Topic 7
How banks assess climate risks and integrate them into credit risk assessments

Sujet 7
Comment les banques évaluent les risques climatiques et les intègrent dans les évaluations du risque de crédit

13H - 15H
24 MAR 1 PM - 3 PM

Register here/ Inscrivez-vous ici
https://afdb.zoom.us/webinar/register/WN_klb3J1c4TU6blh_hl6a5FA

OUR WEBINAR WILL START SHORTLY ...
#MFW4A/EIBWEBINAR SERIES

**SUMMARY**

- PRACTICAL INFORMATION
- MFW4A
- PANELISTS
- PRESENTATIONS
- Q&A
The duration of today's webinar is 75 minutes, including questions and answers.

For better listening comfort, all participant microphones will be disabled for the duration of the webinar.

Questions can also be submitted via "Q&A".

Simultaneous translation will be available in FR/EN/FR.

Slides and a recording of this presentation will be circulated to registered participants within 72-hours following the webinar - They will also be available on MFW4A.ORG.

Send a message to the organizers if you encounter technical problems.

Do not forget to complete the questionnaire which will automatically appear on your browser at the end of the session.
**MFW4A**: Platform for harmonization and facilitation of financial sector development and knowledge sharing

**Objectifs**: Contribute to realizing the full potential of the African financial sector
Boosting economic development and reducing poverty in Africa

ACKNOWLEDGMENTS TO THE EUROPEAN INVESTMENT BANK AND THE EUROPEAN UNION
EIB TECHNICAL ASSISTANCE PROGRAM FOR FINANCIAL SECTOR OPERATIONS IN WEST AND CENTRAL AFRICA

**Objective:** Improve responsible financial inclusion by creating access to medium and long-term financial services for MSMEs, through loans and technical assistance to banks and microfinance institutions.
Theme 7: How banks assess climate risks and incorporate them into credit risk assessments
Addressing the climate challenge

Climate is changing => we need to **adapt** to the changes

Climate is changing => we **mitigate** further change and transit to carbon zero society

**1.5°C**

Climate resilient global society

Financial sector

Addresses the **physical risks** in its assets and operations

Addresses the **transition risks** in its assets and operations
PANELISTS

Gerhard MULDER
Expert in climate finance, co-founder of CRS

Hermann Comoé
Agronomist, expert in physical climate risks, IPC

Marc Daubrey
Expert in climate finance, CEO of Green Invest Africa
Why does climate risk matter for financial institutions

By Gerhard Mulder –
Why is climate risk important?

Environmental and Social Materiality

Company’s impact on Climate

Primary audience: Consumers/civil society/investors/employees

Financial Materiality

Climate's impact on the Company

Primary audience: Investors
Risk and opportunities

**Opportunities** for company and planet if product or service contributes to climate mitigation and adaptation

**Risks** for company through increasing climate hazards such as more extreme storms, heat stress, etc

**Risks** for company through increased regulation
Risk and opportunities
Climate Risk: BlackRock

“Climate Risk Is Investment Risk”
The probabilistic and backward-looking risk management approaches that risk managers have relied on for decades is deemed incompatible with the uncertain and forward-looking nature of climate-related risks.
Transition Risk
Categories

- **Physical**
  - Acute
    - Wild fires
    - Heat waves
    - Floods
    - Storms
  - Chronic
    - Droughts
    - Landslides
    - Sea level rises

- **Transition**
  - Government policy
    - Net zero policies
  - Technological change
    - Electric cars
  - Sentiment
    - Investor
      - ESG Investment
    - Consumer
      - Air travel

- **Transmission channels**
  - **Microeconomic**
    - How climate risk drivers impact particular households, corporates (including banks) and particular sovereigns as well as issuer-specific financial assets
      - Institutions
      - Corporates (including banks & FIs)
      - Households
      - Property
      - Corporate credit
      - Equities
  - **Macroeconomic**
    - How climate risk drivers impact on an economy overall and sovereigns in general as well as macroeconomic variables.
      - Sovereigns or sub-national institutions
      - Corporates (including banks & FIs)
      - Households
      - Government bonds
      - Commodities

- **Sources of variability**
  - **Geographic heterogeneity**
    - Location and jurisdictional dependencies
  - **Amplifiers**
    - Factors that increase the impact of climate risk drivers
      - Risk drivers
      - Economies
      - Financial systems
  - **Mitigants**
    - Factors that reduce the financial impact of climate risk drivers on banks.
      - Availability and pricing of insurance
      - Depth and maturity of capital markets
      - Hedging opportunities

- **Financial risks**
  - Credit
  - Market
  - Liquidity
  - Operational
Physical Risk vs Transition Risk

In theory there is a trade-off between physical risk and transition risk:
- either we invest in climate mitigation today to prevent the worst physical impacts. This gives high transition risk today but less in the future; or,
- we do not invest in mitigation today. This gives low transition risk today, but high physical risk in the future.

It is likely that we will get the worst of both: sudden policy shocks that come only after significant physical risk is already locked in.
The EIB West and Central Africa SME Banking and Microfinance Academy 2022

The Perspective of physical climate change and financial institutions

24 March 2022
By Hermann Comoé
## Content

1. **Vulnerability to climate change in the agricultural sector** 03

2. **Physical climate risks assessment and consideration in the agricultural lending business** 04

3. **Adaptation and mitigation measures that could require Financial Institution services** 05

4. **Lesson learned** 07
Vulnerability to climate change in the agricultural sector

- In Africa, agricultural productivity growth has been reduced by 34% since 1961 due to CC

- Future warming will negatively affect food systems in Africa by shortening growing seasons and increasing water stress

- Global warming above 2°C will result in yield reductions for staple crops and tree crops across most of Africa compared to 2005 yields

- Climate change poses a significant threat to African marine and freshwater fisheries

- Mango sector in Ghana:
  - Impact of pest, crop disease and reduction in water
  - Decrease in yields and the quality of the fruits

Figure 1: Climate and environmental related hazards in the mango production sector in Ghana
Physical climate risks assessment in the agricultural lending business

Dashboard and Portfolio analysis tool

- Physical climate risks
  - Incremental changes (temperature, rainfall)
  - Acute changes (hazards)

Maps and time series

Client data (geo-coordinates)

Dashboard

Excel tool

Country assessment

Portoflio assessment

Integration of “climate related standard” in the FI Environmental and Social Management System (ESMS)

Source: IPC
Adaptation and mitigation measures that could require FI services

Figure 2: Adaptation measures to climate change in cocoa production sector (Ghana)

Figure 3: Mitigation measures to reduce cocoa production carbon footprint (Ghana)
### Adaptation and mitigation measures that could require FI services

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<thead>
<tr>
<th>Agriculture</th>
<th>Energy</th>
<th>Water and sanitation</th>
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<td>- Technical irrigation that optimizes the water resource in zones of drought.</td>
<td>- Use of biodigestors for production of electricity in rural areas.</td>
<td>- Installation of infrastructure and use of rainwater collection or storage techniques (reservoirs, ponds, natural wells)</td>
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<td>- Use and training on improved seeds and varieties of crop resistant to water or thermal stress.</td>
<td>- Installation of solar panels for power general linked to the use of technical irrigation.</td>
<td>- Use of practices for the reuse of water and training on the efficient management thereof</td>
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<td>- Improvement in soil management and in the use of organic pesticides, which reduces soil erosion and pressure.</td>
<td>- Construction of mini-hydroelectric plants.</td>
<td>- Improvement and construction of mini-drainage systems for evacuation of storm water</td>
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<td>- Installation of tree cover against risks of erosion of rivers and flooding</td>
<td>- Use of renewable power sources (solar, wind, biomass, waste, hydraulic, etc.) in order to reduce vulnerability.</td>
<td>- Application of devices and repairs to reduce leaks in drinking water and sewer systems</td>
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Lesson learned

1. Relevance of climate and crop simulation models with high quality and quantity of input data
2. Potential Insurance Solution for the bank Agric. portfolio:
   - Insurance Type: **Parametric insurance** based on gridded precipitation data
   - Covered Risks: Drought, excess of rain

**Insurance options**

1) The bank buys insurance to protect their agric. portfolio against major weather risks (insurance at the meso-level, not at the single farm-level)
2) Farmer is obliged to have an insurance cover for obtaining credit from the bank
Tools to address and measure climate risks in the portfolio

By Marc DAUBREY
Climate Finance Specialist / CEO of Green Invest Africa
SPECIFIC APPROACH

01

Triptych Risk - Climate - Credit: Bank – SME perspective

CHALLENGES AND REALITIES

02

The risk perception of green and greening SMEs by banks

POSSIBLE SOLUTIONS

03

Toolkit Box
1- SPECIFIC APPROACH

Triptych Risk - Climate – Credit : Bank – SME PERSPECTIVE

GREEN INVEST APPROACH

• Nexus Finance – Climate

• Conception of innovative solutions for access to financing for SMEs

INDUSTRY SECTORS OF GREEN SMEs - CLIMATE

• Sustainable forestry
  • Sustainable agriculture

• Energy (EnR, EE, Transport, Construction...)
  • Sustainable waste mgt.

• Circular economy
2 – CHALLENGES AND REALITIES

Risk perception of green or greening SMEs by banks

Technical risks

1. Credit risk
2. Market risk
3. Liquidity risk
4. Operational risk

Credit approval criteria

1. Admissibility
   - Legally constituted SME
   - Financial statements available

2. Financial aspects
   - Repayment capacity
   - IRR, NPV
   - Financial debt ratio

3. Competitive analysis
   - Market growth rate
   - SME client portfolio

Risques spécifiques aux PME (vertes/verdissantes)

1. Lack of knowledge of climate sectors / green SMEs (difficult benchmarking)
2. Lack of risk assessment tools
3. Low creditworthiness absence of guarantees
4. Mismatch between needs and financing methods (short-term credit, overdrafts, etc.)
3- POSSIBLE SOLUTIONS

**Toolkit Box**

**Guarantee / De-risking**
- Portfolio Guarantee,
- Individual Guarantee,
- Partial guarantee

**Assistance**
- Technical assistance (capacity building, training, coaching, mentoring, …)
- Monitoring

**Blended finance**
- Grants, Green Equity, etc.
- Green credit lines

**Risk Assessment Approaches**
- Carbon footprint
- Exposure to climate risks
Climate risk assessment of green SMEs

Some Evaluation Indicators

- Industry sectors
- Geographic location
- Technologies used
- Human resources
- GHG emissions
- Historical data
- Climate modeling

Dashboard result

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<th>Probable</th>
<th>Très probable</th>
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- Moderate
- Critical
- Very critical
THANK YOU FOR ATTENTION
Submit your questions via the "Chat" or "Q&A"
Conclusion: key messages
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