

DNB - TNFD Pilot

Nature-related financial risks in our own account investments:

An explanatory case study and deep dive in electric utilities

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Introduction

- > The global economy is intertwined with nature through dependencies and impacts, which are sources of nature-related financial risks:
 - > Physical risks resulting from degradation of nature.
 - > Transition risks resulting from misalignment of economic actors with actions aimed at protecting or restoring nature.
- ➤ Through loans, insurance policies and investments in companies exposed to nature-related financial risks, the financial sector is also sensitive to the decline of nature and measures aimed at protecting it.
- > DNB in its role as investor piloted the TNFD-framework to get a better understanding of naturerelated financial risks in its own account investments.



Introduction



High-level goals of the TNFD pilot

DNB in its role as investor conducted the pilot, in order to:

- ✓ Get a better understanding of nature-related financial risks in its own account investments;
- ✓ Get experience with the TNFD-framework;
- ✓ Contribute to international capacity building by externally publishing methodology and results.



Scope of the pilot

- ✓ Use the TNFD framework
 - As opposed to the NGFS Conceptual Framework
- ✓ Two externally managed developed market equity portfolio's
 - Paris aligned mandated (PAM) actively managed
 - Broad market portfolio (BMP) passively managed



Brief recap of the TNFD



Taskforce on Nature-related Financial Disclosures

- ➤ A set of disclosure recommendations and guidance that enables business and finance report on their nature-related issues:
 - Increase transparency to improve risk pricing and contribute to reallocation of capital flows
- ➤ LEAP framework to help corporates and finance better understand their nature-related dependencies, impacts, risks and opportunities.
 - Results of the LEAP analysis can be used in TNFD disclosure



importance and/or areas of water stress?

Identification

What sectors, business units, value

chains or asset classes are interfacing

with nature in these priority locations?

Sector



ID of relevant environmental assets and ecosystem services

What are our business processes and activities at each priority location? What environmental assets and ecosystem services do we have a dependency or impact on at each priority location?

ID of dependencies and impacts

What are our nature-related dependencies and impacts across our business at each priority location?

Dependency analysis

What is the size and scale of our dependencies on nature in each priority location?

E4 Impact analysis

What is the size and scale of our nature impacts in each priority location?

Stakeholder engagement (in-line with the TNFD Disclosure Recommendations)

Assess

Material Risks & Opportunities

A1 Risk ID &

What are the corresponding risks for our organisation?

A2 Existing risks mitigation & management

What existing risk mitigation and management approaches are we already applying?

A3 Additional risks mitigation & management

What additional risk mitigation and management actions should we consider?

A4 Materiality

Which risks are material & should be disclosed in line with the TNFD disclosure recommendations?

A5 Opportunity identification & assessment

What nature-related opportunities does this assessment identify for our business?

Prepare
To Respond & Repor

Strategy & resource allocatio

P1 Strategy and resource allocation

What strategy and resource allocation decisions should be made as a result of this analysis?

P2 Performance measurement

How will we set targets and define and measure progress?

Disclosure actions

P3 REPORTING

What will we disclose in line with the TNFD disclosure recommendations?

P4 PRESENTATION

Where and how do we present our nature-related disclosures?

Review and repeat



LEAP-approach – Summary of DNB methodology

Scope

- Own account investments Two developed market equity portfolios
- Sectoral
- Direct impacts and dependencies

Locate

- ENCORE to create heatmap of impacts and dependencies
- Narrow scope to electric utilities because i) this subsector has both high direct impacts and dependencies on nature, ii) we have exposure to this subsector in both portfolios, and iii) the location data of company assets is readily available.
- Use the Global Power Plant Database of the World Resources Institute (WRI) to obtain coordinates of power plants.

Evaluate

- Use the WWF Biodiversity Risk Filter (BRF) for deeper understanding of impacts and dependencies on nature of electric utilities.
- The WWF BRF distinguishes three types of electricity generation with different impacts and dependencies: i) combustion & geothermal, ii) hydropower and iii) solar & wind.

Assess

- Use the WWF BRF to calculate physical and reputational risk scores per asset location
- Aggregate this to company and portfolio level.



Phase: Locate (1) Analysis of sector exposure

ENCORE analysis



Exposure to subsectors with high dependencies and high impacts

- Used widely throughout the market
- Gives overview of entire portfolios

But:

- No company specific information, such as location
- Only direct effects

Type of Nature Linkage	Portfolio		
	BMF	PAM	MSCI World
High & Very High Impact	77%	73%	73%
High & Very High Dependency	32%	26%	36%

Figure 1: Portfolio ecosystem dependencies

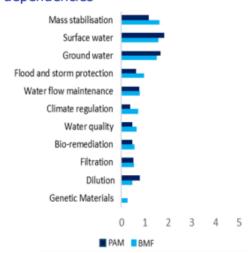
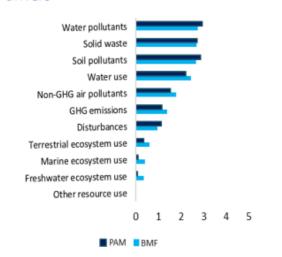


Figure 2: Portfolio contribution to impact drivers





Phase: Locate (2) Selection of deep dive

Selection of subsector

Choice for Electric Utilities subsector

- 1. ENCORE: sector with very high impacts and very high dependencies
- 2. Exposure in both portfolios
- 3. Location data available



Source for location data: World Resources Institute (WRI)

- 19 companies
- 1300 power plants



Phase: Evaluate Different impacts and dependencies per electricity type

- Use the WWF Biodiversity Risk Filter for deeper understanding of impacts and dependencies on nature of electric utilities.
- The WWF BRF distinguishes three types of electricity generation with different impacts and dependencies: i) combustion & geothermal, ii) hydropower and iii) solar & wind.
- Combustion & geothermal and hydropower have higher impacts and dependencies than solar & wind.



Phase: Assess (1) Assessing risk through connecting natural- and company data

Step 1: Scores per power plant

Tool: WWF Biodiversity Risk Filter

- Company activity (Evaluate)
- Location
- Physical and reputational risks

Step 2: Scores per company

- Score per power plant (step 1)
- Weighting: kWh per centrale













Phase: Assess (2) Outcomes of WWF BRF analysis

- Electric utilities in PAM exhibit lower physical risks but slightly higher reputational risks.
- This is caused mainly by the locations of its power plants.
- PAM's less carbon-intensive energy mix does not substantially lower associated nature-related financial risks.

Figure 3: Portfolios aggregated risk scores

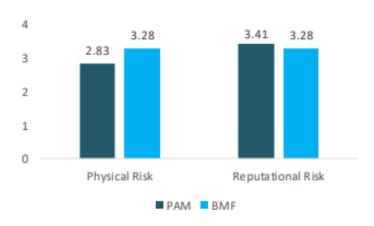


Table 3 Selection of inputs into the WWF BRF risk scores

	BMF	PAM
Input in Physical risk Percentage of plants in locations with high or very high risk of water scarcity	16%	0%
Input in Reputational risk Percentage of plants in locations with high or very high risk of proximity to protected areas	41%	79%
% of total electricity production		
Combustion	73%	56%
Hydropower	11%	16%
Solar & wind	16%	27%



Learning points

- Nature-related risk assessment is labor intensive.
- Capacity-building and knowledge sharing remains important.
- Starting small (or general) and expanding helps to limit complexity.
- ENCORE provides insight into potential risks.
- Location data is limited, but there is data out there for various high impact and dependency sectors.
- Location analysis can serve as a basis for engagement with our external managers.
- > as

