# Incorporating climate risks into corporate management and reporting »

Long–term Energy Scenarios for the Clean Energy Transition

Session 4: Corporate and financial sector perspective on long-term energy scenarios for a clean energy transition

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Berlin, April 11, 2019

EnBW

# Who we are and what we do (I)

EnBW

One of the **largest energy supply companies** in Germany and Europe, with **strong roots in Baden-Württemberg.** Our core business: **electricity, gas, heat and water.**

## Our business segments

- We are vigorously expanding **renewable energies**.
- We transport electricity, gas and water across all voltage and pressure levels via our **grids**.
- Our **sales department** serves as contact for all energy-related issues of our customers.
- In the **trade and generation** segment we optimise our conventional power plants in terms of economy and $CO_2$ and trade energy for our customers and ourselves on the stock exchange.

We are evolving **from an energy provider to an infrastructure partner.**

# Who we are and what we do (II)

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**Revenue**
€20,617.5
million

**Adjusted EBITDA[1)]**
€2,157.5
million

**Number of B2C and B2B customers**
About 5.5 million

**Internationally**
operating in 11 countries

**Employees**
21,775
(31.12.2018)

**Share**
€8.1 billion
market capitalisation
(31.12.2018)

**Length of electricity grid**
151,000 km

**Length of gas grid**
24,000 km

**Installed power plant capacity**
13,399 MW

**of which renewable energies**
3,738 MW

**Fully integrated energy supply company**

**Electricity**

Generation › Trade/ procurement › Transmission/ distribution › Sales

**Gas**

Import contracts / infrastructure › Storage › Trading / portfolio management › Transport/ distribution › Sales

**The other big players in Germany**

e·on RWE innogy

1) Earnings before tax, depreciation and amortisation and extraordinary expenses

As of: 2018

# TCFD: Task Force develops Framework for effective, climate-related financial Corporate Reporting

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**December 2015:**
Foundation

FSB FINANCIAL STABILITY BOARD

PARIS2015 UN CLIMATE CHANGE CONFERENCE COP21·CMP11

**2016/2017:**
Consultation

TCFD TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

**June/July 2017:**
Publication

FSB FINANCIAL STABILITY BOARD

G20 GERMANY 2017 HAMBURG

## Data Preparer

TATA STEEL, AIR LIQUIDE, DAIMLER, eni, EnBW, bhpbilliton, Unilever

## Data User

JPMorgan Chase & Co., SGX, generation, UBS, Swiss Re, CPP Investment Board, BARCLAYS, PGGM Voor een waardevolle toekomst, Tokio Marine, BlackRock, Bradesco, AXA, ICBC 中国工商银行 Industrial and Commercial Bank of China, AVIVA

## Experts

MERCER, KPMG, Moody's, EY Building a better working world, Deloitte., Standard & Poor's, pwc, PRI Principles for Responsible Investment, HSBC

# TCFD-Mission: Progress of Recommendations for effective, climate-related and future-oriented Corporate Reporting

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## CONTEXT:

- Listed companies have a **legal obligation** to disclose material, climate-related financial information (cf. §HGB 289)
- However, there is **no single framework** for implemen-tation, but instead a number of mostly voluntary (sustainability) initiatives

## CHALLENGE:

- Until now, **fragmented, incomparable climate reporting** prevents **capital market actors** from effectively incorporating existing climate-related information into financial decisions and **state authorities** from assessing the stability of the financial system

## OBJECTIVE:

- Development of a **clear, effective and voluntary framework for reporting:**
  - Recommendations for preparing reports by companies
  - Simplifying the **use** of climate-related information for capital market actors

TCFD | TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES

# Development of the TCFD-Recommendations with four Building Blocks


**Governance**
- Treat climate protection topics on the executive board / supervisory board
- Demonstrate transparency regarding the consideration of climate risks in decisions

**Strategy**
- Analyze the short-/ medium-/ long-term effects of climate change risks on business model, strategy and financial planning
- Checking the resilience of the business model (including scenario analysis)

**Risk Management**
- Process for identifying / assessing / managing climate risks
- Integration into the general risk management of the company

**Metrics and Targets**
- Quantitative / qualitative information on the assessment of climate-related risks / opportunities with strategic reference
- Target definition for the evaluation of company performance (including CO2)

**TCFD-Recommendations are applicable to all sectors** - detailed recommendations have been developed for selected sectors (including energy, transport, chemicals)

**TCFD-Recommendations are applicable in all jurisdictions** - regardless of national law

**TCFD recommendations are aimed at emitter, investors, lenders and insurance companies** - the aim is to make sound, efficient capital allocation decisions

# TCFD-Work Results and Disclosure in the Report

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**Recommendation**

**Recommended Disclosure**

**Guidance for all Sectors**

**Supplementary Guidance for Specific Industries**

**TCFD Core Components and Support Materials**

**Key Aspect of the Recommendations**

- Applicable to all organisations
- Inclusion in the financial report
- Generation of decision-relevant, future-oriented information on financial effects
- Strong focus on risks and opportunities of

Sustainable Report

Separate Report

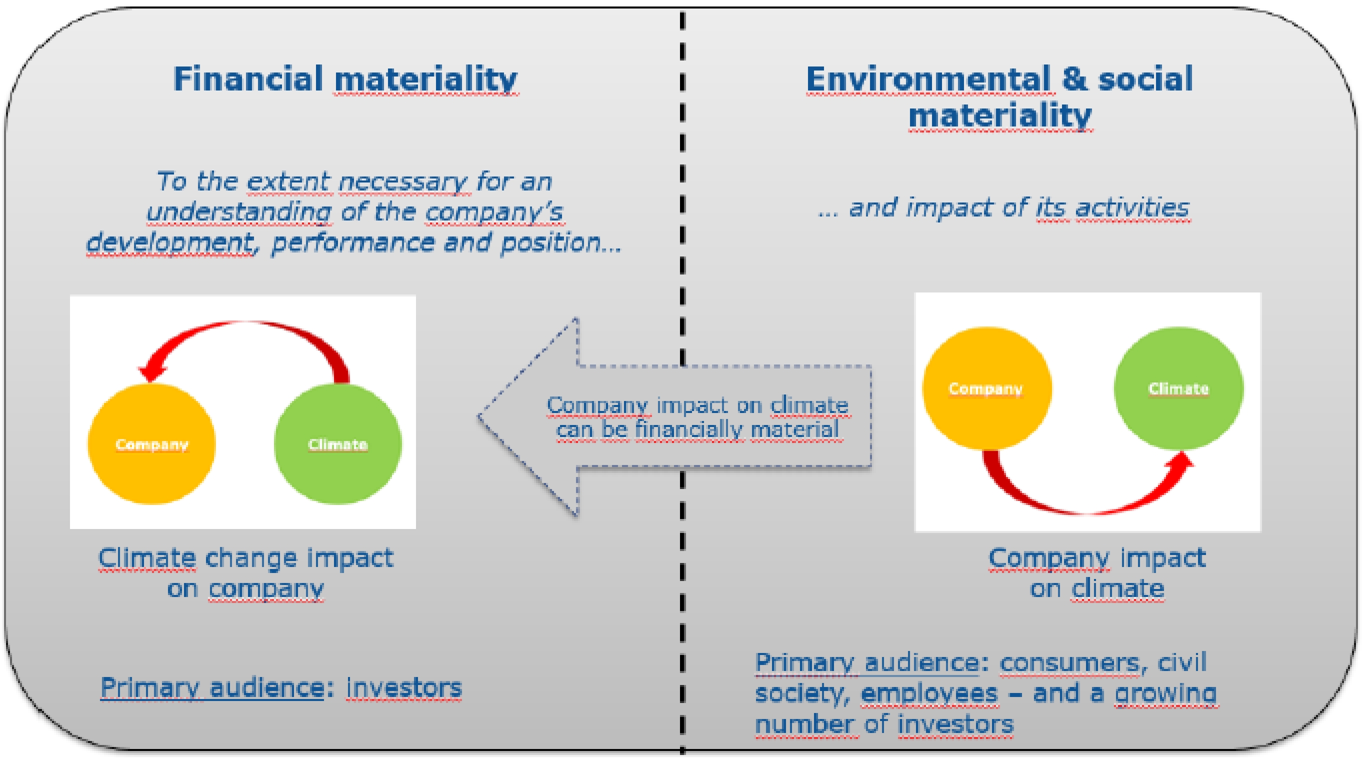
**Financial Report**

**Possible Starting Points**

**Target Location**

If **climate-related information** is **classified as crucial** for business development, it should be included in the **financial report**. Alternative forms of reporting offer themselves as a **starting point** or **transitional solution**, such as the **sustainability report**

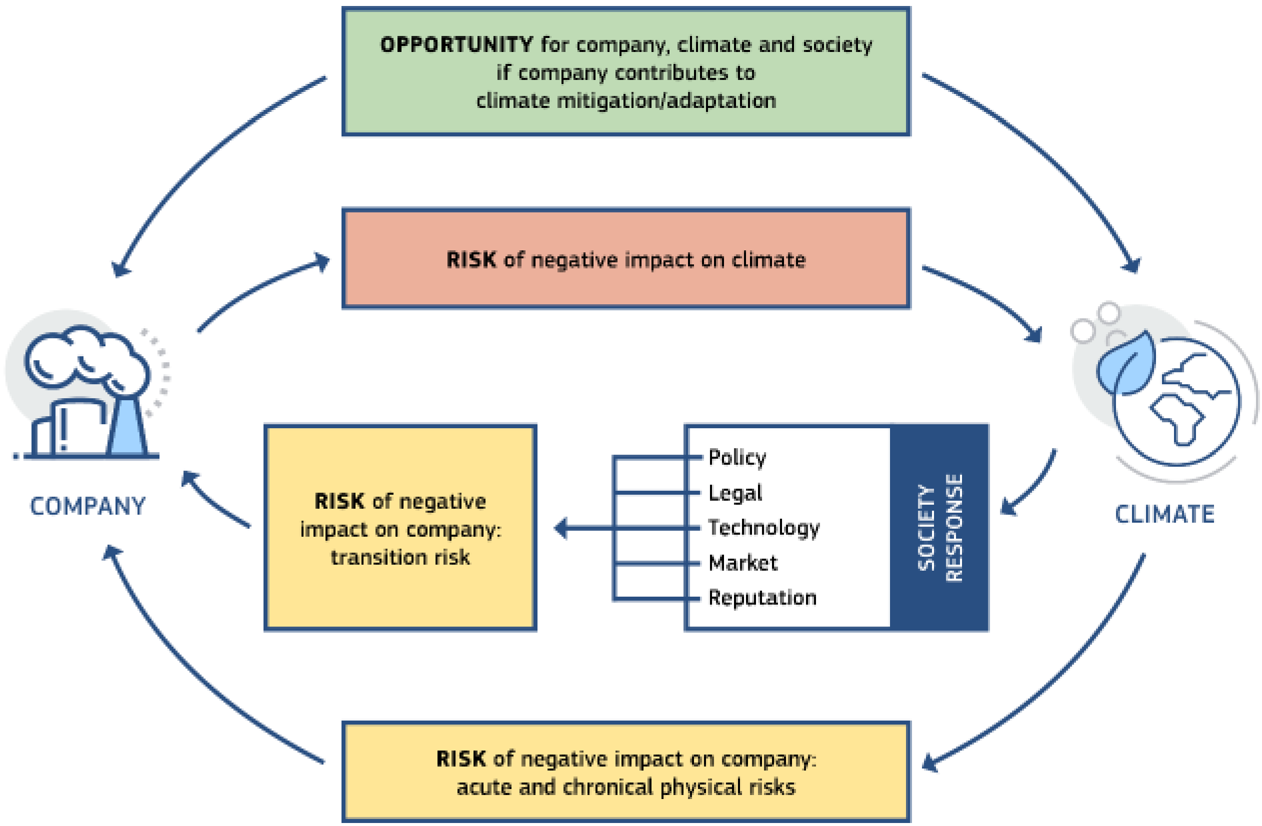
# Linking financial and environmental and social materiality (I/II)




Financial materiality is used here in the broad sense of affecting the value of the company, not just in the sense of affecting financial measures recognised in the financial statements.

Source: Consultation-Paper by the EU Commission Technical Expert Group on Sustainable Finance (2019)

# Linking financial and environmental and social materiality (II/II)




Source: Consultation-Paper by the EU Commission Technical Expert Group on Sustainable Finance (2019)

# Re-evaluate climate-related Risks and Opportunities with financial Implications

## RISKS

***Transition***

**Policy and Legal**
- Carbon pricing and reporting obligations
- Mandates on and regulation of existing products and services
- Exposure to litigation

**Technology**
- Substitution of existing products and services with lower emissions options
- Unsuccessful investment in new technologies

**Market**
- Changing customer behavior
- Uncertainty in market signals
- Increased cost of raw materials

**Reputation**
- Shift in consumer preferences
- Increased stakeholder concern/negative feedback
- Stigmatization of sector

***Physical***
- Acute: Extreme weather events
- Chronic: Changing weather patterns and rising mean temperature and sea levels

## OPPORTUNITIES

***Resource Efficiency***
- Use of more efficient modes of transport and production and distribution processes
- Use of recycling
- Move to more efficient buildings
- Reduced water usage and consumption

***Energy Source***
- Use of lower-emission sources of energy
- Use of supportive policy incentives
- Use of new technologies
- Participation in carbon market

***Products & Services***
- Development and/or expansion of low emission goods and services
- Development of climate adaptation and insurance risk solutions
- Development of new products or services through R&D and innovation

***Markets***
- Access to new markets
- Use of public-sector incentives
- Access to new assets and locations needing insurance coverage

***Resilience***
- Participation in renewable energy programs and adoption of energy-efficiency measures
- Resource substitutes/diversification

Strategic Planning Risk Management

Financial Impact

Revenues
Expenditures

Income Statement ↔ Cash Flow Statement ↔ Balance Sheet

Assets & Liabilities
Capital & Financing

Quelle: TCFD Final Report 2017

# Possible climate-related (financial) risks

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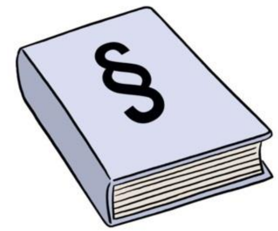
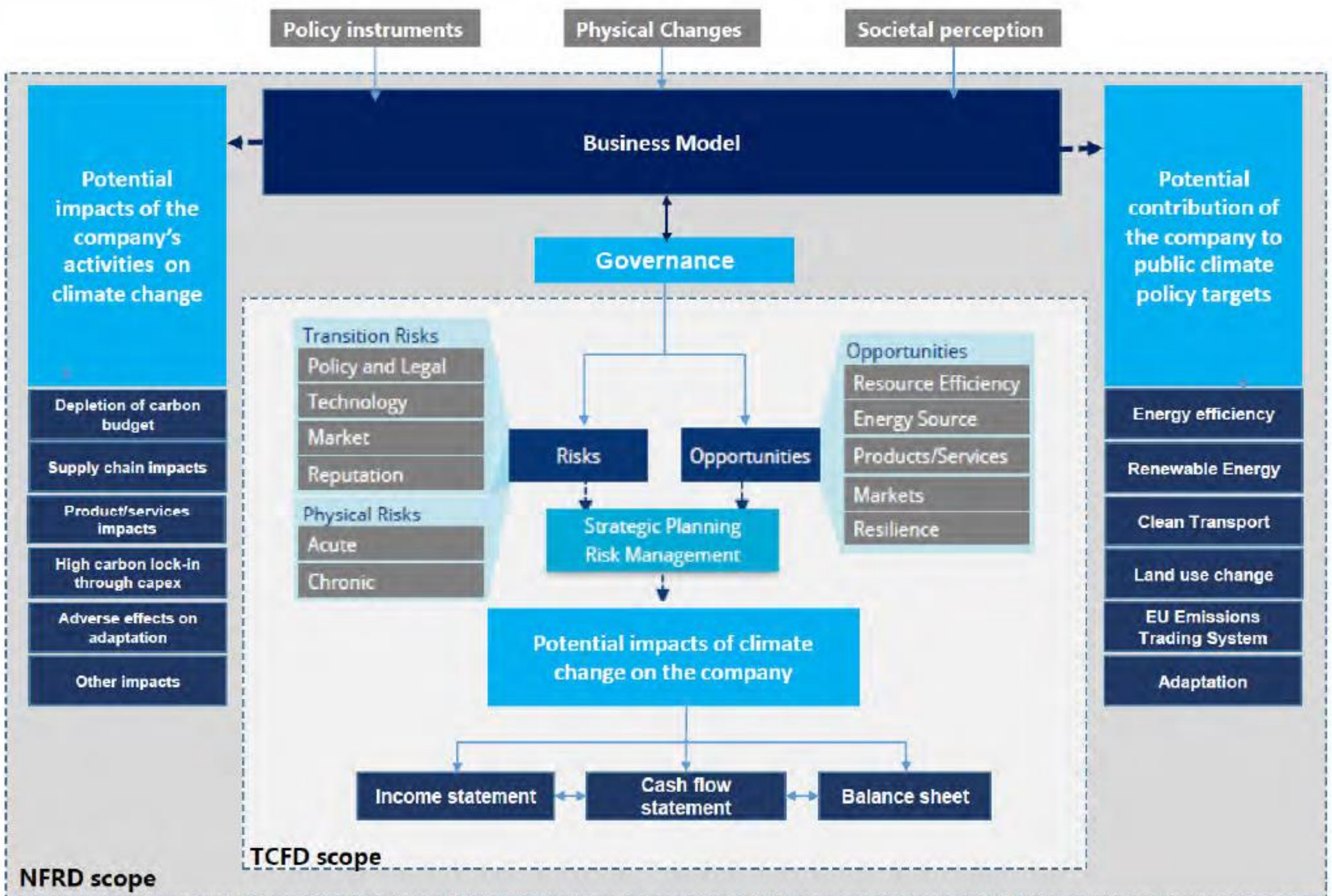
| | |
|---|---|
| **Policy and Legal** | New legal quota for the supply of renewable energy |
| **Technology** | Increasing share of wind energy in electricity generation leads to a strong dependence on weather conditions |
| **Market** | Changing customer needs and increasing demand for climate-friendly products such as e-mobility, |
| **Reputation** | Ignoring climate-related developments could have negative effects in the „war for talents“ |





# TCFD’s Model linked with current development of EU Sustainable Action Plan




Source: Paper by the Technical Expert Group on Sustainable Finance, Disclosure Subgroup

Quelle: TCFD Final Report 2017

# The first stage of the German Energiewende required a complete repositioning and realignment of EnBW

**The German Energiewende has changed our business enormously**

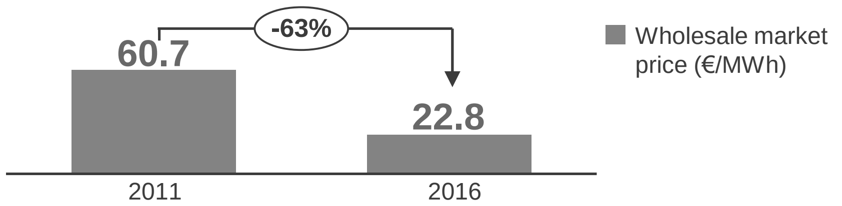
**Stage 1**

**Determined by energy policy and government**

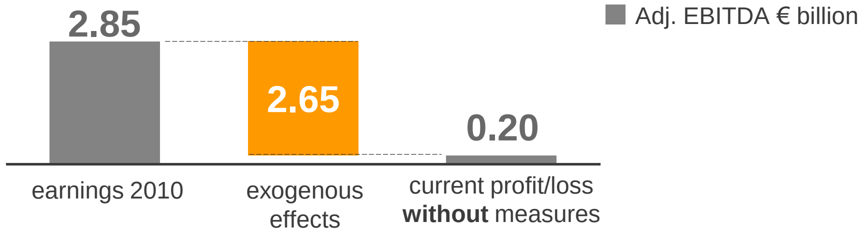
- In 2011 phasing out of nuclear energy
- Expansion of renewable energies on the basis of the Renewable Energies Act
- Economic importance of conventional generation is rapidly declining
- Expansion of electricity and gas grids

**A challenge to the traditional business model**

- Prices in the wholesale market plummet (€/MWh)




- Exogenous effects in the amount of the net profit/loss for the year (adj. EBITDA[1])




**The traditional business model eroded within a few years.**

1) Earnings before tax, depreciation and amortisation and extraordinary expenses

# The foundation of the repositioning was laid in 2013 with the EnBW 2020 strategy

| | 2012 | | 2020 |
|---|---|---|---|
| Generation and Trading | €1.2 billion | –80% | €0.3 billion |
| Renewable Energies | €0.2 billion | +250% | €0.7 billion |
| Grids | €0.8 billion | +25% | €1.0 billion |
| Sales | €0.2 billion | +100% | €0.4 billion |
| | €2.4 billion | | €2.4 billion |

in adjusted EBITDA

**Goal: achieving the operative result of 2012 again in 2020 while at the same time completely repositioning the company.**

# Background- Szenario-Analysis (see also TCFD Documents)



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**Objective**

- Testing the viability and **resilience of strategies** and business models under consideration

**Approach**

- **Inclusion of potential risks of climate change in planning processes** and business models, through analysis and assessment of climate-related risks / opportunities (evaluation of impacts of different scenarios)

**Expectations**

- Companies with revenues in excess of 1 billion EUR are expected to conduct a scenario analysis to test the robustness of their business model
- cf. P. 51, Fn 37: "**The Task Force expects the application of scenarios** as a tool for forward-looking assessments of climate-related risk **will evolve over time** as scenarios, tools, and data are further developed and refined."
- cf. P. 51, Fn 38: **Inclusion of a 2°C or lower scenario is intended to serve as an anchor point** for all organizations that aligns with current international climate agreements, recognizing that the Paris Agreement currently says "well below 2 degrees."

# Scenario Analysis following TCFD‘s recommendations

1

**Ensure governance is in place:** Integrate scenario analysis into strategic planning and/or enterprise risk management processes. Assign oversight to relevant board committees/sub-committees. Identify which internal (and external) stakeholders to involve and how.

2

**Assess materiality of climate-related risks**

| | |
|---|---|
| Market and Technology Shifts | Reputation |
| Policy and Legal | Physical Risks |

What are the current and anticipated organizational exposures to climate-related risks and opportunities? Do these have the potential to be material in the future? Are organizational stakeholders concerned?

3

**Identify and define range of scenarios**

Scenarios inclusive of a range of transition and physical risks relevant to the organization

What scenarios (and narratives) are appropriate, given the exposures? Consider input parameters, assumptions, and analytical choices. What reference scenario(s) should be used?

4

**Evaluate business impacts**

Impact on:
- Input costs
- Operating costs
- Revenues
- Supply chain
- Business interruption
- Timing

Evaluate the potential effects on the organization’s strategic and financial position under each of the defined scenarios. Identify key sensitivities.

5

**Identify potential responses**

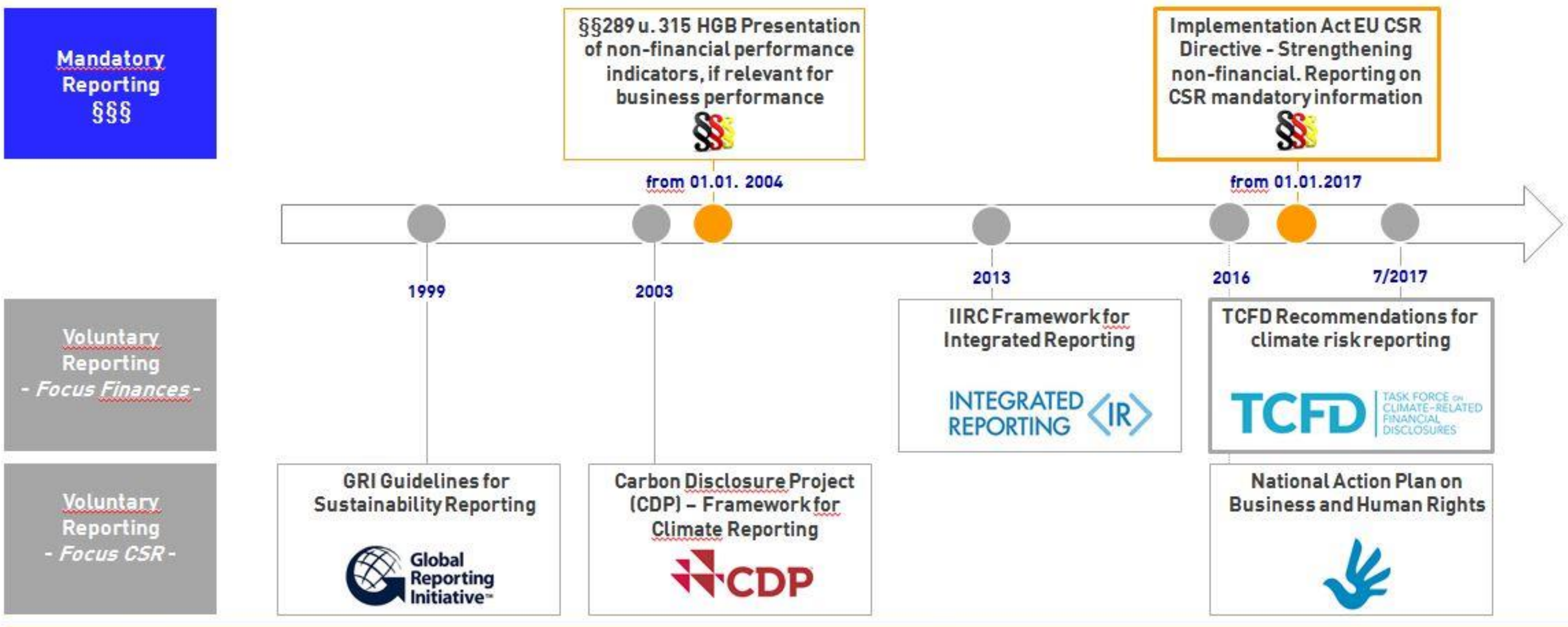
Responses might include
- Changes to business model
- Changes to portfolio mix
- Investments in capabilities and technologies

Use the results to identify applicable, realistic decisions to manage the identified risks and opportunities. What adjustments to strategic/financial plans would be needed?

6

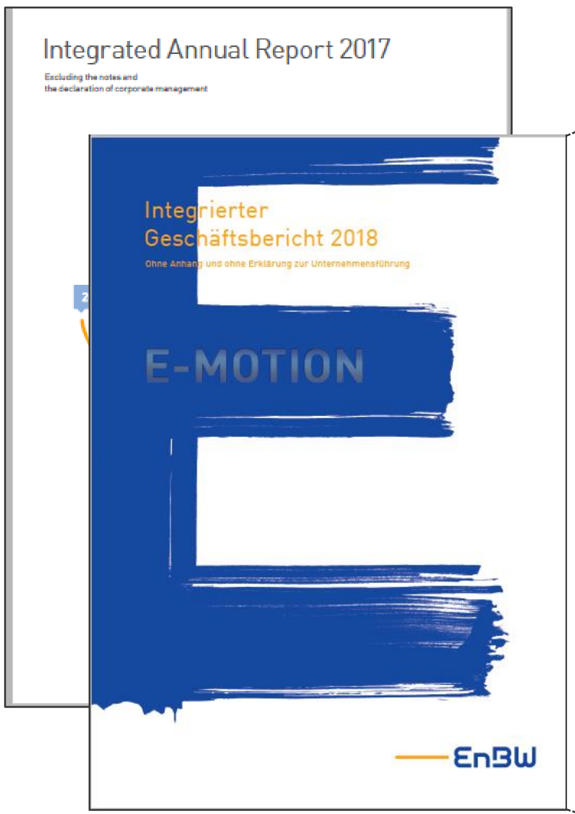
**Document and disclose:** Document the process; communicate to relevant parties; be prepared to disclose key inputs, assumptions, analytical methods, outputs, and potential management responses.

# Requirements for financial and non-financial reporting are increasing – who can change the rules of the game? Markets, Regulations or NGOs?



3

# EnBW First Steps 2017/2018: Implementation of TCFD‘s Recommendation




## › Implementation / transfer to the following chapters

- ✓ About this Report
- ✓ Business Model
- ✓ Strategy goals and performance management systems
- ✓ Materiality Matrix
- ✓ Economic and Political Conditions
- ✓ Report on Opportunities and Risk
- ✓ Index

# EnBW LTES - Assessment of the robustness of our business model in terms of climate protection

EnBW

In order to evaluate the robustness of our business model against the backdrop of social efforts to limit climate change and achieve the two-degree target, the **following scenarios are used**:

1. **The Energiewende continues to progress on its current path with a focus on the expansion of renewable energies in the electricity sector**

2. **Rigorous alignment towards climate protection in the context of the efforts being made worldwide to achieve the ambitious climate protection targets**

3. **Slower reorganisation of the energy system against the background of weaker economic growth below the long-term potential**

4. **The Energiewende is confined in an international environment that is oriented toward strong economic growth, also in conventional industrial sectors**

Source: EnBW Integrated Report 2018

# Conclusion and Open Questions

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**Future-related information – Liability and Auditing**

How do companies from different countries handle these requirements?
How are the statements audited?

**Transparency vs. competition issues**

How can a balance of interests be established between reviewers and report users?

**Market instrument vs. regulatory requirement**

How can companies be given enough time to thoroughly test the application of the recommendations?

**Compatibility with current reporting developments**

Do the TCFD recommendations go far beyond the requirements of the EU CSR Directive and are they fully compatible with <IR>?