Green bonds & property

Sean Kidney
Green bonds growth

Green property bonds made up 30% of last year’s total.
Examples

<table>
<thead>
<tr>
<th>Category</th>
<th>Entity</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corporate</td>
<td>CDL</td>
<td>$440m</td>
</tr>
<tr>
<td></td>
<td>Vasakronan</td>
<td>$3.4bn</td>
</tr>
<tr>
<td></td>
<td>Japan REIT</td>
<td>$250m</td>
</tr>
<tr>
<td>Bank</td>
<td>Barclays</td>
<td>$500m</td>
</tr>
<tr>
<td></td>
<td>LBBW</td>
<td>$4.3bn</td>
</tr>
<tr>
<td></td>
<td>Barclays</td>
<td>$500m</td>
</tr>
<tr>
<td></td>
<td>ABN AMRO</td>
<td>$3bn</td>
</tr>
<tr>
<td>ABS</td>
<td>Obvion</td>
<td>$2.6bn</td>
</tr>
<tr>
<td></td>
<td>Fannie Mae</td>
<td>$21bn</td>
</tr>
<tr>
<td></td>
<td>BerlinHyp</td>
<td>$4.5bn</td>
</tr>
<tr>
<td>Government</td>
<td>Canton of Geneva</td>
<td>$1.27bn</td>
</tr>
<tr>
<td></td>
<td>NY State Housing</td>
<td>$1.8bn</td>
</tr>
<tr>
<td></td>
<td>Republic of Lithuania</td>
<td>$7.7m</td>
</tr>
</tbody>
</table>
EU Taxonomy - common language

Science-based
Leverage existing labels
Dynamic

- Substantially contribute
  to at least one of the six
  environmental objectives
  as defined in the proposed
  Regulation

- Do no significant harm
  to any of the other five
  environmental objectives
  as defined in the proposed
  Regulation

- Comply with minimum
  safeguards

- Climate mitigation & adaptation
- Circular economy
- Protection of marine resources
- Pollution prevention
- Biodiversity restoration

1. Investors, corporations, banks
2. Corporates
3. EU Member States
### Different layers of Taxonomy

<table>
<thead>
<tr>
<th>Already <strong>low carbon</strong></th>
<th>Likely to be stable and long term</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low, zero or net negative emissions</td>
<td></td>
</tr>
<tr>
<td>Compatible with net zero CO2 economy by 2050</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Enabling</strong> emission reductions</th>
</tr>
</thead>
<tbody>
<tr>
<td>...in the first two types of activities</td>
</tr>
<tr>
<td>Consistent with those activities being enabled</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Contributing to transition</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>...to a net zero emissions economy in 2050</td>
</tr>
<tr>
<td>Likely to be revised regularly and tightened over time</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Adaptation &amp; resilience</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Adapting to survive climate change or supporting adaptation</td>
</tr>
</tbody>
</table>

#### Already low carbon activities
- Renewable energy
- Zero emissions transport
- Afforestation

#### Enabling emission reductions activities
- Manufacture of wind turbines
- Installing efficient boilers in buildings

#### Contributing to transition activities
- Building renovation
- Electricity generation <100gCO2/kWh
- Cars <50g CO2/km

#### Adaptation & resilience activities
- Infrastructure hardening
- Resilience measures
- Climate risk advisory services
Proposed rules

Electricity: 100gms Coe/KWh
- Solar, wind, geothermal, hydro
- Gas only if with CCS
- Storage, transmission

Transport Zero tailpipe & very low emissions: electric, hydrogen

Buildings
- Top 15%, or 30% improvements
- Supply chain / SMEs

ICT

Landuse
- Maintaining carbon
- Improving carbon
- Best practice farming

Manufacturing
- Transitions
- Components
- Aluminium
- Steel
- Concrete
- Plastics

Energy efficiency, adaptation

Climate Bonds
1. Ownership or acquisition: Energy performance is in top 15% of similar stock
   Applies only to buildings built before 2021
   1. Large non-residential buildings have to also have dedicated energy management systems
   2. Proxies: EPCs
   3. CBI emission thresholds
   4. LEED, BREEAM, etc.

2. Renovations: Delivers 30% energy savings
   Or, the renovation complies with the relevant ‘major renovation’ requirements EPBD

3. Newbuild: Near-Zero-Energy-Building (NZEB), less 20%
   The net primary energy demand of new construction must be at least 20% lower than the primary energy demand resulting from the relevant NZEB requirements that are mandatory in Europe from 2021

Thresholds for embodied carbon to be defined by mid-2020s, methodology based on EN 15978
Examples

- Adding insulation; replacing windows or doors with new energy efficient ones.
- Installing of low-flow kitchen in top two categories of the EU Water Label scheme.
- Installing efficient LED lighting, zoned thermostats, smart thermostat systems and sensoring equipment.
- Charging stations for electric vehicles.
- Smart meters for gas and electricity.
- Solar PV, solar hot water, wind turbines, electric energy storage units
- Installation and upgrade of heat pumps
- Installation and replacement of HVAC and domestic hot water systems.
- Replacement of old pumps with efficient circulating pumps
- Technical consultations linked to individual measures; energy audits; building performance assessments.
- Energy Management Services, energy performance contracts, or energy Services provided by ESCOs
## Do No Significant Harm (DNSH) requirements

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Ownership</th>
<th>Renovations</th>
<th>Newbuild</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Min. 80% of non-hazardous C&amp;D waste diverted from landfill</em></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><em>No asbestos</em></td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><em>Site has to be checked to make sure it isn’t contaminated. If it is, an assessment is needed that meets national methodology</em></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><em>Non-road mobile machinery used in construction process</em></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td><em>(covered by regulatory requirements in EU)</em></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td><em>No building in protected natural areas or land of recognised high biodiversity value</em></td>
<td>✔</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Top 2 classes of EU Water label for new water appliances</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>Timber products: at least 80% certified FSC or PEFC</td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td><em>(Reducing material physical climate risks)</em></td>
<td></td>
<td>✔</td>
<td>✔</td>
</tr>
</tbody>
</table>
Making it simple: building labelling & EPCs
Jobs: recovery investment in energy efficiency
Incentives
Scale: municipal Opt-out schemes
EuroPACE