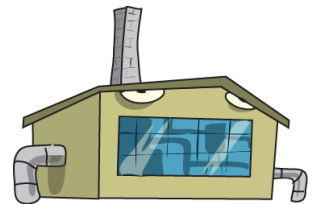
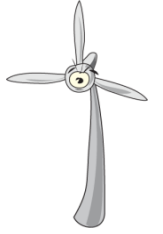




Ensuring environmental integrity in emissions trading – Estonia's experience

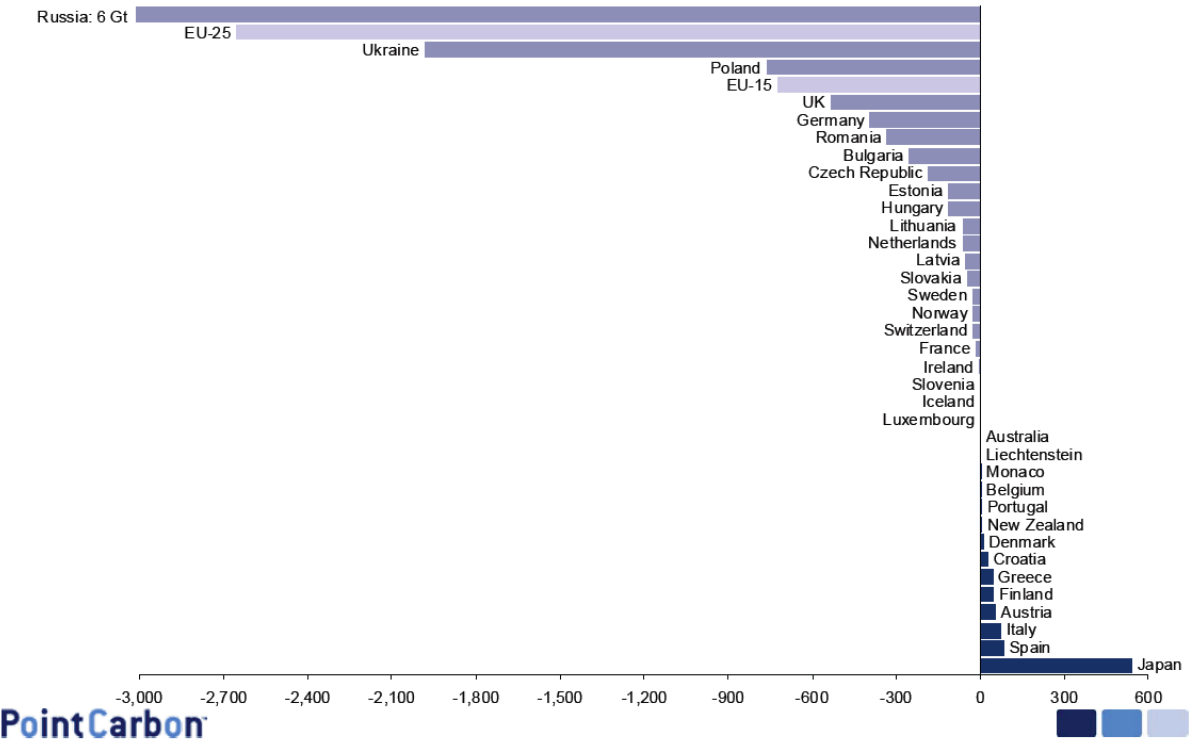
Hannu Lamp, Environmental Investment Centre, Estonia

January 2017



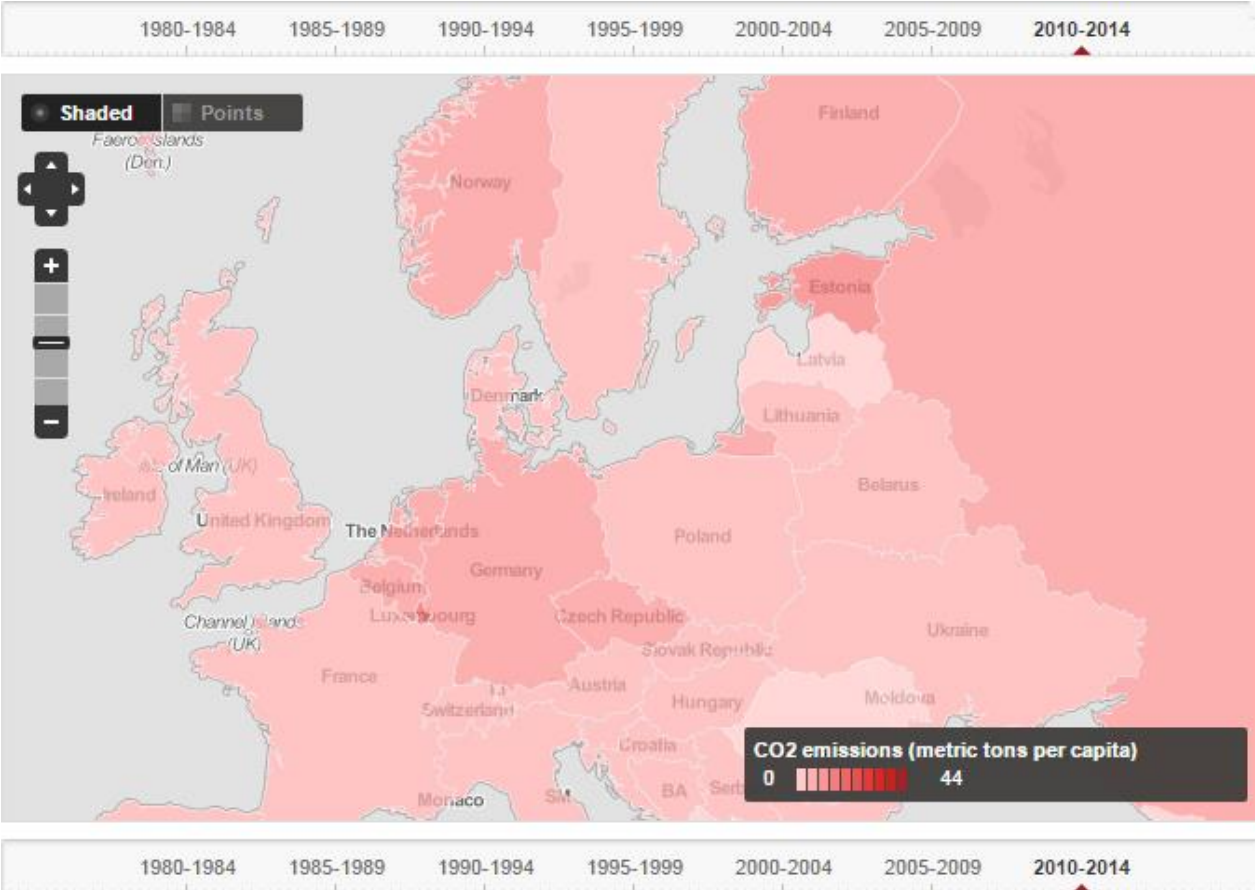
Basis for emissions trading

Net Kyoto Balance



PointCarbon
Providing critical insights into energy and environmental markets

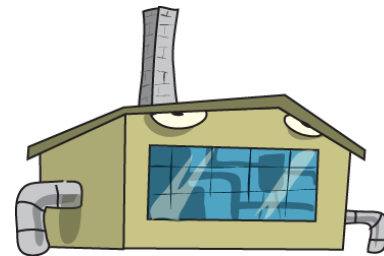
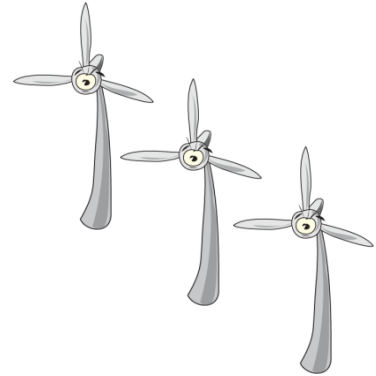
www.pointcarbon.com



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Project-based emissions trading (Joint Implementation) 2003-12

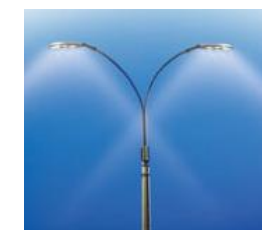
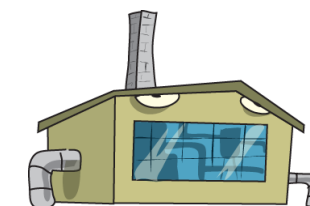
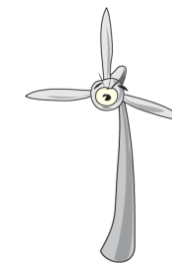
- Estonia hosted 12 private sector JI projects that generated 1,8 mil tCO₂e ERUs for Finland, Austria and NEFCO
- Ensuring environmental integrity (additionality, avoidance of double counting) was a precondition to trade, validated by UNFCCC accredited independent auditors
- Wind power, boiler-house fuel-switch, biogas, hydro power – high cost-effectiveness due to high carbon intensive baseline
- Only verified pre-2012 ERUs Kyoto Protocol compliant
- Short crediting period and high transaction costs only supported large projects
- Important role of early governmental carbon credit procurement programmes





Green Investment Scheme 2010-13

- Estonia signed 22 agreements for sale of unused governmental emission rights (AAUs) with 3 EU governments (Austria, Spain, Luxembourg) and 4 Japanese corporations
- Proceeds of 392,6 mil EUR for 75,5 mil AAUs
- Tailor-made greening programmes targeting renewable energy, energy efficiency and sustainable transportation
- Ensuring environmental integrity incl. short/long-term greening, additionality, avoidance of double-counting
- Ensuring other benefits incl. cost-effectiveness, socio-economic impact, timely implementation, enhancing trade, FDI and R&D
- Untapping the potential of innovative green technologies



Green Investment Scheme programmes in Estonia

AUSTRIA:

- 63 district heating projects incl. CHP plants, boiler-house fuel-switch and pipeline renovation
- LED street lighting in 7 cities (11,741 lighting points)

SPAIN:

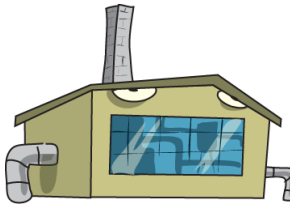
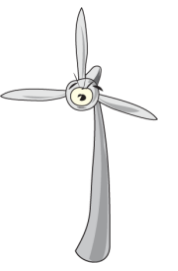
- 20 energy-efficient trams for capital Tallinn
- 3 wind farms
- 120 economic buses for county lines

LUXEMBOURG:

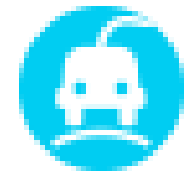
- Energy efficiency of 576 apartment buildings and 292 private houses
- 95 micro-renewable energy devices (solar PV, solar heat, small wind)

JAPANESE CORPORATIONS (Mitsubishi, Sumitomo, Marubeni, SMBC):

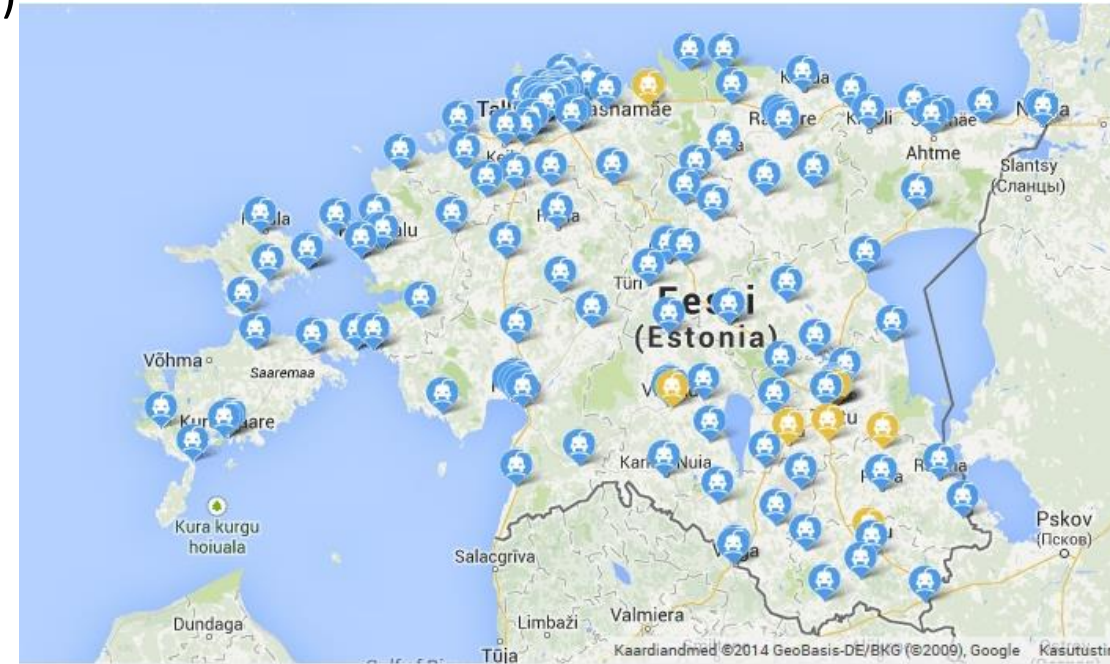
- Energy efficiency of 540 public buildings
- Country-wide electro-mobility incl. 167 quick chargers, 507 electric cars for public servants, 657 grants for purchase of EVs, electric car sharing in 2 cities



Example 1: Electro-mobility programme



- Partner Mitsubishi Corporation, implementation 2011-17
- Country-wide quick-charging infrastructure:
 - 167 quick chargers, 380,000+ charging sessions, 1600+ clients, 3,400+ MWh green electricity consumed
- 507 electric cars distributed to municipal social workers
- Grant support for electric car purchase (657 grants)
- Awareness raising incl.
 - electric car sharing in 2 cities (6,900+ clients, 31,000+ rentals)
 - electric car demo center
- <http://elmo.ee/en/>



Operational quick charger Currently charging Quick charger under technical maintenance

Example 2: LED street lighting in 7 cities

- Partner country Austria
- Switch to LED street lighting and modern dynamic control in 7 medium-sized cities (11,741 lighting points)
- Implementation during 2012-15
- Central design and public procurements
- Achieved 76% energy savings!
(5504 MWh/year, 6,000 tCO₂e/year)
- Encouraged to launch a new 43 mil EUR EU-financed programme targeting switch to LED at 22,000 lighting points





Conclusions

- **Benefits of emissions trading:**

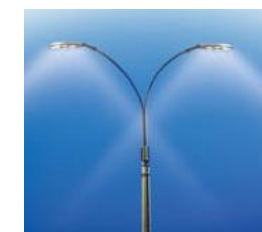
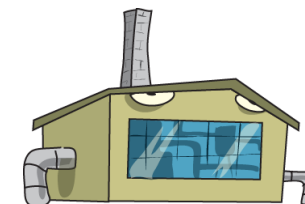
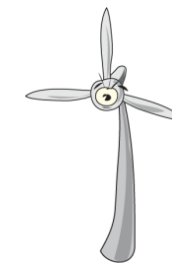
- cost-effective CO2 emission reductions
- other environmental and socio-economic benefits
- enhancement of trade and FDI
- supporting green technology innovation

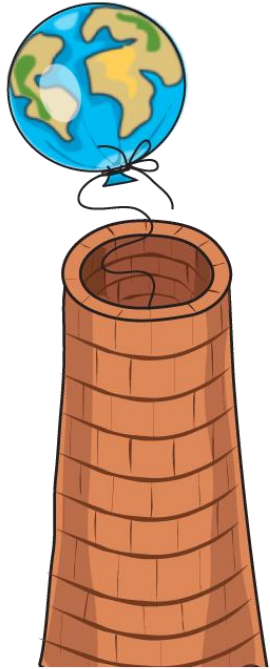
- **No more low-cost opportunities:**

- as such already exploited (JI, GIS, EU grants, EU ETS auction revenue, private financing)
- due to ever greener baselines
- no more 'hot air' in the system

- **Preconditions for emissions trading:**

- ambitious targets creates demand and motivation
- early action secures cost-effectiveness
- programmatic approach offers scale and cost-efficiency
- project-based approach offers private sector engagement
- ensuring of environmental integrity





Thank you!

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