

Batumi Initiative on Green Economy (BIG-E) Actions by Netherlands

Country: Netherlands, Ministry of Infrastructure and the Environment

Title:

Dutch Value Chain Agreement on Closing the Phosphorus Loop (VCAP, 2011): partnership between Dutch farmers, water boards, fertilizer and food industry, knowledge institutes and the Dutch Ministries of Environment and Economic Affairs, focusing on creating a European market for recycled phosphorus

Focus area 2: Promote the internalization of negative externalities and the sustainable use of natural capital

Description of the action: The VCAP was a starting point for close collaboration between industry, science and the government focused on getting sustainable innovations on the market by using a unique partnership of different parties involved and influencing national and European regulators in order to make room for these innovations. The VCAP is a voluntary agreement. The network was built with 20 parties on an equal basis, and is enlarged with other frontrunners in the value chain (34 parties in 2016).

Phosphorus is a critical material, is mostly used as a fertilizer, is essential for food security and – productivity and is only mined in a few countries in the world (70% reserves in Morocco). With the growing world population and changing diets the demand for phosphorus will grow significantly. At the same time, phosphorus and other nutrients are wasted worldwide in such a way that it damages the environment (eutrophication of watersheds). Sustainable innovations in phosphorus recovery out of waste water, animal manure, household and industrial organic waste make it possible to close the phosphorus loop if those recovered materials are used again in agriculture and the chemical industry.

Close collaboration in The Netherlands led to concrete recovery systems in water treatment plants (struvite), to biorefinery plants in agriculture and the food industry and an active network that influenced the European Commission in setting phosphorus on the political agenda by means of a first European Sustainable Phosphorus Conference (2013).

The result of that conference was the launch of the European Sustainable Phosphorus Platform (ESPP), which has developed itself within two years as an authority on phosphorus for the different branches of the European Commission (DG ENVI, DG GROW, DG AGRI, DG R&I, etc.). There are 37 members from industry, science and governments actively involved. The European Commission is observer and attends a lot of meetings, including the 2nd European Sustainable Phosphorus Conference in Berlin, last year. Several meetings, also with Members of the European Parliament, led to the adoption of phosphate rock as a critical material in the Critical Materials Initiative and the adaptation of the EU Fertilizers Regulation in such a way that it makes it easier to create an internal EU market on recycled phosphorus (ashes, struvites, digestates).

The Dutch Ministry of Environment connects this European network to the Global Partnership on Nutrient Management (GPNM), a multi stakeholder dialogue on the global level with Chinese, Indian and US partners involved. The challenges to be efficient and effective in nutrient management in general and phosphorus management in particular are not limited to European

borders. The circular economy is a solution for environmental and food security problems alike all over the world.

Action's time frame/milestones, for the action, as appropriate: The VCAP was initiated in 2011, planned to end in 2013, but the network decided to extend the VCAP on a voluntary basis. New initiatives are taken, economic missions throughout Europe have been organised, international Green Deals are in preparation (initiated by companies). The Dutch government decided in 2013 to stop with their coordinating role within the network, but to stay involved as a network partner.

Type of actions which have been taken are:

Connecting companies in their value chain to work together on innovations, creating a market pull for those innovations;

Inventory of regulatory barriers, breaking them down as much as possible within the framework that it can't be worse for the environment;

Connecting innovative companies and ideas with the financial world;

Showing success in this partnership, also on the political level (parliament).

Type of action: information, education-based, capacity-building and voluntary instruments

Economic sectors: The economic sectors of water, agriculture, chemistry and waste management are involved.

Reference instruments and sources, as appropriate: The actions involved are voluntary and not legally binding. Support from governments is in principal not financial and there are no other policy instruments a priori available. The main strength of the approach lies in the forging of new types of cooperation. It includes similar elements as the Dutch Green Deal approach: integral cooperation (multiple value chain partners, public-private, cross silo, policy makers, inspection and enforcement), where necessary adaptation of national and EU regulation and a practical case-by-case innovation approach.

Expected co-benefits and impact of the outcome: This approach is expected to have co-benefits for profit (facilitate frontrunners and innovation in the field of circular economy), people (green growth related employment creation) and planet (reduction of reliance on finite primary resources and reducing emissions to soil and water). The overall aim is to increase investments in starting or scaling up of business activities in the field of secondary phosphorus and the circular economy and thus to accelerate the transition towards sustainable, green growth.

SDGs target(s) that the action may contribute to implement: SDG targets 1, 2, 3, 6, 8, 9, 11, 12, 14 and 17.

Implementation of Environmental Performance Review (EPR) recommendations, as appropriate: 2015, Environmental performance Review of the Netherlands. Policy recommendations for Waste to Resource:

Encourage innovation through the Green Deals approach; develop policies that can support the emergence of new business models conducive to the circular economy, such as those based on services rather than the sale of goods; explore dynamic standard setting that can spur innovation; use green public procurement to support the circular economy.

Objectively verifiable indicators, as appropriate: Installations (capacity) and amount of recycled phosphorus (in ktons P₂O₅) in The Netherlands, the amount of transborder shipments of recycled phosphorus (ktons) and the percentage of recycled content in fertilizers and other chemical products.

Partners: Dutch Nutrient Platform, (www.nutrientplatform.org), ESPP (www.phosphorusplatform.eu), GPNM (www.nutrientchallenge.org).

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Batumi Initiative on Green Economy (BIG-E) Actions by Netherlands

Country: Netherlands, Ministry of Infrastructure and the Environment

Title:

International Green Deal North Sea Resources (NSRR) Roundabout

Focus area 2, 5 and 6: Promote the internalization of negative externalities and the sustainable use of natural capital; Develop clean physical capital for sustainable production patterns; Promote green and fair trade.

Description of the action: Europe's economy is hugely dependent on the import of raw materials. Every year in the European Union (EU), nearly 15 tonnes of materials are used per person, while each EU citizen generates, on average, more than 4.5 tonnes of waste annually, almost half of which is disposed of in landfill sites.

The circular economy is a response to the aspiration for sustainable growth in the context of the growing pressure of production and consumption on the world's resources and environment. It can boost economy and competitiveness of the EU by bringing new business opportunities as well as innovative and more efficient ways of producing and consuming. The transition towards a circular economy gives us an opportunity to reinvent our economy and create new competitive advantages for the EU on a sustainable base.

The use of waste material as a secondary resource is one of the first actions that businesses could consider to improve both their economic and environmental performance. Value chains are often cross border in nature and so require trans-border shipment of secondary resources.

The International Green Deal NSRR aims to increase industry uptake of secondary resources by facilitating cross border use of secondary resources within the North Sea region in Europe. In this approach the central governments facilitates innovative and voluntary initiatives from society – businesses, non-governmental organizations (NGO's) and local authorities – by supporting entry into networks or by addressing legal barriers if needed. This support is in principle not financial. This Green Deal approach empowers frontrunners by enabling new and ambitious developments that contribute to economic and environmental benefits (Circular Economy/Green Growth). The NSRR is based on voluntary, bottom up cases/initiatives – with a maximum of ten cases in total. Actions in Green Deals are specific (SMART), but are not legally enforceable.

Companies and government participants will cooperate to identify barriers and consider solutions for a limited number of specific secondary resource cases between countries. These barriers are amongst others related to the “waste or resource” status and hamper cross border secondary resources optimization. The companies intend to increase investments related to secondary resource use in the case of solid solutions. The intention is to share the lessons learnt in the cases with stakeholders and other interested parties, with the objective of facilitating the movement of secondary resources within and eventually beyond the North Sea Region in Europe.

Action's timeframe/milestones, as appropriate: This International Green Deal was signed at March 3th 2016 and terminates on March 2nd 2021. In principal, the individual cases/ initiatives that are part of the NSRR have duration of two years.

Type of action: Information/ Education-based/Capacity building/ Voluntary

Economic sectors: economy-wide

Reference instruments and sources, as appropriate: This International Green Deal is based upon the experience with the Dutch Green Deal approach (www.greendeals.nl/english) and includes similar elements: integral cooperation (multiple value chain partners, public-private, cross silo, policy makers, inspection and enforcement) and a practical case-by-case approach. The actions involved are voluntary and not legally binding. Support from governments is in principal not financial and there are no other policy instruments a priori available. The main strength of the approach lies in the forging of new types of cooperation.

Expected co-benefits and impact of the outcome: This International Green Deal is expected to have co-benefits for profit (facilitate frontrunners and innovation in the field of circular economy), people (green growth related employment creation) and planet (reduction of reliance on finite primary resources). Overall the aim is to increase investments in starting or scaling up of business activities in the field of secondary resources and circular economy and thus to accelerate the transition towards sustainable, green growth.

SDGs target(s) that the action may contribute to implement: 7, 8, 9, 12, 13 and 17

Implementation of Environmental Performance Review (EPR) Recommendations, as appropriate: 2015, Environmental performance Review of the Netherlands. Policy recommendations for Waste to Resource:

Maintain absolute decoupling of waste generation from GDP to avoid a potential rebound as the economy recovers by reinforcing efforts to reduce waste generation in the next iteration of the National Waste Management Plan.

Objectively verifiable indicators, as appropriate: A reduction of barriers to trans-border shipment of the secondary resources that are part of the NSRR. Smoother and faster procedures to get clarity on waste or resource status of these secondary resources – incl., possibly, harmonisation of the status of these resources between the participating countries in the NSRR. Uptake in the use, trade and transport of secondary resources

Partners: Joint project between the governments of Flanders, France, the United Kingdom and The Netherlands, as well as companies, industry associations, port authorities and NGO's.

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Batumi Initiative on Green Economy (BIG-E)
Actions by Netherlands

Country: Netherlands, Ministry of the Interior and Kingdom relations/ Central Government Real Estate Agency

Title:

Circular construction for government buildings (GPP)

Focus area 4: Shift consumer behaviours towards more sustainable consumption patterns

Description of the action: The Design, Build, Maintain & Remove (DBMR) project for the circular development of the temporary court in Amsterdam has been assigned to a consortium of national government and private sector. The temporary and circular building will be dismantled in approximately 5 years.

The Netherlands is committed to EU obligations to increase its share of renewable energy consumption to 14% by 2020 and has implemented this in its national policy on energy (Energy agreement). Furthermore, massive efforts are necessary to realize the required saving in final energy consumption to meet the EU Energy Efficiency Directive.

The construction and demolition sector is one of the largest contributor to waste.

The Netherlands is therefore committed to transforming to a circular economy as is stated in the policy document on Green Growth. Circular construction is based on the Circular Economy. Circular building is about biological and technical cycles. What defines a circular construction sector is its lifecycle approach. Buildings are designed with a view to optimizing their useful lives. They accommodate alternative functions and allow for modification. Only renewable resources are consumed while the building is in use.

This pilot project of the temporary courthouse Amsterdam is an example of a circular building project. The real estate sector has set themselves the objective of achieving a reduction in waste and CO₂.

A different perspective on buildings, namely a material database, has a huge impact on building supply chain and real estate sector.

Action's timeframe/milestones, as appropriate: Taking its public responsibility, the project's principal the Central Government Real Estate Agency aims at minimal environmental impact (also in the light of GPP). Therefore, an important criterion is the prevention of waste and the maximizing of the building's residual value. A calculation tool is used to objectify this criterion. The intrinsic circularity of the proposal has gained a lot of appreciation. On every scale, including the structure as a whole, the consortium consequently aims for reduction, re-use, and recycling possibilities. It is designed for disassembly. Apart from that the consortium aims at the maximum use of donor materials, which eliminates waste in the early phases of the process. The project is contracted in Jan 2015. After use by the Amsterdam court house, the structure can be dismantled and is completely reusable on another location (2021).

- Concept building as product with using for a temporary court construction for the period of 5 years use of various components from donor body at the facade;

- after using of the court building the building will be moved to a new location as filling for circular building (2nd life as a research building)
- 10% below ceiling prize by best business case for residual value.

Demolition of the old building and realization of the new “circular building” is realised in 2nd quarter 2015 - 2nd quarter 2016.

The building can easily be placed in different (temporary) locations and used for different purposes. For the real estate sector, the Netherlands is searching for implementing efficiency measures in combination with different ways of tendering. Also, the concept opens possibilities to other types of financing (depending on the technical and economic feasibility) in order to create opportunities to introduce new technologies and additional instruments.

Type of action: Voluntary agreement with private sector, NGO’s and stakeholders

Economic sectors: Housing/ cities

Reference instruments and sources, as appropriate:

<http://www.rijksvastgoedbedrijf.nl/actueel/nieuws/2015/01/22/tijdelijke-rechtbank-amsterdam-gegund>

Expected co-benefits and impact of the outcome: Cost-effective utilization of materials deserves to be prioritized, different ways of cooperation, incentives to innovate.

Sustainable goals for the building- and real estate sector will require investments in order to be able to reap the benefits long term. The Netherlands is currently setting up a Government-wide Program on Circular Economy. The Ministry of Economic Affairs and the Ministry Infrastructure and Environment are responsible for this and the Temporary court is based on this program.

SDGs target(s) that the action may contribute to implement: SDG 13- Take urgent actions to combat Climate Change and impacts.

SDG 11- make cities and human settlements inclusive, safe, resilient and sustainable

Implementation of Environmental Performance Review (EPR) Recommendations, as appropriate: 2015, Environmental performance Review of the Netherlands. Policy recommendations on Green Growth:

Develop an ambitious framework for promoting eco innovation that includes a balanced and consistent mix of increased public support for R&D, demand-side measures and partnerships with the private sector, with a focus on frontrunner SMEs; maintain a stable and clear policy and investment framework for innovation to support policy objectives, such as those for the circular economy and renewable energy; continue to refine criteria for public procurement to reap greater environmental gains and encourage green procurement approaches in the private sector.

Objectively verifiable indicators, as appropriate: CO2 reduction and energy efficiency targets in petajoule (PJ), sustainable management and efficient use of natural resources, cost benefit analysis referred to as a qualitative parameter.

Partners: Ministry of the Interior and Kingdom relations. Other parties also provided input for the pilot project, including the private sector, civil society organisations and knowledge institutions.

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**Batumi Initiative on Green Economy (BIG-E)
Actions by Netherlands**

Country: Netherlands, Ministry of Infrastructure and the Environment and Ministry of Economic Affairs

Title:

Sustainable Fuel Mix/ Duurzame brandstofvisie

Sustainable transport / Sustainable energy / Green growth

Focus area 5: Develop clean physical capital for sustainable production patterns

Description of the action: In order to meet the longterm (inter)national goals in the field of climate, air pollution renewable energy and energy security & supply, the Netherlands has set under the auspices of the Social Economic Council in 2013, ambitious objectives in order to reduce CO2 emissions of mobility and the transport sector. In 2014 the Netherlands together with all the relevant stakeholders from private sector, civil society organisations and knowledge institutes have drawn up a Vision and accompanying Action Plan on a sustainable fuel mix for the future, explaining which fuels can best be used to power aircraft, ships, trains and road vehicles. The following year Vision and action plan were presented to Parliament. In 2016 after securing necessary funding execution of the action plans is now underway.

The Energy Agreement for Sustainable Growth sets out sustainability goals for the mobility and transport sector:

- By 2030 the mobility and transport sector's CO2 emissions will be capped at 25 megatonnes, 17% lower than in 1990.
- The European Union's target for 2050 is to cut CO2 emissions by 60% compared with 1990.
- From 2035, all new cars sold must be capable of running without producing any CO2 emissions.

Achieving the Energy Agreement's objectives whilst simultaneously stimulating green growth will be a major challenge that requires courage, decisive action, co-operation, consistent strategies, and the willingness to invest. To realise this goal, there must be approximately 3 million zero-emission vehicles in the Netherlands by 2030. In order to satisfy the objectives and simultaneously reap the benefits of green growth and improvements in living conditions, these developments must be initiated immediately. The shipping sector (both inland and ocean shipping)² have set themselves the objective of achieving a 50% reduction in CO2 by 2050 in comparison with 2020 levels. The aviation sector is establishing ambitious and far-reaching sustainability goals in accordance with stringent international certification criteria. A substantial proportion of the rail sector today already runs on electric power.

The result of this process is an adaptive and targeted multi-track strategy that will make the Netherlands a European front-runner in sustainable mobility and a pioneer in a number of promising niches.

Action's timeframe/milestones, as appropriate: The Netherlands is committed to switching to electric propulsion in transport sectors in which electricity is a promising alternative. Electric motors will be combined with sustainable biofuels and renewable gas⁴ as a transitional option and a

long-term solution for heavy transport. Both avenues will be supported by continual efforts to improve efficiency.

For the shipping sector, the Netherlands is committed to implementing efficiency measures in combination with a transition to LNG and use of sustainable biofuels⁵ for short-sea and inland shipping.

In the aviation sector, improvements in efficiency are being made by means of innovative aircraft technology, operations and infrastructure, as well as continued development and application of sustainable biokerosene sourcing, production and distribution.

For the rail sector, the Netherlands is dedicated to expanding the use of sustainable electricity, as well as replacing diesel trains with LNG- and bio-LNG-powered trains (depending on the technical and economic feasibility).

The periodic strategy updates that take place every three or four years create opportunities to introduce new technologies and additional instruments. With an action plan made up in 2014 and a coalition of the willing, we will begin to make this vision a reality.

To achieve this vision and action plans, the following points must be put on the agenda:

- Strategy development and action plan
- Source based (EU) policies and legislative instruments
- R&D and Innovation
- Financial incentives (fiscal or otherwise)
- Supporting measures (Voluntary agreements with stakeholders and decentralized authorities)

Type of action: Voluntary agreement with private sector, NGO's and stakeholders

Economic sectors: Economy wide, transport sector

Reference instruments and sources, as appropriate: Visie Duurzame Brandstoffenmix, <https://www.government.nl/topics/eco-friendly-fuels-for-transport/contents/sustainable-fuel-mix>

Expected co-benefits and impact of the outcome: Sustainable goals for the mobility and transport sector will require investments in order to be able to reap the benefits long term. The Netherlands is currently conducting a cost benefit analysis that will allow more insight in the co benefits for profit (economic (green) growth), planet (environmental benefits air quality CO₂, biodiversity, resource efficiency) and people (social sustainability i.a. noise pollution human rights, food security, political stability)

SDGs target(s) that the action may contribute to implement: SDG 13- Climate SDG 7- affordable and clean Energy- (7.2 By 2030, increase substantially the share of renewable energy in the global energy mix).

Implementation of Environmental Performance Review (EPR) Recommendations, as appropriate: 2015, Environmental performance Review of the Netherlands. Policy recommendations for sustainable transport:

Continue efforts to reduce negative environmental impacts of transport, including through the ambitious plan for noise reduction. Evaluate the potential net benefits of further emission reductions in remaining air pollution hot spots.

Objectively verifiable indicators, as appropriate: CO2 reduction, air pollution reduction, noise pollution reduction, renewable energy and energy efficiency targets in PJ, energy security and security of supply in cost benefit analysis referred to as a qualitative parameter.

Partners: Netherlands, Ministry of Infrastructure and the Environment and Ministry of Economic Affairs in collaboration with more than 100 stakeholders and organizations under the remit of the Social Economic's Council Energy Agreement. Other parties also provided input for the vision, including the private sector, civil society organisations and knowledge institutions.

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**Batumi Initiative on Green Economy (BIG-E)
Actions by Netherlands**

Country: Netherlands, Ministry of Infrastructure and the Environment

Title:

Zero Emission Buses for Public Transport

Sustainable transport / Sustainable energy / Green growth

Focus area 4, 5: Shift consumer behaviours towards more sustainable consumption patterns;
Develop clean physical capital for sustainable production patterns

Description of the action: Important part of the Dutch mobility sector is the public bus transport system. Very recently, an agreement was signed with the Association of Provincial Authorities and the metropolitan regions (Rotterdam/Den Haag and Amsterdam). Ambition in this agreement: zero emission public transport (buses) by 2030. In order to achieve this ambition from 2025 all new public transport buses will be zero-emission vehicles. All the transport operators concerned have set down that in the near future more electric and hydrogen-powered buses will be used in public transport. The provinces of Noord-Brabant and Limburg laid the foundations for this agreement because bus companies in those two provinces will have switched completely to electric vehicles within a few years.

In order to meet the longterm (inter)national goals in the field of climate, air pollution renewable energy and energy security & supply, the Netherlands has set under the auspices of the Social Economic Council in 2013, an ambitious agreement in order to reduce CO2 emissions for the whole society, including the mobility and the transport sector. This Energy Agreement for Sustainable Growth sets also out sustainability goals for the mobility and transport sector.

Action's timeframe/milestones, as appropriate: With their signatures, the Association of Provincial Authorities and the metropolitan regions have agreed that their tendering procedure for bus concessions will include the requirement that all buses are zero-emissions vehicles. A further requirement is that by no later than 2025, the energy that powers the buses must be generated completely sustainably by solar panels or wind turbines in the region. In recent years, several regions have conducted trials using hydrogen-powered buses. When using the fuel cell technology, the hydrogen is converted to power the electric drive of the bus, emitting only clean water vapour.

Type of action: Voluntary agreement with public authorities sector and private sector

Economic sectors: Economy wide, Cities, Transport

Reference instruments and sources, as appropriate: 'Dutch public transport switches to 100 percent emissions-free buses'

<https://www.government.nl/ministries/ministry-of-infrastructure-and-the-environment/news/2016/04/15/dutch-public-transport-switches-to-100-percent-emissions-free-buses>

'Provincies gaan voor OV-bussen zonder uitlaatgassen'

<http://www.ipo.nl/publicaties/provincies-gaan-voor-ov-bussen-zonder-uitlaatgassen>

Expected co-benefits and impact of the outcome: The advantage of a greener bus market is that market competition will create room for innovative new – and cheaper – technologies. The Dutch companies VDL and Ebusco are already major producers of electric buses which are sold both in the Netherlands and abroad. The Chinese company BYD, which also makes electric vehicles, set up a branch in the Netherlands a short while ago. Among other things, this company has already supplied Schiphol Airport with 35 electric buses that transport passengers to and from the terminals.

SDGs target(s) that the action may contribute to implement: SDG 13- Climate
SDG 7- affordable and clean Energy

Implementation of Environmental Performance Review (EPR) Recommendations, as appropriate: 2015, Environmental performance Review of the Netherlands. Policy recommendations on Sustainable Transport:

Continue efforts to reduce negative environmental impacts of transport, including through the ambitious plan for noise reduction. Evaluate the potential net benefits of further emission reductions in remaining air pollution hot spots.

Objectively verifiable indicators, as appropriate: CO2 reduction, air pollution reduction, noise pollution reduction, renewable energy and energy efficiency targets in PJ, energy security and security of supply in cost benefit analysis referred to as a qualitative parameter

Partners: Netherlands,

- Ministry of Infrastructure and the Environment,
- the Association of Provincial Authorities,
- the metropolitan regions (Rotterdam/Den Haag and Amsterdam).

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