Water accounts of the Netherlands
Water issues in the Netherlands

- Safety, protection against flooding
- Water management: excess of water
- Water pollution
- Water quality
- Water economic benefits
Policy demands

- **Main users:** Ministry of infrastructure and environment, Ministry of economic affairs, water boards, water companies and Eurostat.

- **Water Framework Directive**
  - Description of the economic importance / interests related to the use of water
  - Important as potential ground for derogation (disproportionate costs; socio-economic reasons)

- **Marine Strategy Framework Directive**
  - Initial Assessment asks for ‘Economic analysis of marine waters’

- **Climate change policies** → expenditure for climate change mitigation / adaptation

- **Indicators for green growth**
Dutch water accounts - overview

1. **Physical water flow accounts** \((m^3)\)
2. **Emission accounts**, based on emission registration (kg), national and regional data
3. **Economic accounts**, based on the national and regional accounts (euro’s, employment)
4. **NAMWA matrix** *(National accounting Matrix including water accounts)*, including water related monetary data (taxes, subsidies etc.)
Water use examples
Decoupling between water use and economic growth.

Volume change GDP, employment and tap water used for production.
Water efficiency of most important water users

2.3.4 Industries with the highest tap water (drinking water) use intensities
Water emissions and water quality: examples
Decoupling between emissions in water and economic growth

3.1.1 Emissions to water and GDP

Index (2001=100)

- Nutrient equivalents
- Heavy metal equivalents
- GDP (price level 2010)
Regional differences in emission intensity

Emission-intensity per river basin (only producers)

- **Emission of heavy metals (left axis)**
- **Emission of nutrients (right axis)**

### Ems
- Heavy metal equivalents: 0.30
- Nutrient equivalents: 40

### Meuse
- Heavy metal equivalents: 0.20
- Nutrient equivalents: 10

### Rhine Central
- Heavy metal equivalents: 0.15
- Nutrient equivalents: 20

### Rhine North
- Heavy metal equivalents: 0.35
- Nutrient equivalents: 50

### Rhine East
- Heavy metal equivalents: 0.25
- Nutrient equivalents: 30

### Rhine West
- Heavy metal equivalents: 0.20
- Nutrient equivalents: 20

### Scheldt
- Heavy metal equivalents: 0.35
- Nutrient equivalents: 70
Water economic accounts example
## Economy in flood prone areas

<table>
<thead>
<tr>
<th>Economic sector</th>
<th>Employment</th>
<th>Value added</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>x 1000 empl.</td>
<td>%</td>
</tr>
<tr>
<td>Agriculture</td>
<td>43</td>
<td>47%</td>
</tr>
<tr>
<td>Industry</td>
<td>220</td>
<td>27%</td>
</tr>
<tr>
<td>Energy and water</td>
<td>11</td>
<td>39%</td>
</tr>
<tr>
<td>Construction</td>
<td>143</td>
<td>38%</td>
</tr>
<tr>
<td>Trade</td>
<td>379</td>
<td>35%</td>
</tr>
<tr>
<td>Transprot</td>
<td>120</td>
<td>32%</td>
</tr>
<tr>
<td>Services</td>
<td>452</td>
<td>34%</td>
</tr>
<tr>
<td>Government</td>
<td>249</td>
<td>31%</td>
</tr>
<tr>
<td>Other</td>
<td>309</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total economy</strong></td>
<td><strong>1 926</strong></td>
<td><strong>33%</strong></td>
</tr>
</tbody>
</table>

The map illustrates the distribution of flood-prone areas across the region, with colors indicating the percentage of the total area affected. The table details the employment and value added by economic sector, showing the percentage of the total employment and value added attributed to flood-prone areas.
Thank you for your attention!