

Netherlands circular economy mission to California

14 – 18 November 2022



Netherlands

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Foreword

From donut economics to rebuilding by design

Cities are the heart of human activity. By 2050, 70 percent of the global population will live in urban areas. Up to three quarters of global resources are consumed by urban activities and they account for 70% of global greenhouse gas emissions. The challenges faced by both Californian and Dutch neighborhoods are manifold. Climate change causes problems like rising temperatures and a lack of water for sanitation and agriculture. While social issues like restricted access to healthy food in so-called food-deserts and affordable housing persist.

Although, in general, urbanization is strongly correlated to increases in wealth and access to better amenities with regard to hygiene, health and nutrition. It also puts pressure on natural and city resources. The solutions lie in a circular approach to building neighborhoods. At the same time, circular neighborhoods also help achieve the UN Sustainable Development Goals (SDGs) – set to create a fairer and more liveable world for all.

The PIB Circular Neighborhoods Netherlands-California brings together 11 organizations and companies which each play a key role in building the resilient and regenerative cities of the future.

California and the Netherlands

California and the Netherlands share the same progressive, forward-looking mindset. Making them perfect partners to face their common challenges together as rapid population growth in already densely populated areas intensifies. Climate change and pollution disproportionately impact less upwardly mobile residents in cities, adversely affecting standards of living, health and even life expectancy. This can lead to social and political polarization. Adopting circular systems in a neighborhood can help build bridges between communities and reduce our CO2 emissions.

The Netherlands



Locations

1. Amsterdam (and Airport Schiphol) |
2. Arnhem | 3. Assen | 4. Breda |
5. 's Hertogenbosch | 6. Eindhoven |
7. Enschede | 8. Groningen | 9.
Haarlem | 10. The Hague | 11.
Leeuwarden |
12. Lelystad | 13. Maastricht |
14. Middelburg | 15. Rotterdam |
16. Utrecht | 17. Zwolle |

Introducing the Netherlands

How do the Dutch make a difference?

Through their interactive approach to finding innovative solutions to the big challenges facing the world today. The Dutch way of thinking and working has been shaped by centuries of living in the low-lying delta of the Netherlands. Through the ages, the Dutch have joined forces to find ingenious ways to tackle challenges like water, urbanisation, energy, food, health and security. By being inventive, pragmatic and open to new

challenges, the Dutch have created a flourishing and resilient land.

The Netherlands is a constantly evolving ecosystem of cities, industry, agriculture and nature, all integrated through smart infrastructure. It is a source of knowledge and experience that the Dutch are keen to share with others. Learning from the past to create a better future. Together, seeking sustainable solutions for the most liveable world.



The Netherlands, your partner in sustainable solutions

Worldwide ranking

- 1st At WEF's ranking of most competitive economies in Europe. 4th in the world. (WEF, 2019)
- 1st Production and auctioning of cut flowers and flower bulbs
- 1st World's largest flower exporter
- 2nd Largest exporter of agricultural products in the world (WTO, 2019)
- 4th Best at Global Innovation Index (GII, 2019)
- 5th Greatest place to live (World Happiness Report, 2019)
- 6th Largest exporter of goods in the world (CIA World Factbook, 2019)
- 7th Largest foreign investor in the world (1,256 billion US dollars)
- 7th Largest recipient of foreign investment in the world (801 billion US dollars)
- 8th Largest importer of goods in the world (507 billion US dollars)

Facts & Figures

- Official name Kingdom of the Netherlands
- Form of government Parliamentary democracy (cabinet of Prime Minister and Ministers) within a constitutional monarchy
- Head of State His Majesty King Willem-Alexander, King of the Netherlands, Prince of Orange-Nassau
- Capital Amsterdam
- Seat of government The Hague
- Administrative structure The kingdom consists of four entities. The Netherlands and three territories in the Caribbean: Aruba and Curaçao and St. Maarten.
- Number of provinces 12. Special municipalities: The overseas islands of Bonaire, Saba and St. Eustatius, all three of which are situated in the Caribbean.
- Surface area 41.543 km²
- Location Western Europe, by the North Sea, bordering Belgium and Germany
- Number of inhabitants 17.4 million (2021)
- Number of inhabitants per km² 517 (2021)
- Monetary Unit Euro
- Languages Dutch and Frisian (On the overseas islands also English and Papiaments)
- GDP per capita 51,064 euros (World Bank, 2020)
- Unemployment rate 3,1% (CBS, 2021)
- 90% of all Dutch people speak English

Fact on circularity

- NL ranks #1 for controlled solid waste management (Source: [Yale university](#))
- NL recycles 100% of its demolition and construction waste (Source: [Eurostat](#))
- NL recovers over 95% of its packaging waste (Source: [Eurostat](#))
- NL recycles over 80% of its packaging (Source: [Eurostat](#))
- And over half its plastic packaging (Source: [Eurostat](#))
- In the Netherlands, all households are connected to the sewage system and 100% of its wastewater is treated. NL ranks no. 1 in wastewater treatment together with Denmark, Finland, Singapore and Sweden (Source: [Environmental Performance Index EPI, 2022](#))
- Amsterdam, The Hague and Rotterdam feature in the top 30 smart cities in the IMD smart city index (Source: [Smart City Index](#))
- NL ranks #6 in the Global Innovation Index (Source: [Global Innovation Index](#))

California and the Netherlands:

Building inclusive and circular neighborhoods together

Circular Economy strategies have the potential to offer solutions: they can start small and deliver results 'close to home'. Solutions can be copied and adapted from one neighborhood to the next, each in their own context and with their own local heroes.

California and the Netherlands alike can benefit from exchanging circular experiences and solutions. Like the Netherlands, the state is a frontrunner on sustainability issues and has high ambitions to become more circular. California already has good waste management and recycling facilities, but now its focus has shifted to include sustainable urban development and ecosystems.

Why partner with the Netherlands?

The Netherlands can be a partner in advancing circular cities by sharing ideas to keep cities liveable. At the same time, the Netherlands can learn from the decades of good practices pioneered in California's Culver Valley – a beacon of circularity to the world.



PIB Circular Neighbourhoods California-Netherlands

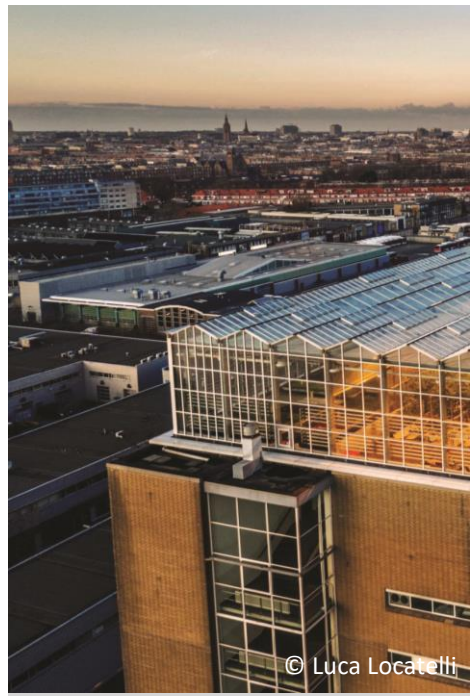
The businesses and organizations in the PIB Circular Neighborhoods provide comprehensive solutions to issues, such as:

- Space – availability of building sites as well as recreational areas
- Liveability – as global warming makes cities unbearably warm
- Availability of clean water – as droughts and overuse threaten supplies
- Mobility – as cities become congested.

Innovative circular solutions using proven technology which complies with the highest regulatory standards can help cities and citizens achieve their sustainable ambitions. Cities throughout the world can benefit from guidance and support in the making and implementation of circular laws, policy and regulation on both municipal as well as national level. Drafting a general blueprint that can be copied and tailored to suit local situations facing similar global challenges. By bringing together multiple stakeholders in government, business, knowledge institutions and local residents from the start, we can smooth the path to building circular neighborhoods. Removing legislative obstacles, attracting investment from local and international businesses, utilizing the latest ideas and most importantly harnessing local support. When we join forces and share ideas, experience and knowledge in the field of waste and resource recovery, we can raise circularity in neighborhoods to a higher level.

A circular neighborhood may leave no-one behind. Using bottom up, inclusive initiatives, the talents of all residents can become part of the movement. Making sure the local community benefits from circularity from the outset will make them want to be involved. Community-based projects improve the liveability of a neighborhood.

Let's build inclusive and circular neighborhoods together!



Company Profiles



Youri Goudswaard
Head of Amsterdam
Trade & Innovate
Y.Goudswaard@amsterdam.nl

Scipio Kok
Advisor Engineering
Department City of
Amsterdam
scipio.kok@amsterdam.nl

City of Amsterdam/ Amsterdam International Business

The city of Amsterdam is one of the frontrunners in circular economy policy and circular procurement in construction. The city's goal is to use 50% less resources in 2030.

Products and Services Offered:

- Through Amsterdam Trade and Innovate, the City of Amsterdam actively supports Dutch companies in sustainable construction to do business abroad and vice versa.

Unique Selling Points:

- Currently, Amsterdam is doing a pilot project on the Doughnut Economics, a visual framework for sustainable development – working together with the originator, economist Kate Raworth.

Website: <https://www.iamsterdam.com/en/business>



Ard van de Kreeke
CEO
ard@growx.com

Growy

Growy, both a tech company and a business of growers, specializes in vertical farming that requires low energy consumption.

Products and Services Offered:

- Builds and operates vertical farms for retailers and food services without using pesticides and manure.

Unique Selling Points:

- Vertical farming can deliver up to 99% water savings compared to conventional farming.
- In Amsterdam, Growy combines extensive agricultural experience with the latest technology developments to provide on-demand produce of consistently high-quality fresh greens.

Website: <https://www.growy.nl>



Ankie Kamstra

CEO

a.kamstra@hitec-road.com

HITEC Road®

HITEC Road® is a family owned construction company specialized in producing and building/repairing world-class roads, rails, (air)ports as well as housing projects and industry parks using their knowledge in cementitious formulating to a wide range of industry applications.

Products and Services Offered:

- HITEC Road® develops and produces a high quality “soil stabilizer” product technology.

Unique Selling Points:

- HITEC Road’s technology has been used all around the globe, but mainly in Europe and meets the highest infrastructure construction quality standards (DIN – Deutsche Industrie Norm) in the world.
- Their product is sustainable, and increases quality and durability of the road, which results in significant cost savings.

Website: <https://www.hitec-road.com/>



Fernando Ramirez

Managing Director US

Fernando.ramirez@hydraloop.com

Hydraloop

Hydraloop designs and produces decentralized water recycling products – award winning and first of its kind. For instance, collecting, cleaning, and re-using water from showers, baths, washing machines, handbasins and air conditioning units.

Products and Services Offered:

- Hydraloop offers a variety of smart, innovative water recycling products for homes, commercial real estate, hotels, lodges and more.

Unique Selling Points:

- Hydraloop products can be used everywhere: in densely populated cities, rural areas and off-grid situations where water supply is unstable or insufficient.
- Hydraloop future-proofs any building and adds sustainability points for certifications like LEED and BREEAM.

Website: <https://www.hydraloop.com>



Tessa Duste
Founding Partner
tessa@moss.amsterdam

Nina Sickenga
Founding Partner
nina@moss.amsterdam

Makers of Sustainable Spaces (MOSS)

MOSS's work contributes to the sustainability and well-being of the built environment and its users through their innovative, green solutions.

Products and Services Offered:

- MOSS is specialized in full package green design projects ranging from; tropical indoor gardens, intensive outdoor green roofs to urban agriculture projects.

Unique Selling Points:

- Their team of specialists includes biophilic designers, green architects, plant specialists, and project managers, supporting you in creating a more beautiful, healthy, and green building environment to work, play, and live in.

Website: www.moss.amsterdam



Lauren Gilbert
Consultant Rebel US
Lauren.Gilbert@Rebelgroup.com

Luuk van Gemert
Consultant Rebel
Luuk.vanGemert@Rebelgroup.com

Rebel Group

Rebel is an international consultancy firm passionate about entrepreneurship and positive impact. Rebels work on topics influencing our future, from sustainability to transportation and circular economy. Rebel drives impact as consultants and investors.

Products and Services Offered:

- Our circular economy advisory services include helping governments develop circular strategies, working with organizations to help quantify the environmental impacts of their products services and activities, and helping support circular procurement processes.

Unique Selling Points:

- Strategy and collaboration with all partners in the supply chain is key in reaching a circular economy. Rebel supports in designing policies and strategies and stimulating coordination and direction in value chains.
- Impact is our main goal. That is why we do not only consult, but also invest in the projects we truly believe in.

Website: <https://www.rebelgroup.com/en/>



Jonas Onland
Managing Partner
jonas@serendipity.buzz

Serendipity

Serendipity supports cities and companies to see the future and give guidance, through consultancy to get there step by step. As an expert in public private partnerships and thought leader in digital transformation, serendipity connects her customers with the right people at the right time with the right solution on a global scale.

Products and Services Offered:

- The digital toolbox which is a procurement platform and Operating System (OS) (e.g. 'digital twins') to build circular neighborhoods & climate neutral cities.
- The Joint Investment Plan to build climate neutral cities
- Progress management to implement next generation solutions through public private partnerships.

Unique Selling Points:

Serendipity organizes coincidence. She is a trusted ecosystem partner and has ample experience advising a diverse set of stakeholders in the Tech sector, government (including the Dutch and European authorities) and is part of the global philanthropy networks (BMW foundation & Nexus).

Website: <https://serendipity.buzz>



Tjeerd Haccou
Co-founder
haccou@spaceandmatter.nl

Space & Matter

Space&Matter is an Amsterdam-based studio for spatial- and strategic design that specializes in designing regenerative and thriving neighborhoods.

Products and Services Offered:

- Sustainable architecture and master planning;
- Strategic design, design research and workshop facilitation;
- Vision-making, trend reporting and digital tooling.

Unique Selling Points:

- With a joint expertise in urban development, community engagement and architecture, Space&Matter guides decision-making amongst complex stakeholder groups.
- Space&Matter connects top-down with bottom-up by developing both large-scale regenerative visions.
- Participatory urban planning to co-create circular neighborhoods in which people from all walks of life can thrive.

Website: <https://www.spaceandmatter.nl>

SUPERUSE

Loriane Icibaci
Industrial Designer &
Architect of the Built
Environment
[loriane@superuse-
studios.com](mailto:loriane@superuse-studios.com)

Antonius Agelink
Urban Design
Professional
[antonius@newtonbro
wnusa.com](mailto:antonius@newtonbro
wnusa.com)

Superuse Studios

Superuse Studios is an international architecture collective for circular and sustainable design. Demolishing a building costs a lot of energy, so Superuse's strategy is to reuse an entire building wherever possible. Superuse believes circular building requires an integral approach from the ambition phase to realization.

Products and Services Offered:

- Architectural dynamic designs for building which take into consideration the use of circular materials.
- systemic research and designs connecting industries and communities upcycling wastestreams into valuable products.
- Blade-Made transforms waste from wind turbines/wind blades into long lasting objects that are beautiful, functional and sustainable.

Unique Selling Points:

- Creating inspiring environments with materials that have a local history and save CO2
- Superuse architects work together with partners and the client as one design team on a dynamic final design realising up to 90% circularity.

Website: <https://www.superuse-studios.com>

VERSES

Philippe Sayegh
Chief Adoption Office
philippes@verses.io

VERSES Global

VERSES is a next-generation AI company providing foundational technology for the contextual computing era.

Products and Services Offered:

- Modeled after natural systems and the design principles of the human brain and the human experience, VERSES' flagship offering, KOSM™, is an AI Operating System for enhancing any application with adaptive intelligence.

Unique Selling Points:

- Built on open spatial web standards, KOSM transforms disparate data into a universal context that fosters trustworthy collaboration between humans, machines, and AI, across digital and physical domains.

Website: <https://www.verses.io>



Brian Schmitt

Global Account Manager –
Urban Climate Resilience
Brian.Schmitt@wavin.com

Wavin (Metropolder)

The MetroPolder team has joined the Urban Climate Resilience (UCR) branch within Wavin. Wavin is a water infrastructure and technology company with a long history of Water innovation. Wavin offers sustainability-based customer solutions for drinking water, sanitation, climate resilient cities and better building performance.

Products and Services Offered:

- Wavin focuses on reviving cities through Circular Water Design. Providing products and solutions ranging from traditional stormwater infrastructure, and i- building piping to innovative smart blue-green roof solutions and green infrastructure systems which buffer, reuse and infiltrate rainwater based on weather forecasts.

Unique Selling Points:

- The Smart blue-green roof(Polder) solution of MetroPolder is a proven successful, international, application.
- Digital tools to monitor, control, and optimize water and green infrastructure solutions

Website: <https://www.wavin.com/en-en>

GREEN WAVE

Ruben Dubelaar

Senior Advisor HCH/ owner
Green Wave
rdubelaar@green-wave.eu

Green Wave/ Holland Circular Hotspot

Holland Circular Hotspot (HCH) is a private-public platform in which companies, knowledge institutes and (local) authorities collaborate to promote and support international collaboration and knowledge exchange on Dutch circular economy.

Products and Services Offered:

- Green Wave has been working as an independent consultant with Holland Circular Hotspot since 2018.

Unique Selling Points:

- Green Wave manages the Dutch Circular Economy program on California and several other (international) public private programs. Circular Economy and Sports are the area of expertise

Website: www.hollandcircularhotspot.nl / www.green-wave.eu



Official delegation

NBSO Los Angeles

6060 Center Drive (10th Floor)
Los Angeles, CA 90045
United States of America
<http://www.nbsola.com/>



Mylene Jankowski
Deputy Representative
P +1 213 536 3008
E mylene.jankowski@nbsola.com



Peter Post
Chief Representative
E peter.post@nbsola.com

Consulate General San Francisco

1 Montgomery Street, Suite 3100
San Francisco, CA 94104
United States of America
www.netherlandsandyou.nl



Jan Top
Senior Advisor
Infrastructure and Water
Management
P +1 (415) 624-9042
E Jan.top@minbuza.nl



Tess van den Brink
Junior Policy Officer
Infrastructure and Water
Management
E tess.vanden.brink@minienw.nl

Netherlands Enterprise Agency

PO Box 93144
2509 AC The Hague
The Netherlands
<https://www.rvo.nl/>



Frans Kortekaas
PIB Programme Manager
P +31 6 15878918
E Frans.kortekaas@rvo.nl

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