Climate Excellence – Assessing climate risks and opportunities in the transport & logistics sector

BVL regional workshop
January 2020
Agenda

1. Climate Excellence – Connecting carbon management and financial impacts
2. Scenario analysis is a key component of financial risk assessments
3. Outlook: Financial implications for logistics exemplified for MSCI
ClimateExcellence –

Connecting carbon management and financial impacts
Current EU regulatory initiatives combine the financial impact with the sustainability impact of greenhouse gas emissions.

**Financial materiality**

"Outside-In"

Impact of climate change on businesses, development, performance etc.

**Environmental and social materiality**

"Inside-Out"

Impact of company on climate, environment and society

Climate Impact of Company can be financially material

Recommendations of the TCFD

Non-financial reporting directive of the EU

Quelle: PwC based on European Commission
Previous activities in the field of climate management are complemented with new requirements

**Beginner**
- Calculation of the own greenhouse gas (GHG) inventory for own operations
- Application of established standards and frameworks such as Greenhouse Gas Protocol, DIN EN 16258, GLEC Framework

**Level of ambition**
- Extending GHG accounting to the upstream and downstream value chain
- Involvement of external transport service providers
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
- Breakdown of global CO2 budget by sector
- Going beyond a Science Based Targets pathway
- Additional reduction of GHG emissions
- Offsetting of short-term unavoidable residual emissions
- Assessment of the resilience of the business model
- Future-oriented analysis
- KPIs: CO2 intensity, temperature contribution, costs, sales, revenue
- Ability to change
- Governance

**Leader**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
- Extending GHG accounting to the upstream and downstream value chain
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**Carbon Footprinting (own operations)**
- Calculation of the own greenhouse gas (GHG) inventory for own operations
- Application of established standards and frameworks such as Greenhouse Gas Protocol, DIN EN 16258, GLEC Framework

**Carbon Footprinting (value chain)**
- Application of established standards and frameworks such as Greenhouse Gas Protocol, DIN EN 16258, GLEC Framework

**Science Based Targets**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
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**Zero Emissions Strategy**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
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**Check resilience of the business model**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
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**Task Force for Climate-Related Financial Disclosure**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
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**Non-Financial Reporting Directive**
- Setting of climate targets that are aligned with the Paris Agreement <2°C or 1.5°C target
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**External effect**
- Practicability
- Regulation

**Climate Excellence – Logistik fit machen für den Klimawandel**

BVL 2020
PwC

Januar 2020
Science Based Targets
Aligning climate strategies with the level of ambition of the Paris Agreement

Science Based Targets logic

- **Climate science** specifies remaining **carbon budgets** and requirements for greenhouse gas emission reductions in line with the <2°C/1.5°C goal of the Paris Agreement
- **Current good practice**: Check corporate climate strategy against the level of ambition of the Paris Agreement
  - for own operations
  - for upstream and downstream emissions (if relevant and material)

Science Based Targets initiative

- Initiative by CDP, WWF, UN Global Compact and World Resources Institute
- Provides **methods and tools** for science-based target-setting and a communication platform
- Provides **mechanism for official validation of targets** against a set of criteria
- >300 companies with approved SBTs, >400 committed to set SBTs within two years (incl. Deutsche Post DHL, BLG Logistics Group, DB)
- **Current best practice**: Align corporate climate strategy with the level of ambition of the Paris Agreement and get SBTi approval
Transport service providers
Key areas of action in the context of the climate strategy

Efficiency increases
• Fuel-efficient conventional vehicles
• Energy efficiency in own buildings

Process optimization
• Network optimization
• Optimized route planning, driver trainings, etc.

Modal shift
• Rail transport
• Sea/inland waterways transport

Alternative drives & renewable energy
• Green electricity in own buildings
• Alternative fuels in the fleet

Green Products
• Low-carbon/zero carbon transport solutions
• High level of transparency (CO₂/tkm)
Scenario analysis is a key component of financial risk assessments.
The TCFD recommendations consist of five essential building blocks and scenario analysis is a core component.

1. **Governance**
The governance of the company with regard to climate-related risks and opportunities.

2. **Strategy** (affected by scenario analysis)
The actual and potential impact of climate-related risks and opportunities on the company's business, strategy and financial planning.

3. **Risk Management** (affected by scenario analysis)
The processes used to identify, assess and manage climate-related risks.

4. **Metrics and Targets** (affected by scenario analysis)
The metrics and targets used to assess and manage relevant climate-related risks and opportunities.

**Scenario-based risk and opportunity analysis**
- Based on financial KPIs in annual financial reporting
- Short-, Medium- and Long-term
- Regional differentiation (if sufficient)

As a rule, it is only necessary to supplement existing processes in order to comply with the recommendations.
Scenario analysis aims at testing strategic resilience of companies in face of disruptive change

A scenario describes different possible future worlds …

Forecast

Sensitivity analysis

Scenario analysis*

The focus is exclusively on climate-related risks. All other risks are to be considered by analysts as today.

Scenario analysis tests the resilience of a company’s or a portfolio’s strategy against various climate-related scenarios, including a scenario of 2°Celsius or lower.

* Scenarios have no probability
Scenario fundamentals
The relevant changes for the freight transport (trucks) sector comparing two scenarios

**Market**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Trucking services demand [bio. tkm]</th>
<th>Modal shift freight transportation 2050 vs. 2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7°C</td>
<td>34,095 → 84,753 (+149%)</td>
<td>2020: Rail 74%, Road 26%</td>
</tr>
<tr>
<td>1.8°C</td>
<td>34,095 → 72,204 (+112%)</td>
<td>2050: Rail 79%, Road 21%</td>
</tr>
</tbody>
</table>

Growth for trucking services is much smaller in 1.8°C than in 2.7°C.

Globally, there is no modal shift in a 1.8°C, whereas in 2.7°C a shift towards trucking is present.

**Technology**

Fuel intensity (final energy consumption per tkm) 2050 vs. 2020

<table>
<thead>
<tr>
<th>Scenario</th>
<th>-59% intensity</th>
<th>-35% intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.7°C</td>
<td>2.7°C</td>
<td>2.7°C</td>
</tr>
<tr>
<td>1.8°C</td>
<td>1.8°C</td>
<td>1.8°C</td>
</tr>
</tbody>
</table>

To reach 1.8°C fuel intensity needs to improve by 59% in the next 30 years.

Source: IEA
Even though market changes do not imply modal shifts on global level, they exist in some geographies.

Modal shift freight transportation 2050 vs. today

**Market – Global**

- 2020: 26% Rail, 74% Road
- 1.8°C: 20% Rail, 74% Road

Globally, there is no modal shift in a 1.8°C

**Market – Germany**

- Today: 27% Rail, 73% Road
- 1.8°C: 40% Rail, 60% Road

In Germany, a transition is more ambitious with a significant modal shift.

Outlook: Financial implications for logistics exemplified for MSCI
5% of the MSCI World Index in Transportation sector
Proportion of industries identified as “higher risks” and other investments of the MSCI World Index

Breakdown of the MSCI portfolio* (~1600 titles)

- Transportation
  - Agriculture, Food, and Forest Products

Energy
- Oil
- Gas
- Coal
- Electric Utilities

Focus of further detailed analyses

Materials and Buildings
- Metals and Mining
- Chemicals
- Construction Materials
- Capital Goods
- Real Estate Management and Development

Finance
- Banks
- Insurances
- Asset Managers
- Brokers

TCFD has identified these sectors as potentially “higher risk”

<table>
<thead>
<tr>
<th>Energy</th>
<th>Transportation</th>
<th>Finance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil</td>
<td>Air Freight</td>
<td>Banks</td>
</tr>
<tr>
<td>Gas</td>
<td>Passenger Air Transportation</td>
<td>Insurances</td>
</tr>
<tr>
<td>Coal</td>
<td>Maritime Transportation</td>
<td>Asset Managers</td>
</tr>
<tr>
<td>Electric Utilities</td>
<td>Rail Transportation</td>
<td>Brokers</td>
</tr>
<tr>
<td></td>
<td>Trucking Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automobiles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Automotive components</td>
<td></td>
</tr>
</tbody>
</table>

Materials and Buildings
- Agriculture
- Beverages
- Packaged Foods & Meats
- Paper & Forest Products

Agriculture, Food, and Forest Products

*Retrieved August, 31st 2019. ** Examples for Other sectors: Communication Services or Information Technology. They have no material climate risk due to transitional effects.

Financial institutions are influenced indirectly.

Other sectors can be influenced indirectly.
In a 2°C scenario companies listed in MSCI would on average grow until 2030, with a large spread among transportation companies.
Overall, under a 2°C pathway, MSCI transportation would be resilient regarding transition risks except truck manufacturing in 2025.

Sectoral heatmap
Showing the financial impact of the transition across regions for relevant sectors within the portfolio.

EBITDA CHANGE as CAGR compared to previous period

<table>
<thead>
<tr>
<th>Sector</th>
<th>2019 - 2025</th>
<th>2025 - 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(in %)</td>
<td>(in %)</td>
</tr>
<tr>
<td>Agriculture, food &amp; forest products</td>
<td>0.09</td>
<td>0.05</td>
</tr>
<tr>
<td>Energy</td>
<td>1.95</td>
<td>-1.55</td>
</tr>
<tr>
<td>Materials and buildings</td>
<td>0.25</td>
<td>0.45</td>
</tr>
<tr>
<td>Transportation:</td>
<td>0.4</td>
<td>0.7</td>
</tr>
<tr>
<td>- Air Freight</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>- Automobiles</td>
<td>0.11</td>
<td>0.31</td>
</tr>
<tr>
<td>- Automotive Components</td>
<td>0.02</td>
<td>0.02</td>
</tr>
<tr>
<td>- Passenger Air Transportation</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>- Rail Transportation</td>
<td>0.27</td>
<td>0.27</td>
</tr>
<tr>
<td>- Truck Manufacturing</td>
<td>-0.04</td>
<td>0.02</td>
</tr>
<tr>
<td>- Trucking Services</td>
<td>0.04</td>
<td>0.08</td>
</tr>
</tbody>
</table>

Negative impact of fossil sectors (e.g. oil) becomes material
Performance of electric utilities outperforms fossil sector
Rail winning in climate scenarios
Regional effect and disruptive change as climate scenario is introduced 2019
Only moderate growth
Conclusion

1. Climate change is increasingly unfolding financial implications for the business models of companies.

2. Companies are called upon to develop their climate action from pure carbon footprinting to a strategic management and evaluation of financial implications.

3. Scenario analysis helps to test the resilience of the business model against different future worlds, to measure possible financial impacts and to make companies fit for the future.

Climate Excellence Coverage

<table>
<thead>
<tr>
<th>Energy</th>
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<th>Agriculture, Food and Forest Products</th>
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</tr>
<tr>
<td>Coal</td>
<td>Passenger Air Maritime</td>
<td>Chemicals</td>
<td>Agriculture</td>
</tr>
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<td>Rail</td>
<td>Construction Materials</td>
<td>Packaged Foods and Meats</td>
</tr>
<tr>
<td></td>
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<td>Capital Goods</td>
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</tr>
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<td></td>
<td>Automobiles and Components</td>
<td>Real Estate</td>
<td></td>
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</tbody>
</table>

All TCFD Sectors

- • Oil and Gas
- • Coal
- • Electric Utilities
- • Air Freight
- • Passenger Air Maritime
- • Rail
- • Trucking Services
- • Automobiles and Components
- • Metals and Mining
- • Chemicals
- • Construction Materials
- • Capital Goods
- • Real Estate
- • Beverages
- • Agriculture
- • Packaged Foods and Meats
- • Paper and Forest Products

Financial Sector

- High-level analysis of all other sectors

Countries → More than 50 countries
Companies → More than 35,000 companies
Assets → More than 230,000 physical assets
Adaptation measures → More than 135 unique technical adaptation measures across sectors
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Thank you.