# 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 nature-related 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**

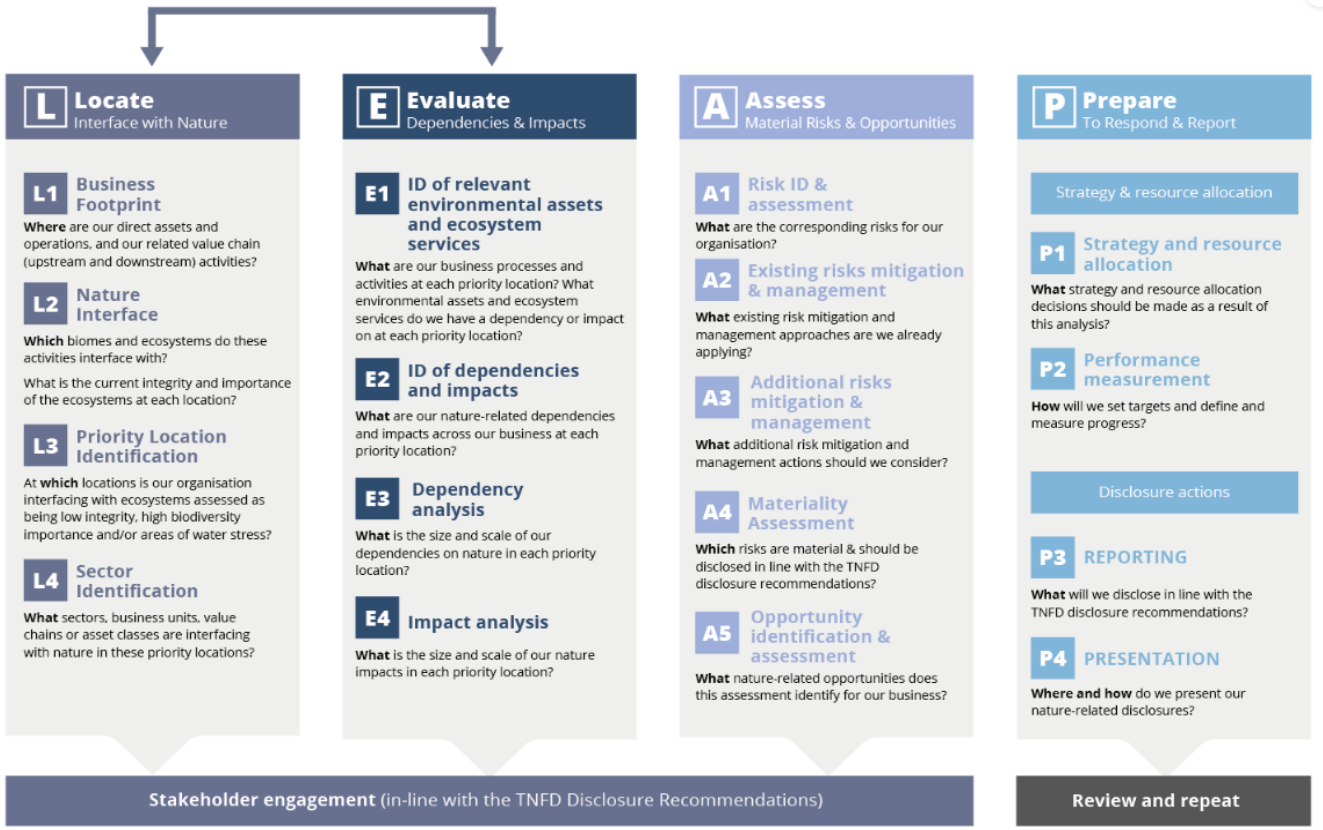
- ✓ Use the TNFD framework
  - As opposed to the NGFS Conceptual Framework
- ✓ Two externally managed developed market equity portfolio's
  - Paris aligned mandated (PAM) – actively managed
  - Broad market portfolio (BMP) - passively managed

# 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



# 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

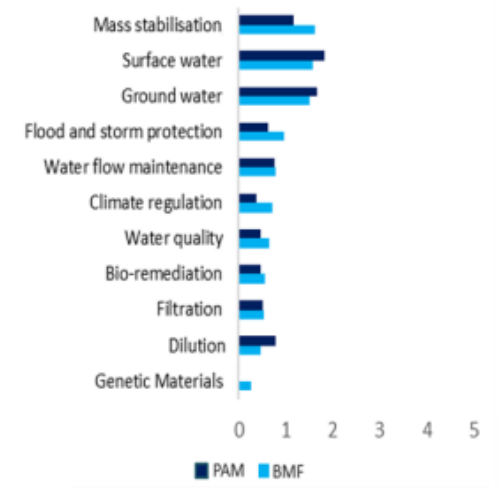
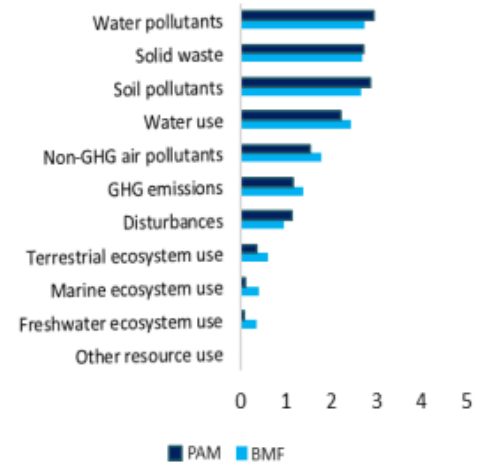



Figure 2: Portfolio contribution to impact drivers

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# **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

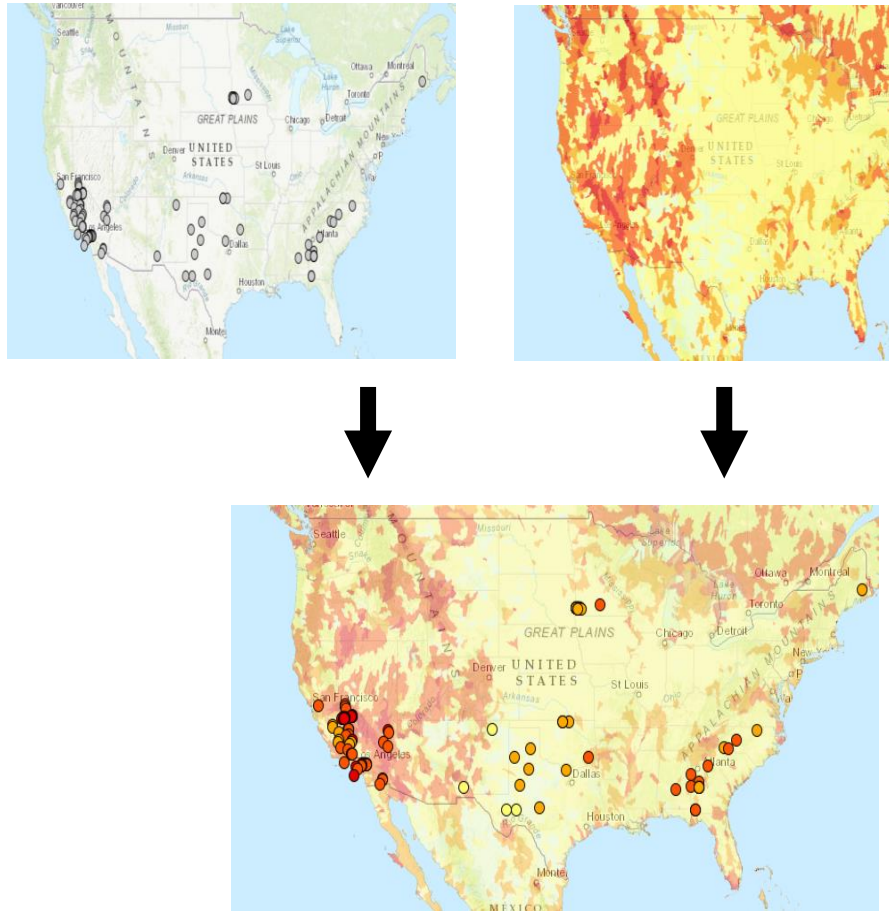
**Step 1: Scores per power plant**

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

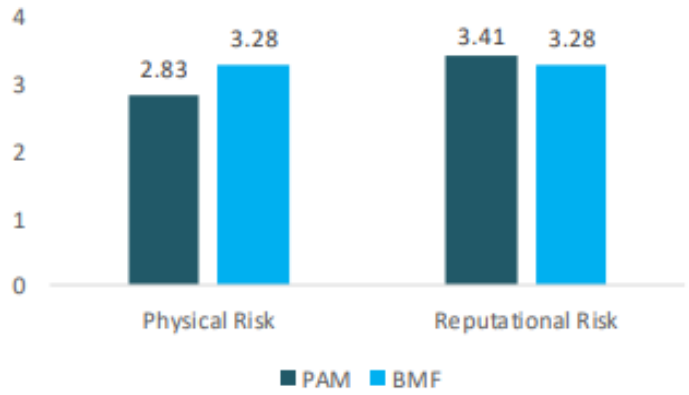



Table 3 Selection of inputs into the WWF BRF risk scores

| | 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% |

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# 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.
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