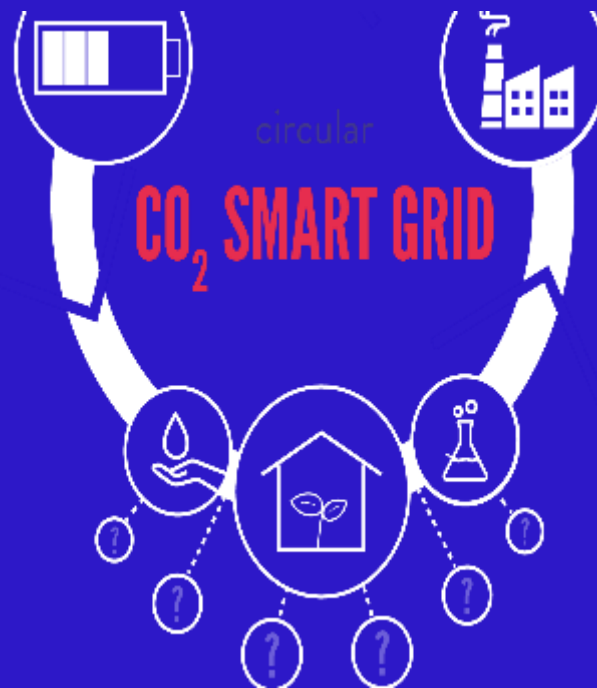
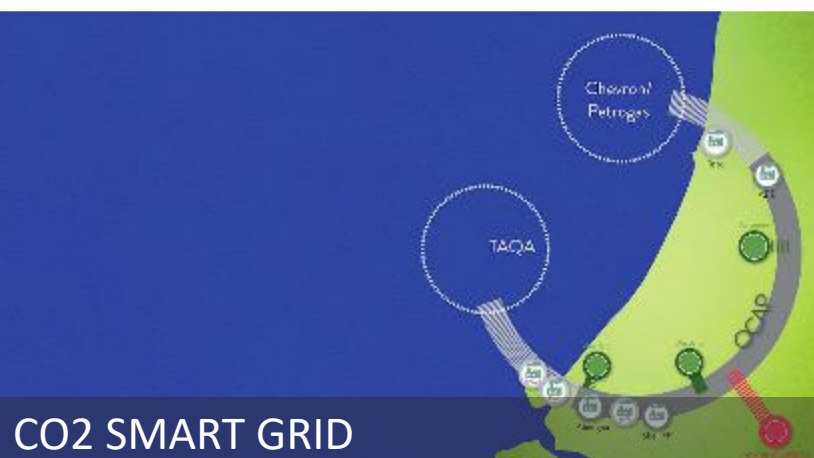


CO₂ Smart Grid: Sustainable Business

15 november 2017





CO2 SMART GRID



MONTSMARTRE



WESTELIJK HANDELSTERREIN



DUTCH DELTA CRUISE PORT



DUTCH MOUNTAINS

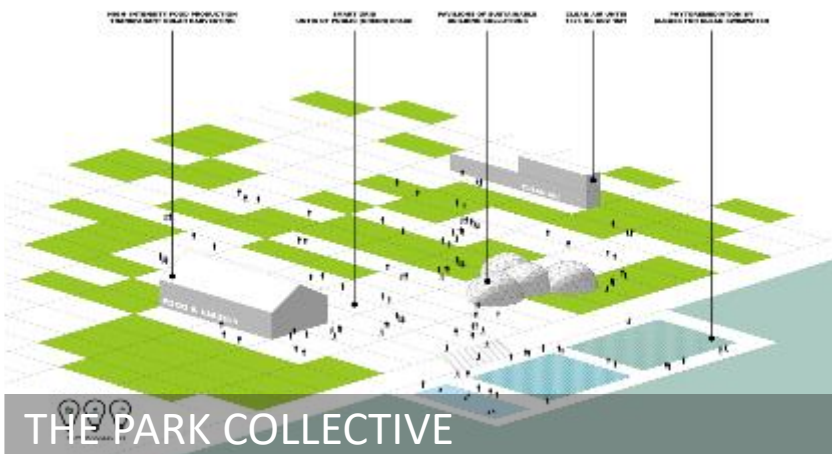


ROTTERDAM

AGRO BUSINESS ACCELERATOR



BLUE OCEAN ACADEMY



THE PARK COLLECTIVE



DUTCH WINDWHEEL





Nations Unies

Conférence sur les Changements Climatiques 2015

COP21/CMP11

Paris France



#AccordDeParis

**“Vive la planète,
vive l’humanité et vive la vie”**

Tabel: Indicatieve toedeling 49%-reductieopgave in 2030

Domein	Reductie in 2030 (Mton)	Maatregelen
Industrie	1	Recycling
	3	Procesefficiency
	18	Afvang en opslag koolstofdioxide
Transport	1,5	Zuiniger banden, Europese normen, elektrische auto's
	2	Biobrandstoffen en maatregelen steden
Gebouwde omgeving	3	Optimalisatie energiegebruik kantoren
	2	Isolatie woningen, warmtenetten en warmtepompen
	2	Zuiniger nieuwbouw
Elektriciteit	1	Zuiniger verlichting
	12	Sluiten kolencentrales
	2	Afvang en opslag koolstofdioxide in AVI's
	4	Extra wind op zee
	1	Extra zonne-energie
Landgebruik en landbouw	1,5	Slimmer landgebruik
	1	Minder methaanuitstoot
	1	Kas als energiebron

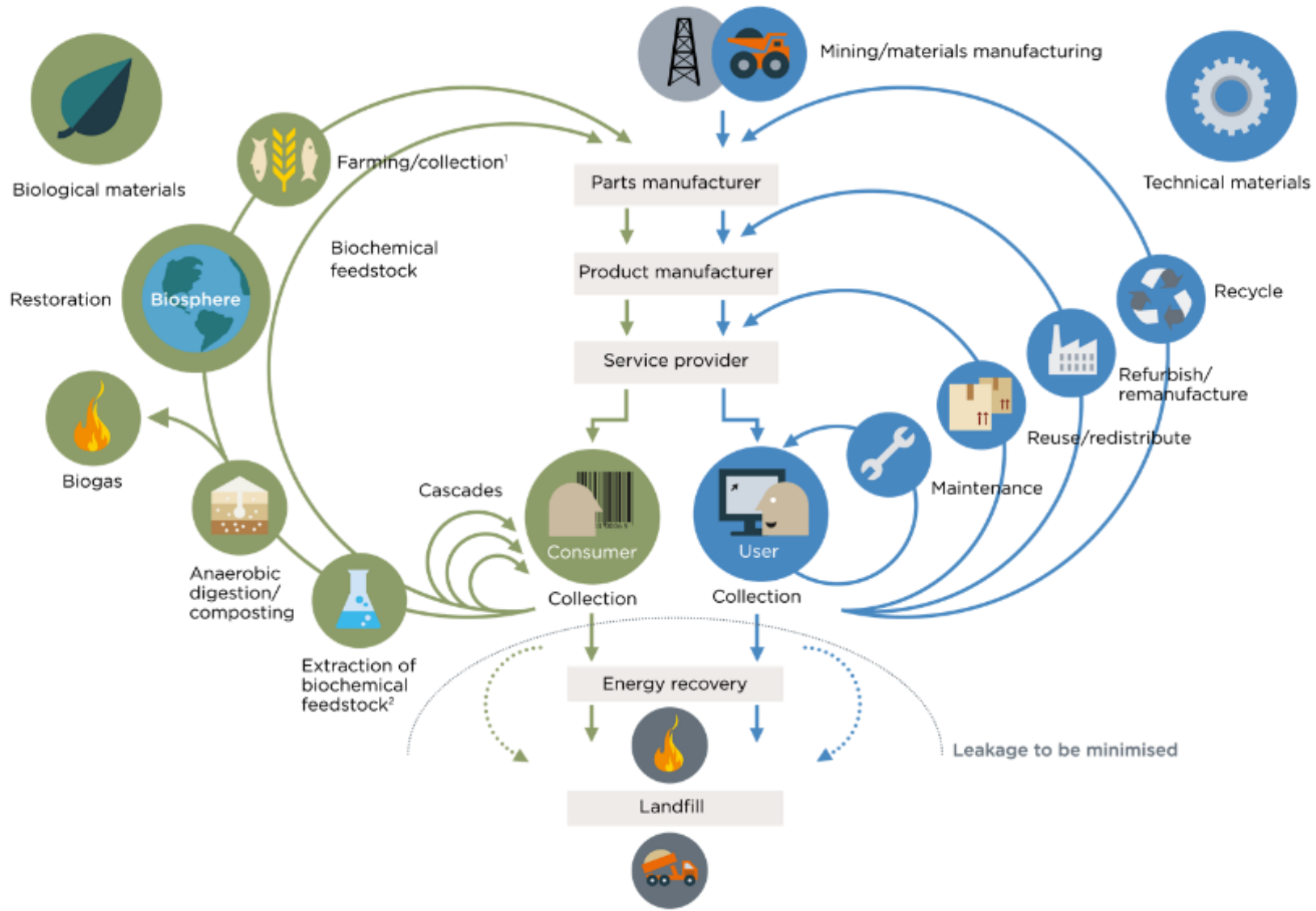
in de toekomst

- 2021

ChristenUnie

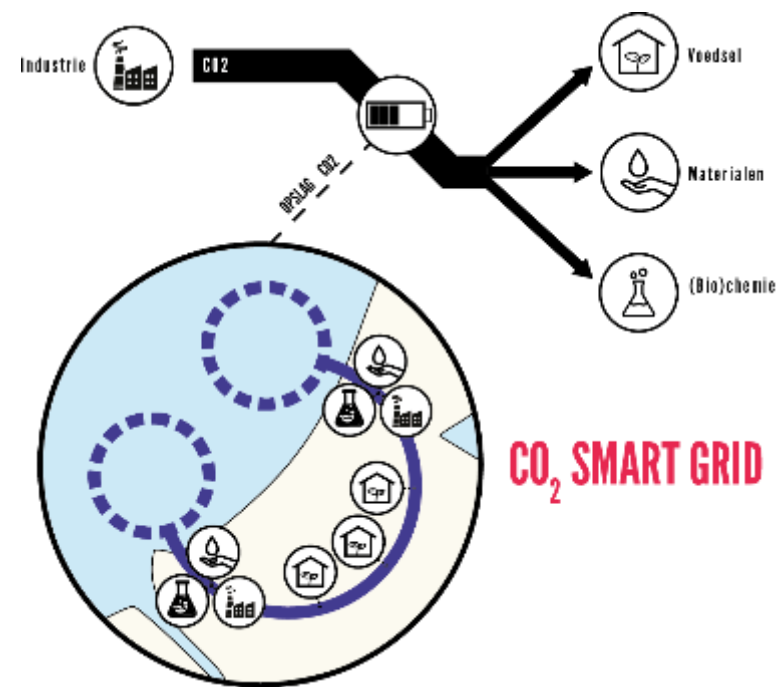
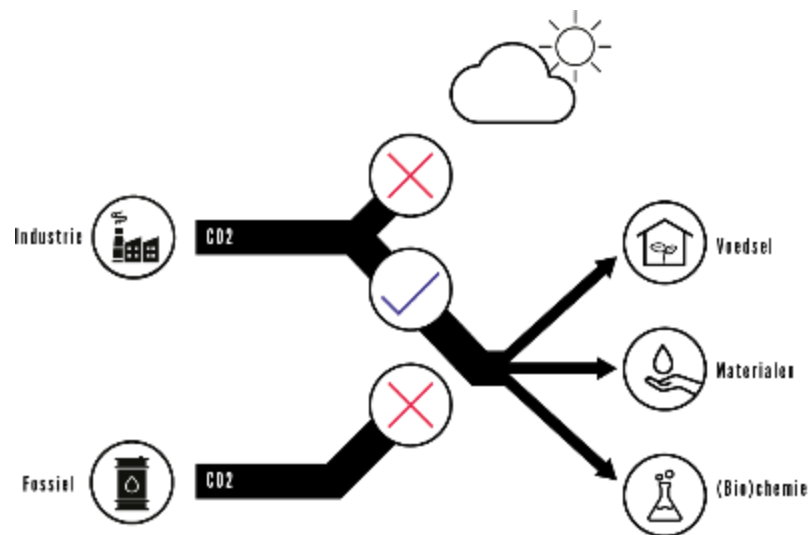
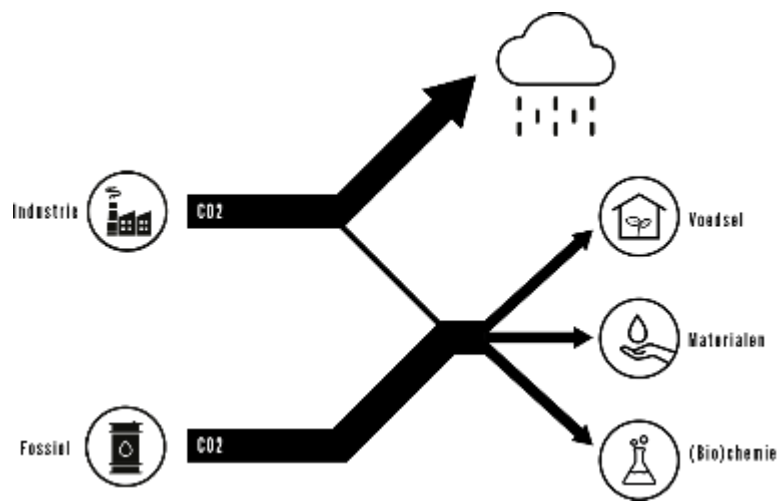






The circular economy—an industrial system that is restorative by design



¹ Hunting and fishing
² Can take both post-harvest and post-consumer waste as an input
 SOURCE: Ellen MacArthur Foundation - Adapted from the *Cradle to Cradle Design Protocol* by Braungart & McDonough





-  current sources
-  potential sources
-  applications
-  buffers

Projects CO2 Smart Grid

1. capture AEB A'dam
2. capture AVR R'dam
3. capture Tata Steel
4. reuse PlantOne
5. reuse ProDock area
6. distribution Greenports
7. distribution Harbour R'dam
8. distribution Harbour A'dam
9. storage ROAD
10. capture Air Products
11. capture Air Liquide





amsterdam economic board



GREENPORT
Westland-Groenland



provincie
ZUID HOLLAND



Rijksoverheid



Provincie
Noord-Holland





Nationale Klimaattop 2016

Nationale
Klimaattop
2016

CO₂ Smart Grid

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www.klimaattop2016.nl

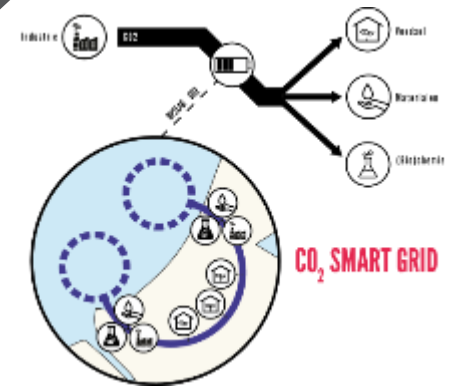
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PREFEASIBILITY STUDY CO₂ SMART GRID

THE POTENTIAL OF CARBON CAPTURE, TRANSPORT,
USAGE AND STORAGE

OUR REFERENCE: SISNL17760





TECHNOLOGY ASSESSMENT CO₂ SMART GRID

Tom Mikunda | Energy Policy Consultant | Sustainable Geo-energy

TNO innovation
for life



Screening LCA for CCU routes connected to CO2 Smart Grid



Committed to the Environment



CO₂ Smart Grid: Sustainable Business

Pre Feasibility study	done
Technology Assessment	doing
Life Cycle Analysis	doing
Societal Cost - Benefit Analysis	Q1 2018
Business Community	Q2 2018
Final Report	Q2 2018

