	Renewable heating percentage	Share of heating from renewables in total heatsupply (%)	Number (%)	
12.13	Electric/gas-powered machinery/vehicle percentage	Share of electric/gas-powered machines/vehicles in total machinery/vehicle fleet (%)	Number	

2.10 Cement

2.10.1 Energy

Nr	Metric name	Metric description	Format	Additional Information/ Example
13.1	Energy mix	Share of renewable energy in total electricity consumption (%)	Number	
13.2	Fuel mix	Share of biogenic fuels in the total mix (%)	Number	
13.3	Thermal energy efficiency	Heat recovery rate in the process of clinker production (%)	Number	
13.4	Composition of thermal input	Share of (green) hydrogen in thermal input (%)	Number	

2.10.2 Technology

Nr	Metric name	Metric description	Format	Additional Information/ Example
13.5	Carbon capture and	(Planned) use of carbon	Yes/No	

	use technology usage	capture and use technologies (CCCS/CU)		
13.6	**Electrification of process heat**	Degree of electrification of production and processes (%)	Number	

2.10.3 Material

Nr	Metric name	Metric description	Format	Additional Information/ Example
13.7	**Clinker factor reduction**	Clinker/cement ratio	Number	By 2050, a reduction of the clinker factor to at least 0,67 is possible.
13.8	**Pre-calcined clay usage**	Share of pre-calcined clays in the material mix (%)	Number	
13.9	**Circular economy contribution**	Use of industrial by-products/co-products	Yes/No	

Additional information

In case you require additional information or have feedback to share, please get in touch with Julia Buensod (julia.b.buensod@pwc.com) or Machteld Foelster (maria.foelster@pwc.com).

We are grateful for any feedback and/or suggestions that will help us to make Dataland even a better Dataland!