Agenda

• What is GHG Protocol
• Current activities
• Standards and guidance development process
• Financial sector guidance
  – Background
  – Objectives
  – Process and opportunities for participation
• Questions and answers
About the Greenhouse Gas (GHG) Protocol

The GHG Protocol was launched in 1998 by multi-stakeholder partnership of businesses, NGOs, governments and others

**GHG Protocol’s Vision:** Empowering the world to avoid and respond to climate change through the wide use of internationally accepted greenhouse gas standards and practices

**GHG Protocol’s Mission:** The Greenhouse Gas Protocol, led by WRI and WBCSD, provides the foundation for comprehensive measurement and management strategies to reduce emissions and drive more efficient, resilient, and profitable businesses and organizations
GHG Protocol

- Foundation for sustainable climate strategies
- Freely available standards and guidance
- International, inclusive and balanced stakeholder process
- Full suite of GHG accounting tools and training
GHG Protocol Standards

- Corporate Standard
- Project Protocol
- Product Standard
- Corporate Value Chain (Scope 3) Standard

World Resources Institute
Building Capacity and Adoption

GHG Protocol Standards
GHG Protocol Theory of Change

1. **Establish a critical need, breakthrough, or priority**
2. **Design an effective stakeholder process**
3. **Develop a credible and user-friendly standard**
4. **Leverage influential partners or programs**
5. **Stakeholders implement the desired change**

The cycle continues in a loop, indicating a continuous process of development and implementation.
## Standards and Guidance under Development

<table>
<thead>
<tr>
<th>Standards and Guidance under Development</th>
<th>Agriculture Guidance</th>
<th>Scope 2 Guidance</th>
<th>Mitigation Accounting Standard</th>
<th>City Accounting Standard</th>
<th>Financial Sector Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overview</strong></td>
<td>How to account for emissions from agriculture companies</td>
<td>How to account for renewable energy purchases and related instruments</td>
<td>How to account for reductions from mitigation policies and actions</td>
<td>How to account for full value chain emissions from cities</td>
<td>How a financial company accounts for investments</td>
</tr>
<tr>
<td><strong>Anticipated Availability</strong></td>
<td>Sept 2012</td>
<td>Spring 2013</td>
<td>Early 2014</td>
<td>Late 2013</td>
<td>Late 2014</td>
</tr>
<tr>
<td><strong>How to Participate</strong></td>
<td>Membership in stakeholder group; road-test</td>
<td>Membership in stakeholder group</td>
<td>Membership in stakeholder group; road-test standard</td>
<td>Membership in stakeholder group; road-test standard</td>
<td>Membership in TWG or stakeholder group; road-test guidance</td>
</tr>
</tbody>
</table>

*Source: World Resources Institute*
Additional Sector Guidance Development

- Currently working on:
  - ICT sector guidance for product GHG inventories in partnership with Carbon Trust and the Global e-Sustainability Initiative (GeSI)
- Recently completed:
  - WBCSD-led Scope 3 chemical sector guidance
- Recently approved for use of Built on GHG Protocol mark:
  - UK NHS Pharmaceutical and Medical Device Sector Guidance for Product Accounting
  - Product Rule for Concrete led by University of Washington and the Carbon Leadership Forum
Example of a Process Underlying the Development of GHGP Standards

<table>
<thead>
<tr>
<th>Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2300+</td>
<td>Participants in the stakeholder process</td>
</tr>
<tr>
<td>169</td>
<td>Sets of written comments received</td>
</tr>
<tr>
<td>60</td>
<td>Number of road testers</td>
</tr>
<tr>
<td>55</td>
<td>Countries represented</td>
</tr>
<tr>
<td>12</td>
<td>In-person stakeholder events</td>
</tr>
<tr>
<td>3</td>
<td>Years spent completing the standards</td>
</tr>
</tbody>
</table>
Financial Sector Guidance

- The GHG Protocol Scope 3 Standard provides a framework for reporting value chain emissions, including emissions from lending and investments.
- A financial sector workgroup was engaged in Scope 3 Standard development:
  - Barclays Capital
  - Citi
  - Credit Suisse
  - Export-Import Bank of the U.S.
  - IDB
  - IFC
  - KFW Development Bank
  - National Australia Bank
  - PaxWorld Management LLC
  - Sovereign

---

**Upstream activities** | **Reporting company** | **Downstream activities**
Why is Financial Sector a High Priority?

- Majority of financial sector emissions are associated with investments

- Increasing external pressure on banks to account for emissions from lending and investments (e.g., Rainforest Action Network report recently released)

- The need to account for emissions from lending is particularly relevant to MDBs

- Scope 3 provides a framework for reporting emissions from investments

- Stakeholders have indicated that more sector-specific guidance is needed to enable financial institutions to report on the full impacts from investments
In the Scope 3 Standard, some investments types are required to be reported and others are optional.

Required to be reported in Scope 3:

- **Equity investments made using the company’s own capital** (including investments in subsidiary companies; associate companies; joint ventures; and investments made using the company’s own capital where the investor has neither financial control nor significant influence)

- **Debt investments with known use of proceeds** (including corporate debt holdings and commercial loans with known use of proceeds, i.e., where the use of proceeds is identified as going to a particular project, such as to build a specific power plant)

- **Project finance** (long term financing of projects as either sponsor or financier)
In the Scope 3 Standard, some investments types are required to be reported and others are optional.

Optional in Scope 3:

- **Debt investments without known use of proceeds** (general corporate purposes debt holdings, such as bonds or loans, held in the reporting company’s portfolio where use of proceeds is not specified)

- **Managed investments and client services** (including investment and asset management – equity or fixed income funds managed on behalf of clients, using clients’ capital)

- **Other investments or financial services**
Proposed Governance Plan

Convening Secretariat
WRI, WBCSD, UNEP FI

Advisory Committee
WRI, WBCSD, UNEP, financial institutions, key government and NGO stakeholders

Technical Working Group (Practitioners)
Private financial institutions, Public financial institutions, Academia, NGOs, Policy makers

Stakeholder Advisory Group (open to all)
Financial institutions, NGOs, Industry analysts, Governments, Consultants

subgroup subgroup subgroup
Options for Participation

- Technical Working Group participation
- Road testing draft guidance
- Stakeholder Advisory Group participation
- Contribute funding
Thank You

Questions?

Contact info:
Cynthia Cummis
ccummis@wri.org

GHGprotocol.org
Financial Sector Guidance

Results of the scoping survey
Who responded to the survey?

Respondents by organization type:

- Commercial Banks: 29%
- NGO: 12%
- Consultancy: 20%
- Academics: 3%
- Media: 1%
- Data provider: 3%
- Government department: 3%
- Other: 5%
- Asset manager: 1%
- Investment advisor: 1%
- Insurance: 4%
- Export-Import banks: 2%
- State Banks: 4%
- Development Banks: 5%
- Pension fund: 1%
- Other stakeholders (not directly working for a financial institution): 5%
- Academic: 3%
- Media: 1%
- Data provider: 3%
- Government department: 3%
- Commercial Banks: 29%
- NGO: 12%
- Consultancy: 20%

107 respondents completed the survey.

Respondents by region:

- Europe: 41%
- North America: 28%
- Latin America: 12%
- Asia: 7%
- Australia: 3%
- Africa: 2%
- Unknown: 7%
Who responded to the survey?

2° Investing Initiative
5th PL
Achmea
Allianz SE
ASN Bank
Banco do Brasil, S.A.
Banco General, S.A.
Banco Pichincha C.A.
BankTrack
Beco, (part of Ernst & Young)
Bicbano - Banco Industrial e Comercial
Bloomberg LP
BSR
Carbon Disclosure Project
CBRE
Ceres
CI RAI G
Citi
Climate Focus
Crédit Andorrà
Credit Suisse
Defra
Desjardins Group
Earth Capital Partners
EBRD
Ecocentric Carbon Management
EFIC
Emporiki Bank of Greece
Environmental Investment Organisation
Environment Agency Active Pension Fund
ER M
Ethical Markets Media
Export Development Canada
Factor CO2
Fira Banco de Mexico
FMO
GFAI Investimentos
Helm Bank
HSBC
IDLC Finance Limited
Inter-American Development Bank (IDB)
International Rivers
Itau Unibanco
J P Morgan Chase
Land Bank of the Philippines
London School of Business and Finance
MAPFRE
Mycclimate
National Australia Bank
ODI
Oeco Capital Lebensversicherung AG
Pax World Management LLC
PE INTERNATIONAL
Portigon AG
Preventable Surprises
PricewaterhouseCoopers
Profundo
Rainforest Action Network
RBS
Royal Bank of Canada
S2 Sustainability Consultants
Santam Ltd
SEB
Second Nature
Shareholder Association for Research and Education (SHARE)
Singapore Management University
South Pole Carbon
Standard Bank
Start2see
State Street Corporation
SulAmérica Seguros, Previdência e Investimentos
TD Bank Group
The Carbon Accounting Company
The CMG Consultancy
The Pembina Institute
Trucost Plc
UniCredit SpA
Verco
Wells Fargo
Westpac Bank
Wipro
WSP Environment & Energy
WWF Germany
WWF Sweden
YES BANK Ltd.
Key question 1: Is measuring and reporting emissions associated with lending and investments an important business issue?

- Yes 75%
- No 10%
- Not sure 9%
- Other 6%

Key question 2: Is there a significant and long-term need for standardized methodologies/guidance for measuring financed emissions?

- Yes 81%
- No 9%
- Not sure 7%
- Other 3%
Key question 1 (FIs only): Is measuring and reporting emissions associated with lending and investments an important business issue?

- Yes: 65%
- No: 14%
- Not sure: 14%
- Other: 7%

Key question 2 (FIs only): Is there a significant and long-term need for standardized methodologies/guidance for measuring financed emissions?

- Yes: 72%
- No: 14%
- Not sure: 11%
- Other: 4%
Key question 1 (non-FIs only): Is measuring and reporting emissions associated with lending and investments an important business issue?

- Yes: 86%
- No: 6%
- Not sure: 4%
- Other: 4%

Key question 2 (non-FIs only): Is there a significant and long-term need for standardized methodologies/guidance for measuring financed emissions?

- Yes: 92%
- No: 4%
- Not sure: 2%
- Other: 2%
Key question 1 (commercial banks only): Is measuring and reporting emissions associated with lending and investments an important business issue?

- Yes: 52%
- No: 23%
- Not sure: 16%
- Other: 10%

Key question 2 (commercial banks only): Is there a significant and long-term need for standardized methodologies/guidance for measuring financed emissions?

- Yes: 61%
- No: 26%
- Not sure: 10%
- Other: 3%
Key question 1 (investors* only): Is measuring and reporting emissions associated with lending and investments an important business issue?

- Yes 77%
- Not sure 15%
- Other 8%

Key question 2 (investors* only): Is there a significant and long-term need for standardized methodologies/guidance for measuring financed emissions?

- Yes 70%
- Not sure 30%

* Investors includes both asset managers and asset owners
Reasons why respondents said this is an important business issue and that there is a need for guidance

- Risk management
- To identify business opportunities and GHG reduction opportunities
- To facilitate target setting/track reductions
- To enhance accountability/transparency (and reputation)
- To enable comparability/benchmarking
- To harmonize proliferating methodologies
- To harmonize information requested of investees/borrowers
- To increase reliability/credibility of the methods
- Guidance would assist financial institutions that are undertaking this complex task
- To prevent “greenwashing”
Reasons why respondents said this is not an important business issue and that there is not a need for guidance

- Emissions should be measured and managed at source, not by lenders/investors
- Measuring financed emissions is prohibitively complex and time-intensive
- No link established between measuring financed emissions and risk assessment frameworks
- Financial institutions should focus on other, more useful risk assessments
- Prefer to focus on advising clients on more substantive strategies to reduce emissions
**Key question 3:** Should the following investment types be included in the guidance? What types should be highest priority?

<table>
<thead>
<tr>
<th>Investment Type</th>
<th>Percentage of Respondents</th>
<th>Yes</th>
<th>Yes, high priority</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project finance</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public equity</td>
<td>27%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate finance</td>
<td>32%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Private equity</td>
<td>34%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corporate fixed-income</td>
<td>30%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sovereign fixed-income</td>
<td>23%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mezzanine finance</td>
<td>29%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Guarantees</td>
<td>29%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: The diagram illustrates the percentage of respondents who indicated whether the investment types should be included in the guidance and if so, if they should be of high priority.*
Key question 3 (among all FIs): Should the following investment types be included in the guidance? What types should be highest priority?

<table>
<thead>
<tr>
<th>Investment Type</th>
<th>Yes Percentage</th>
<th>Yes, High Priority Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project finance</td>
<td>22%</td>
<td>59%</td>
</tr>
<tr>
<td>Public equity</td>
<td>35%</td>
<td>41%</td>
</tr>
<tr>
<td>Corporate finance</td>
<td>25%</td>
<td>41%</td>
</tr>
<tr>
<td>Private equity</td>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>Corporate fixed-income</td>
<td>20%</td>
<td>25%</td>
</tr>
<tr>
<td>Sovereign fixed-income</td>
<td>16%</td>
<td>22%</td>
</tr>
<tr>
<td>Mezzanine finance</td>
<td>12%</td>
<td>24%</td>
</tr>
<tr>
<td>Guarantees</td>
<td>8%</td>
<td>22%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>
Key question 3 (among commercial banks): Should the following investment types be included in the guidance? What types should be highest priority?

- **Project finance**: 52% Yes, 21% Yes, high priority
- **Corporate Finance**: 38% Yes, 24% Yes, high priority
- **Public equity**: 34% Yes, 28% Yes, high priority
- **Private equity**: 31% Yes, 17% Yes, high priority
- **Sovereign fixed-income**: 24% Yes, 14% Yes, high priority
- **Corporate fixed-income**: 21% Yes, 14% Yes, high priority
- **Mezzanine finance**: 17% Yes, 10% Yes, high priority
- **Guarantees**: 21% Yes, 7% Yes, high priority
- **Other**: 3% Yes, 3% Yes, high priority
Key question 3 (among investors): Should the following investment types be included in the guidance? What types should be highest priority?
Factors considered by respondents when prioritizing lending/investment types:

- Level of risk
- Size of GHG emissions of the asset class
- Size of the market
- Relevance for the financing of companies
- Ability to influence
Challenges ahead

• Data availability and quality
• Normalizing emissions to enable comparison of companies
• Time and resources required
• Methodological concerns (e.g., avoiding double counting)
• Protecting client confidentiality
• Ensuring consistency between different financing activities
• Interpretation of results (unclear what the resulting figures mean)
• Lack of senior management buy-in (and resulting lack of any sanctions for non-compliance)
26 of the respondents said they have measured financed emissions.
Conclusions

• Broad interest in better understanding, measuring and managing financed emissions

• Broad interest in the availability of a standardized methodology for measuring and reporting financed emissions, but many FIs concerned about complexity and cost-benefit ratio

• Understanding business risk and opportunity is the key driver to measure financed emissions

• Complexity and cost-benefit of measuring emissions varies depending on financing/investment activity
Towards a GHG accounting methodology for the financial sector

Jan Willem van Gelder
GHG Protocol Scoping Workshop
London
19 December 2012
Who we are

- Profundo is a research consultancy dedicated to sustainability:
  - Based in Amsterdam
  - 10 staff persons
- Research themes:
  - International commodity chains
  - Financial sector
  - Corporate Social Responsibility
- Global client base:
  - NGOs
  - Financial institutions
  - Governments and research institutes
Research experience

• Many international studies comparing the involvement of major banks and investors in the financing of energy sectors:
  • Nuclear energy
  • Tar sands
  • Biofuels
  • Coal mining and coal-fired power
  • Renewable energy
• Financing of largest global companies (listed and non-listed)
• Assess which share of finance for the energy technology:
  • For project finance: 100%
  • For corporate loans, issuances, share- and bondholdings: % of company’s assets engaged in selected energy type
Separate rankings per finance type

Largest providers of loans and project finance, January 2005-2012 (absolute amounts)

Largest providers of loans and project finance, January 2005-2012 (relative amounts)

Largest share- and bond underwriters, Jan 2005-12 (absolute amounts)

Largest share- and bond underwriters, Jan 2005-12 (relative amounts)
Challenges for GHG methodology

1. Methodology should include financing of non-listed companies
   - Large part of expansion in coal, biofuel, etc. is non-listed
   - But GHG data lacking for most non-listed companies

2. How to distribute responsibility for a company’s GHG emissions among its financiers?
   - Some methodologies distribute over shareholders only
   - Others distribute over shareholders + creditors = balance sheet
   - But responsibilities and maturities are different
   - And: underwriting, guarantees, financial advisory services are of crucial importance = off balance sheet
Challenges for GHG methodology

3. Comparing GHG footprints of financial institutions to their peers needs:
   • Either separate rankings for
     1. Loans, credits and proprietary investments (on balance sheet)
     2. Underwriting and advisory services
     3. Asset management
   • Or a methodology which can consolidate GHG emissions caused by balance sheet financing and off balance sheet activities

4. Improved reporting is key
   • (non-listed) companies need to report on GHG emissions
   • financial institutions need to segment investments in homogenous sectors = more detailed than Pillar 3 of BCA II
Thank you!

More information:
Jan Willem van Gelder
vangelde@profundo.nl
Measuring GHG emissions associated with lending and investments
Existing methodologies overview

Responsibility versus risk based approaches
Responsibility
Recognises total capital

Principle
■ Allocate holding GHG emissions based on total capital

Methodology
■ Annual Scope 1 and Scope 2 GHG emissions of company
■ Can be extended to include upstream and downstream impacts
■ Allocate to investment; aggregate for portfolios

Benefits
■ Same method applies to all asset classes
■ Simple to complete
■ Incorporates majority of responsibility allocation in most cases

Limitations
■ Does not reflect relative value and risk of a unit of different capital
■ Double counting if upstream included

bond or equity holding
equity + gross debt
Existing methodologies - responsibility

Responsibility
Risk weighting assets - recognises differential capital value

Equity 50%

Debt 50%
## Existing methodologies – risk

### Risk

**Mainstreaming carbon appraisal**

### Principle
- Understanding carbon risk will create widespread adoption

### Methodology
- Applies existing GHG Protocol
- Includes upstream and downstream impacts
- Calculates the profits at risk from carbon price scenarios
- Identifies value at risk using existing financial analysis techniques

### Benefits
- Consistent with mainstream financial analysis
- Universally relevant to capital markets
- Allows comparison with other natural capital risk

### Limitations
- Requires expectations of a meaningful carbon price
Methodology for assessing GHG emissions induced by financing and investing activities – P9XCA.

Developed by Finance & Sustainable Development Chair – Paris Dauphine/Ecole Polytechnique / Antoine ROSE.

Application to a FI portfolio. (Crédit Agricole)

Jérôme Courcier CSR Officer Crédit Agricole SA
LONDON December 19, 2012.
What objectives when quantifying?

To assess an order of magnitude of the emissions induced by one FI’s portfolio:
- The estimation of an order of magnitude for the global portfolio has been preferred to more precise figures for a small part of it. Example: the project financing portfolio.
- Questioning, if necessary, approaches based on the aggregation of emissions of projects/assets – «bottom-up approach».

To avoid all kind of double accounting:
- The values should be additives.
- To protect the estimation of the order of magnitude from an obvious bias.

Transparency:
- To favor official, public, free and open access databases, and to break with the use of databases of consultancy firms («black boxes»).

Clarity and simplicity:
- Choice of a methodology as simple as possible to facilitate its understanding.

To compare to calculations from others:
- The emissions are allocated on the base of the total funding necessary (debts + equity).
Methodological cornerstones.

- A « top-down » approach: thinking macro
  - In accordance with the objective of assessing a first order of magnitude and of avoiding all kind of n-accounting, the choice of a « top-down » approach was made. It is based on the fairest and most equitable sharing of global GHG emissions measured by national inventories.

- Use of public databases consistent with a portfolio approach
  - The GHG national inventories are assembled by the United Nation Framework Convention on Climate Change (UNFCCC).
  - The economic data come from OECD and UN organizations.

- A simple tool easy to handle

- The emissions are allocated to the production rather than to the consumption
  - CIB’s and risk point of view
  - Consequence: No emission induced by financing consumption

- The Debts + Equity allocation convention
  - The emissions are distributed among the debt and equity owners.
  - Consequence: « Cash » angle (Bank commitments, i.e. gross outstanding excluding guarantees)
A « top-down » approach: basics and principles.

Agriculture & Land Use  Construction & Housing  Energy  Industry  Transport  Services  Waste Management  Public administration  Other

France
USA
Western Europe
Asia
UK
Middle East

Bank Commitments (gross outstanding excluding guarantees)
A « top-down » approach: basics and principles.

The methodology applies the rule of the share of financing. If a FI finances x% of an activity, the methodology matches x% of emissions of this activity to this financing.

The rule of the share of financing: for a sector s and a country c:

\[
\text{Induced.Emissions}(s,c) = \frac{\text{Global.Emissions}(s,c)}{\text{Global.Financing}(s,c)} \times \text{Bank.Commitments}(s,c)
\]

Source data:

- **Global emissions (s,c)**: data from the National GHG Inventories (classification by emissions sources).
- **Bank Commitments (s,c)**: data from internal risk management unit (classification by activities).
- **Global Financing (s,c)**: a proxy has been made: Debt + Equity.

\[
\text{Global.Financing}(s,c) = \text{Debt}(s,c) + \text{Equity}(s,c) = \frac{\text{Debt} + \text{Equity}}{\text{Added.Value}}(s,c) \times \text{Added.Value}(s,c)
\]

Data from BACH for the Debt + Equity/Added Value ratios and from OECD/UNO for the Added Value (classification by activities).

- Heterogeneous data by definition: the main difficulty rests in the matching of data with different nomenclatures. Extrapolations and approximations are required particularly to estimate the Bank Commitments/Global Financing ratio (market share of the FI), but better quality than those used by the existing bottom-up approaches.
CONCLUSION: limits and benefits.

- Sensitivity to the quality of data: the case of non OECD countries.

- The calculation is based on a small number of macro-sectors and geographies: direct consequence of different nomenclatures.

- The (sector, country) couples group together activities with carbon intensities that may differ. Example: the macro-sector « Energy » contains all « emitting » and « non-emitting » energy sources (coal as well as nuclear) because the economic nomenclatures (NACE) cannot differentiate the production of electricity according the sources of energy.

- The banking data refer each corporate to only one macro-sector even if it is composed by different activities. Example: multinational and multiple business corporations.

- The total level of commitments to one corporate is allocated to a single country, while the country of risk can be different from the country of emissions. Example: a corporate loan to Total is classified in the geographical zone « France », while the majority of Total activities (particularly oil extraction that emits high levels of GHG) is located outside France.

- Robust estimations for OECD countries where most of the FI’s activity is.

- Even with a low resolution, a first cartography of induced emissions is possible.

- This « macro » approach can be supplemented by more focused approaches (on sectors or countries).

- The estimations are bounded by the global emissions, by construction.

- The results are fully additives, avoiding by construction all kind of multiple accounting.

- A first global macroscopic view of FI’s portfolio: « GDP » type.

- A good approximation given accounting systems that are inappropriate to the GHG issue (NACE, ISIC/CITI...).
ASN Bank
VOOR DE WERELD VAN MORGEN
Intro

- ASN Bank; Dutch sustainable retail bank
- Founded 1960, almost 600,000 clients
- 11 billion Euro aum
- Products; savings and mutual funds
- Trying to measure scope 3 GHG since 2007
Carbon footprint ASN Equity funds

Tonnes of CO₂ emissions per million euros of turnover

31-12-2007
31-12-2008
31-12-2009
31-12-2010
31-12-2011
improvement relative to 31-12-2010

373, Kyoto 2012 target
315, EU 2020 target

ASN Duurzaam Aandelenfonds
ASN Duurzaam Small & Midcapfonds
ASN Milieu & Waterfonds
Consolidated
MSCI All World Index (benchmark)

25,7%
24,2%
6,5%
17,6%
10,8%
Debt; Project finance

Avoided emissions Kton CO2-eq

- Wind op zee
- Wind op land
- Warmtenetten
- Duurzaam Bouwen: Nieuwbouwprojecten
- Duurzaam Bouwen: Isolatieprojecten
- Decentraal WKO
- Decentraal PV
## Debt; state bonds

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<th>Rank</th>
<th>Country</th>
<th>Total score</th>
<th>HR</th>
<th>Climate</th>
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<td>Austria</td>
<td>6.55</td>
<td>5.22</td>
<td>7.98</td>
<td>7.83</td>
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<td>2</td>
<td>Denmark</td>
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<td>Portugal</td>
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<td>5.18</td>
<td>3.87</td>
<td>8.29</td>
</tr>
<tr>
<td>6</td>
<td>Netherlands</td>
<td>4.74</td>
<td>5.99</td>
<td>3.07</td>
<td>7.24</td>
</tr>
<tr>
<td>7</td>
<td>Ireland</td>
<td>4.47</td>
<td>5.86</td>
<td>3.52</td>
<td>5.20</td>
</tr>
<tr>
<td>8</td>
<td>Slovenia</td>
<td>4.38</td>
<td>3.16</td>
<td>5.82</td>
<td>5.50</td>
</tr>
<tr>
<td>9</td>
<td>Spain</td>
<td>4.02</td>
<td>2.65</td>
<td>6.39</td>
<td>4.87</td>
</tr>
<tr>
<td>10</td>
<td>France</td>
<td>3.70</td>
<td>3.37</td>
<td>4.53</td>
<td>3.80</td>
</tr>
<tr>
<td>11</td>
<td>Belgium</td>
<td>3.64</td>
<td>4.39</td>
<td>2.79</td>
<td>4.70</td>
</tr>
<tr>
<td>12</td>
<td>Italy</td>
<td>3.43</td>
<td>1.06</td>
<td>5.14</td>
<td>7.13</td>
</tr>
<tr>
<td>13</td>
<td>Malta</td>
<td>3.09</td>
<td>3.93</td>
<td>3.33</td>
<td>2.64</td>
</tr>
<tr>
<td>14</td>
<td>Luxembourg</td>
<td>2.96</td>
<td>8.79</td>
<td>0.17</td>
<td>4.23</td>
</tr>
<tr>
<td>15</td>
<td>Lithuania</td>
<td>2.84</td>
<td>1.13</td>
<td>4.02</td>
<td>5.59</td>
</tr>
<tr>
<td>16</td>
<td>Hungary</td>
<td>2.83</td>
<td>1.36</td>
<td>3.72</td>
<td>5.49</td>
</tr>
<tr>
<td>17</td>
<td>Czech R.</td>
<td>2.59</td>
<td>2.10</td>
<td>2.56</td>
<td>4.12</td>
</tr>
<tr>
<td>18</td>
<td>Cyprus</td>
<td>2.20</td>
<td>1.53</td>
<td>2.72</td>
<td>3.16</td>
</tr>
</tbody>
</table>
Debt and scope 3 ghg

Choices to make;
• State bonds; country or government?
• Mortages; building or use?
• Adjustments for pay off ratio?
• The real estate company or its real estate?

Choices made;
• Proportional share
• Preference for standardised methodology
EBRD: GHG Assessment
Outcomes and Lessons

Martin McKee
Principal Environmental Adviser

Wednesday, 19 December
**EBRD’s Approach**

**1: Why?**
- Started in 2003
- Aim: to understand our impacts and provide accountability
- Audience: shareholders, investors, management, civil society, peers

**2: What?**
- All projects are screened for significant GHGs (± 20 kT CO2e)
- Estimate of annual emissions once project is complete and operational.
- Project scope 1 and 2
- Net emissions = post-investment minus pre-investment
- Greenfield baseline = zero
- RE assumed to substitute at grid factor
- Excludes project scope 3, construction emissions and Financial Intermediaries

**3: How?**
- Data from EIAs, Energy Audits, in-house calculations
- Consultancy support and verification (but not audited)
- Results published in EBRD Sustainability Report
Outcomes

**GHG Assessment for 2012***

<table>
<thead>
<tr>
<th>Number of projects assessed</th>
<th>GHG impact (million tonnes CO(_2)e/year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Renewable energy</td>
<td>13</td>
</tr>
<tr>
<td>Energy efficiency</td>
<td>13</td>
</tr>
<tr>
<td>Energy efficiency with capacity expansion</td>
<td>3</td>
</tr>
<tr>
<td>Renewable energy and energy efficiency funds and credit lines</td>
<td>13</td>
</tr>
<tr>
<td>Greenfield projects</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>44</td>
</tr>
</tbody>
</table>

*Out of 380 signed projects

EBRD investments forecast to be GHG-neutral or better in each of the last 6 years.

A changing portfolio:
- Sustainable Energy Initiative: €8.8 billion, 46 million tonnes CO\(_2\) reduction since 2006
- RE and EE 29% of business volume in 2011
- Fewer large greenfield (CO\(_2\) emitting) projects
Lessons

• A positive experience for EBRD
• Has it contributed to increased focus on climate change? - Probably
• Be clear about what you want to achieve – it determines resources, methodology and accuracy
• It’s an estimate – acknowledge data limitations and be transparent about assumptions
• 80/20 rule – portfolio results are dominated by a small number of high-impact projects
• Publishing numbers satisfies most stakeholders – no-one has seriously questioned EBRD’s methodology or results (yet…)
• Be clear and consistent about project boundaries (esp. replacement projects and capacity expansions)
• Challenges – up-stream and down-stream emissions, Financial Intermediaries, transport infrastructure
• Question: is it valid to net off emission increases against savings?
Next Steps

• Monitoring, Reporting and Verification
  • Do our estimates match reality?
  • Work in progress…

• Harmonising Approaches
  • *IFI Framework for a Harmonised Approach to Greenhouse Gas Accounting*
  • High level agreement on principles. Flexibility for differing mandates

Links
Carbon Portfolio Analytics

Issues to address
Access to data
Measuring the real performance vs the benchmark
Accuracy in a context of low disclosure
From past Emissions to... Forecasts?

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Refer to important disclosures on page 10-13.
2011: what we did for investors on request: developing an alternative way of “doing SRI”

1) Building a carbon consensus (scope 1 / 2 / 3)
   - Based on data available (*Trucost, Inrate, Bloomberg/CDP, Thomson Reuters DS/Asset4, CO2 Benchmark*)

2) Analysing of equity portfolios and companies beating their respective index/sector averages

3) Analysis of the source of under / out performance in terms of carbon exposure
   - Merits of sector allocation and stockpicking
Carbon Audit: CLIENT XYZ PF
Stock Performance vs. the sector

- Stocks selected by CLIENT XYZ PF clearly outperform their peers!

<table>
<thead>
<tr>
<th># and Proportion of rated securities better than sector</th>
<th># Securities better</th>
<th># of Securities covered</th>
<th>% of stocks covered better than sector</th>
<th>% MV above benchmark</th>
<th>out of % MV covered</th>
<th>% of MV covered better than sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>EBIT - scope1</td>
<td>39</td>
<td>52</td>
<td>75%</td>
<td>56%</td>
<td>73%</td>
<td>77%</td>
</tr>
<tr>
<td>EBIT - scope2</td>
<td>40</td>
<td>52</td>
<td>77%</td>
<td>56%</td>
<td>73%</td>
<td>79%</td>
</tr>
<tr>
<td>EBIT - scope3 upstream</td>
<td>40</td>
<td>53</td>
<td>75%</td>
<td>56%</td>
<td>73%</td>
<td>77%</td>
</tr>
<tr>
<td>EBIT - scope3 downstream</td>
<td>19</td>
<td>26</td>
<td>76%</td>
<td>27%</td>
<td>36%</td>
<td>76%</td>
</tr>
<tr>
<td>EBIT - scope1+2</td>
<td>40</td>
<td>52</td>
<td>77%</td>
<td>56%</td>
<td>73%</td>
<td>79%</td>
</tr>
<tr>
<td>EBIT - Total</td>
<td>42</td>
<td>52</td>
<td>81%</td>
<td>61%</td>
<td>73%</td>
<td>83%</td>
</tr>
<tr>
<td>NTA - scope1</td>
<td>44</td>
<td>53</td>
<td>83%</td>
<td>61%</td>
<td>72%</td>
<td>84%</td>
</tr>
<tr>
<td>NTA - scope2</td>
<td>44</td>
<td>53</td>
<td>83%</td>
<td>61%</td>
<td>72%</td>
<td>84%</td>
</tr>
<tr>
<td>NTA - scope3 upstream</td>
<td>47</td>
<td>54</td>
<td>87%</td>
<td>63%</td>
<td>72%</td>
<td>88%</td>
</tr>
<tr>
<td>NTA - scope3 downstream</td>
<td>22</td>
<td>26</td>
<td>88%</td>
<td>30%</td>
<td>34%</td>
<td>88%</td>
</tr>
<tr>
<td>NTA - scope1+2</td>
<td>43</td>
<td>53</td>
<td>81%</td>
<td>59%</td>
<td>72%</td>
<td>82%</td>
</tr>
<tr>
<td>NTA - Total</td>
<td>50</td>
<td>53</td>
<td>94%</td>
<td>69%</td>
<td>72%</td>
<td>96%</td>
</tr>
<tr>
<td>MV - scope1</td>
<td>38</td>
<td>54</td>
<td>70%</td>
<td>52%</td>
<td>73%</td>
<td>71%</td>
</tr>
<tr>
<td>MV - scope2</td>
<td>41</td>
<td>54</td>
<td>76%</td>
<td>56%</td>
<td>73%</td>
<td>77%</td>
</tr>
<tr>
<td>MV - scope3 upstream</td>
<td>41</td>
<td>55</td>
<td>75%</td>
<td>55%</td>
<td>73%</td>
<td>75%</td>
</tr>
<tr>
<td>MV - scope3 downstream</td>
<td>19</td>
<td>26</td>
<td>73%</td>
<td>25%</td>
<td>35%</td>
<td>72%</td>
</tr>
<tr>
<td>MV - scope1+2</td>
<td>38</td>
<td>54</td>
<td>70%</td>
<td>52%</td>
<td>73%</td>
<td>71%</td>
</tr>
<tr>
<td>MV - Total</td>
<td>44</td>
<td>54</td>
<td>81%</td>
<td>61%</td>
<td>73%</td>
<td>83%</td>
</tr>
</tbody>
</table>
One of the main criticisms of carbon portfolio audits is that some portfolios may have a significant different sector allocation than their benchmark, which may help (a lot!) to deliver better carbon footprint.

Results in the sections above clearly indicate that stocks selected in CLIENT XYZ PF tend to beat their relative sector. But that is not enough from our perspective.

The analysis must be complemented by further analysis both of
  ▪ the total performance of the portfolio, in comparison with the benchmark, and
  ▪ the ability of the portfolio manager to select the most carbon-efficient stocks in each sector
Summary:

- Whatever the metrics, results are consistent and robust, with two cases for which the portfolio has emitted more than the benchmark (EBIT scope total and MV scope total)
- Consistent positive stock-picking effect elsewhere

Relative Performance CLIENT XYZ PF vs. Benchmark

Source: BofA Merrill Lynch Global Research, Trucost, Inrate, CO2Benchmark, Bloomberg, CDP, TR Asset4
Key issue is remaining: accuracy

- Despite our best efforts, how can we be sure that the figures we calculate are « acceptable » and « reasonable »?
- How investors can trust the methodologies, carbon footprints and estimates arising on the market?
- Is there a method to test out the accuracy of estimates?
Growing appetite for ESG analytics applied to portfolio, especially on Carbon

Carbon: Level of disclosure still significantly low

Some noticeable differences across indices and sectors, but... still

Chart 1: Evolution of listed company disclosure on CO2

Is it already reasonably feasible to measure a portfolio carbon footprint?

Source: datastream/Asset4, on a same sample of 7,028 listed global companies (low level on first years might be due to lack of collecting instead of lack of disclosing)
Replacing missing data by ICB sub-sector peer group averages as a proxy of CO2 estimates for non-disclosing companies

Testing out with hundredth of random portfolios the standard deviation between portfolio carbon footprint calculated with real data on one hand, and the same portfolio of disclosing companies but with ICB4 subsector averages only

A clear pattern about uncertainty, depending on portfolio size and disclosure rate!

\[ \sigma_{\text{ICB-averages}} = \sigma_{\text{real}} \cdot \sqrt{\frac{N-n}{N-1}} \]

\[ y = 13.798x - 0.816 \]

\[ R^2 = 0.9371 \]

Our goal: the lowest level of uncertainty (\( \sigma \))
**SIC Peer Estimates**

What will it give clients

_Tells the client if they beat the benchmark, by how much and with level of confidence_

### Table 5: Probability to beat the benchmark: use of the quality of measure

<table>
<thead>
<tr>
<th>Solution</th>
<th>Portfolio Footprint</th>
<th>Index Footprint</th>
<th>X (size of the portfolio)</th>
<th>R (level of Disclosure)</th>
<th>σ (standard deviation)</th>
<th>σ (real)</th>
<th>-2σ</th>
<th>+2σ</th>
<th>95% span</th>
<th>P&lt;Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosed data + ICB averages</td>
<td>160</td>
<td>180</td>
<td>100</td>
<td>50%</td>
<td>6,43%</td>
<td>10,48</td>
<td>139</td>
<td>181</td>
<td>42</td>
<td>97%</td>
</tr>
<tr>
<td>Disclosed data + ICB averages</td>
<td>160</td>
<td>180</td>
<td>100</td>
<td>80%</td>
<td>16,10%</td>
<td>25,76</td>
<td>108</td>
<td>212</td>
<td>103</td>
<td>78%</td>
</tr>
</tbody>
</table>

Source: BofA Merrill Lynch Global Research

Unit:

metric tons CO2eq / $ million of MV
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<table>
<thead>
<tr>
<th>Investment rating</th>
<th>Total return expectation (within 12-month period of date of initial rating)</th>
<th>Ratings dispersion guidelines for coverage cluster*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buy</td>
<td>≥ 10%</td>
<td>≤ 70%</td>
</tr>
<tr>
<td>Neutral</td>
<td>≥ 0%</td>
<td>≤ 30%</td>
</tr>
<tr>
<td>Underperform</td>
<td>N/A</td>
<td>≥ 20%</td>
</tr>
</tbody>
</table>

* Ratings dispersions may vary from time to time where BofAML Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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