

WOUTER DEMUYNCK

GRUUND





# De betekenis van digitalisatie en automatisatie in de 6 grote maatschappelijke transitie

Brugge, 23/09/2024



**DRIVING**

**CHANGE**

**GROUND**

**THROUGH**

**SUSTAINABILITY**



## Wouter Demuynck

Change Driver  
Founder & Director GRUUND

MEng, MRE, MBA

Sustainability Professional

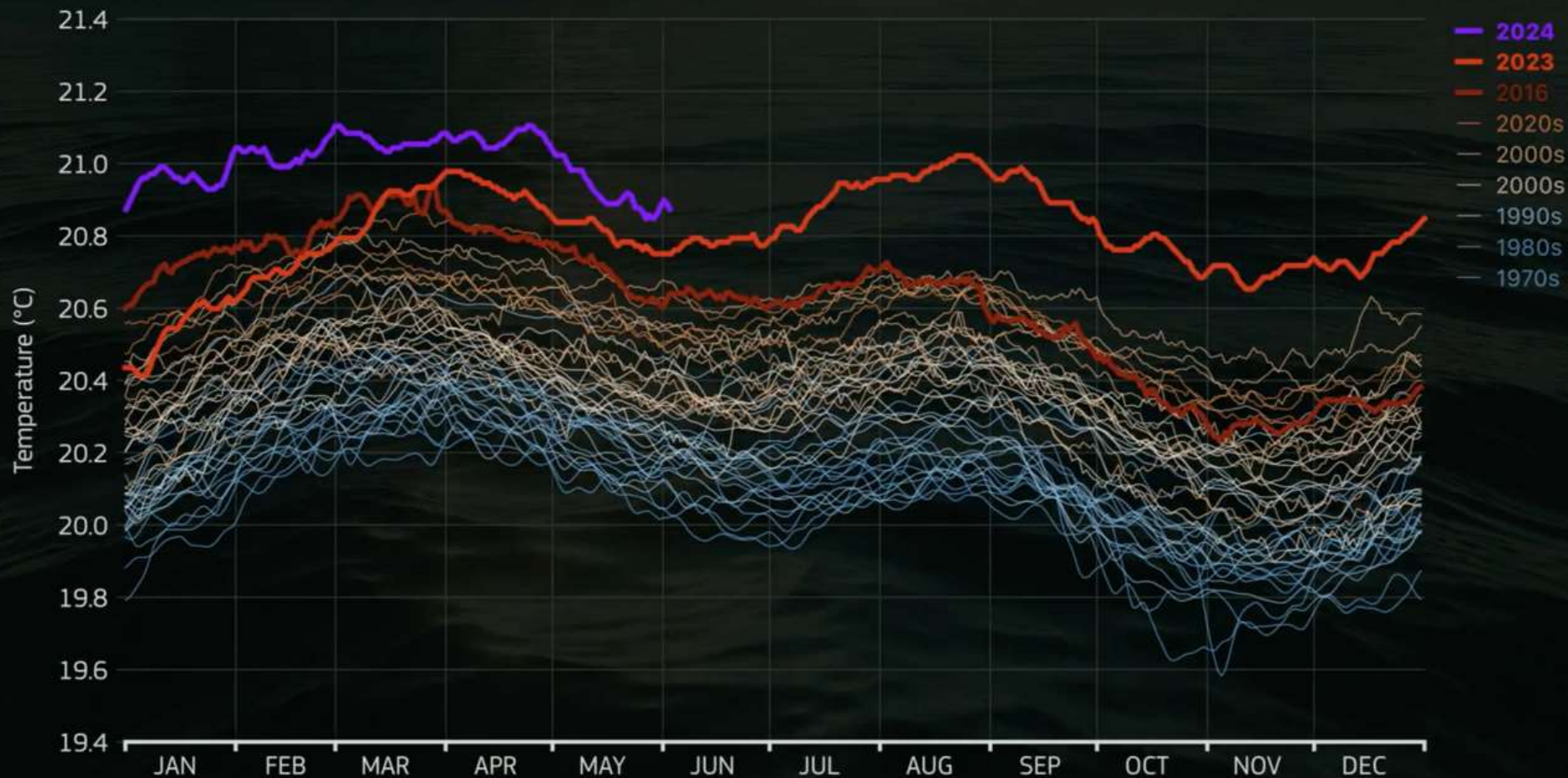
Future-Fit Accredited Advisor

+30 jaar business experience



## Daily Sea Surface Temperature · 60°S–60°N

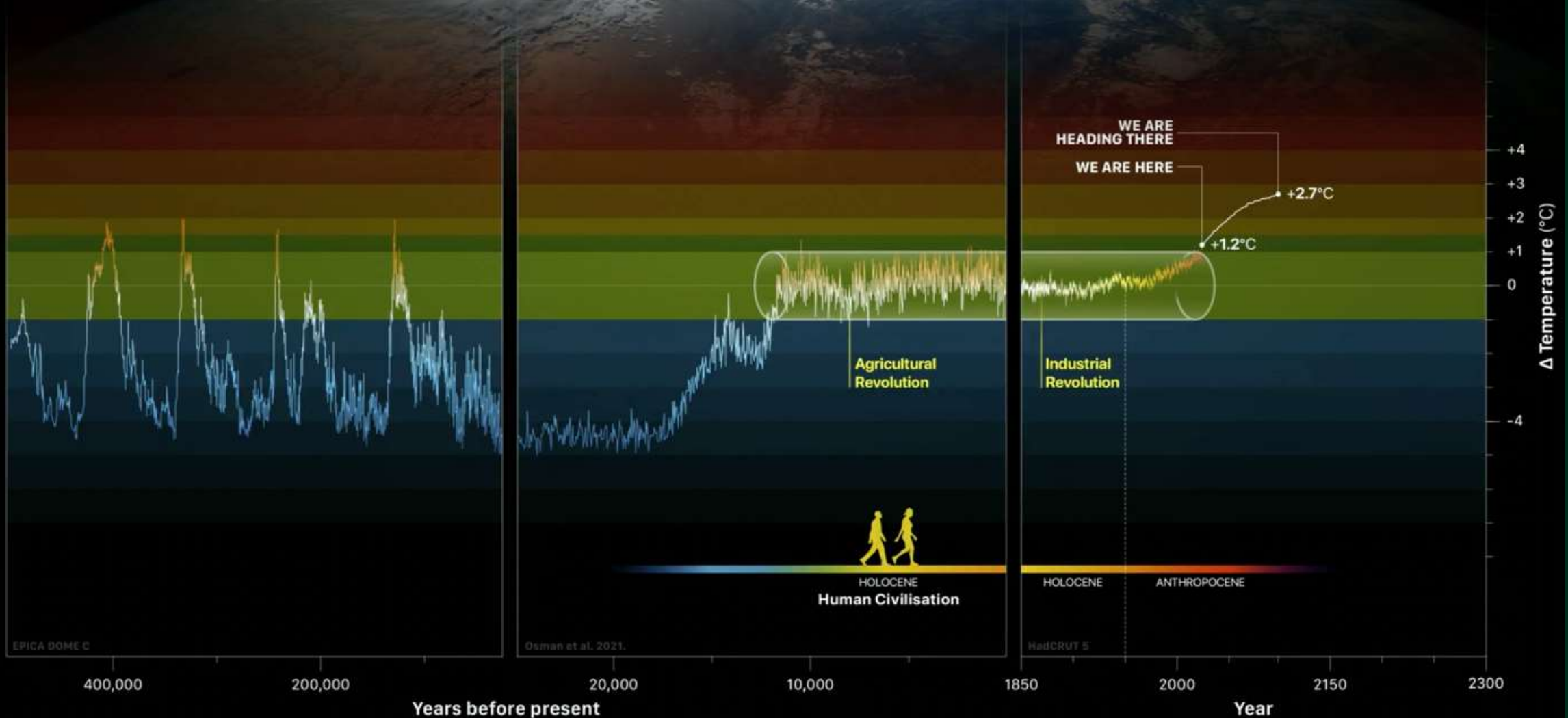
Data: ERA5 1979-2024



Copernicus Climate Change Service (C3S), (2024). European State of the Climate 2023. <https://climate.copernicus.eu/esotc/2023>

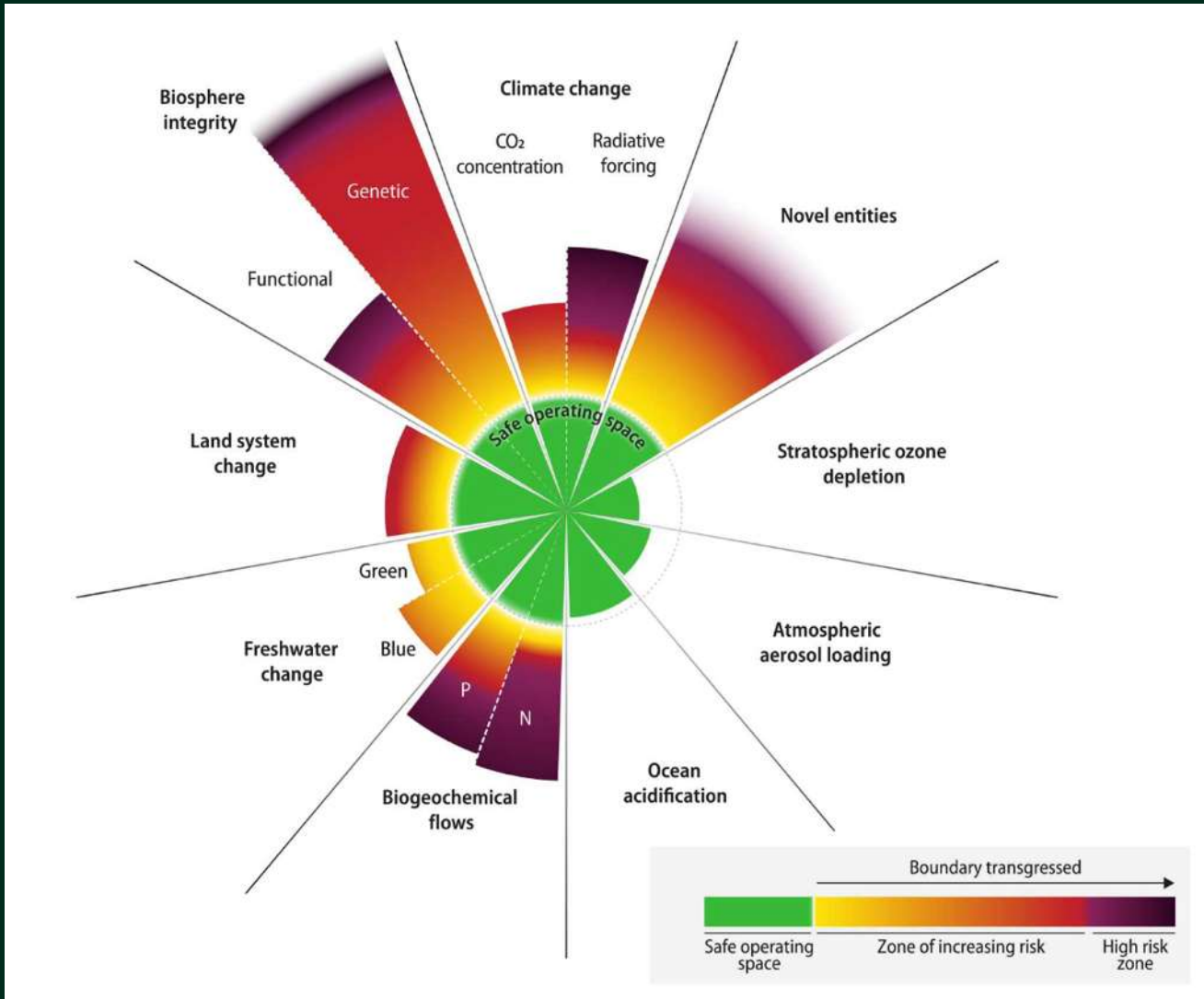
Oceaantemperatuur als kanarie in de koolmijn

# Humanity's Journey on Earth



Burke, K.D., J.W. Williams, M.A. Chandler, A.M. Haywood, D.J. Lunt, and B.L. Otto-Bliessner. Pliocene and Eocene provide best analogs for near-future climates | PNAS. <https://doi.org/10.1073/pnas.1809600115>

[https://www.ted.com/talks/johan\\_rockstrom\\_the\\_tipping\\_points\\_of\\_climate\\_change\\_and\\_where\\_we\\_stand?subtitle=en&geo=fr](https://www.ted.com/talks/johan_rockstrom_the_tipping_points_of_climate_change_and_where_we_stand?subtitle=en&geo=fr)

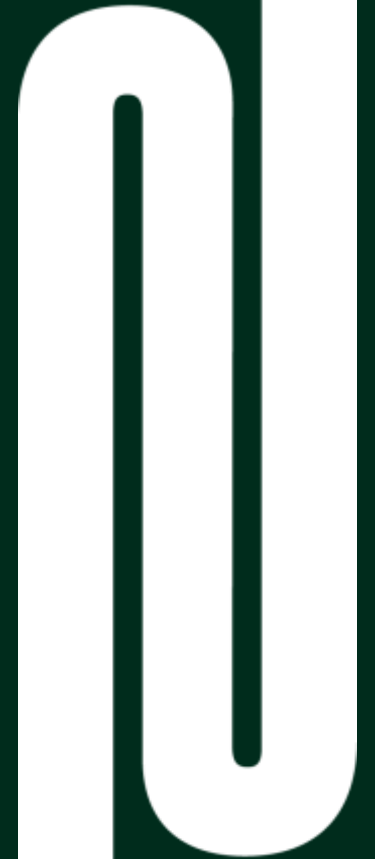


# Surpassing Planetary Boundaries





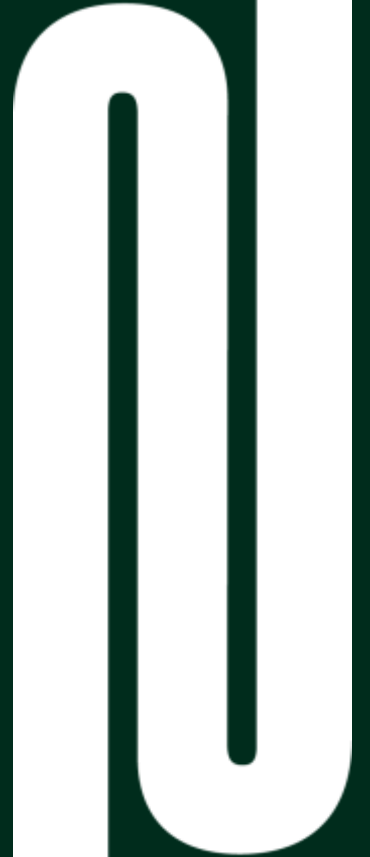
Societal challenges







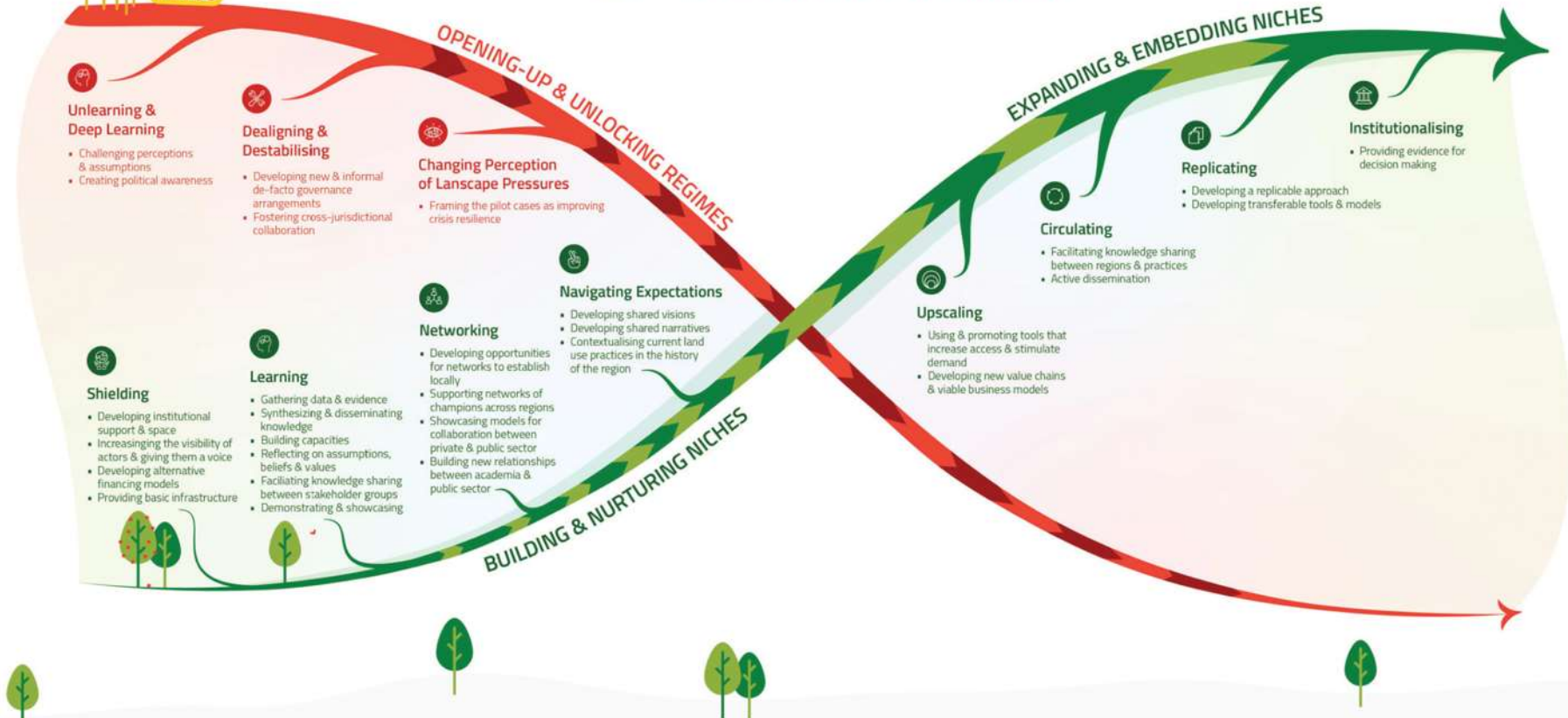
Economic challenges





# THEORY OF CHANGE

System and sustainable Approach to virtuous Interaction of Urban and Rural Landscapes



Adapted from Loorbach (2014) and Ghosh et al (2020)  
Produced by the MOTION project, in collaboration with SATURN.



# Oude systemen maken plaats voor nieuwe



Economy - society - nature/ecosystems

### Forces of breakdown



**Degradation** of ecosystems, as a result of land-use change and pollution



**Depletion** of resources, due to overconsumption and waste



**Disparity** in communities, exacerbated by inequality and discrimination



**Disease** in individuals, caused by unhealthy lifestyles and harmful workplaces



**Disconnection** from or by technologies, as a result of the digital divide and automation



**Disruption** of infrastructure, due to natural disasters, pandemics, and human crises

Breakdown forces in **nature and ecosystems**

Breakdown forces in **society**

Breakdown forces in **economy**

# 6 Forces of breakdown

Forces of breakdown



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# Let's not waste this good crisis

# Triggers for transformation





From breakdown to breakthrough

# 6 Transitions

Quid Market opportunities?

What can my business do?



# Market opportunities



**ECOSERVICES** economy to invest in natural capital and protect nature



**CIRCULAR** economy to invest in renewable energy and closing the loop on resources



**ACCESS** economy to invest in economic opportunities for excluded groups in society



**WELLBEING** economy to invest in disease prevention and access to healthcare



**DIGITAL** economy to invest in innovation to tackle social and environmental challenges



**RISK** economy to invest in capacity to prevent, adapt to and recover from crises

# THE SIX GREAT TRANSITIONS TO THRIVING IN NATURE, SOCIETY AND THE ECONOMY



DEGRADATION of ecosystems, due to land-use change and pollution



RESTORATION of ecosystems, through rewilding and regeneration



ECOSERVICES economy to invest in natural capital and protect nature



DEPLETION of resources due to overconsumption and waste



RENEWAL of resources, through biological and manufacturing cycles



CIRCULAR economy to invest in renewable energy and closing the loop on resources



DISPARITY in workplaces and communities, due to inequality and discrimination



RESPONSIBILITY in workplaces and communities, through diversity and inclusion



ACCESS economy to invest in economic opportunities for excluded groups in society



DISEASE in society, due to poverty, lifestyles, work, and toxic environments



REVITALIZATION in society, through promotion of physical and mental health



WELLBEING economy to invest in disease prevention and access to healthcare



DISCONNECTION from or by technologies, due to the digital divide and automation



REWIRING of technologies that connect, empower and regenerate



DIGITAL economy to invest in innovation to tackle social and environmental challenges



DISRUPTION of infrastructure and infrastructure, due to climate, pandemics and crises



RESILIENCE of infrastructure and institutions, for social and economic continuity



RISK economy to invest in capacity to prevent, adapt to and recover from crises



# Hoe passen automatisatie en digitalisatie in de 6 transities?



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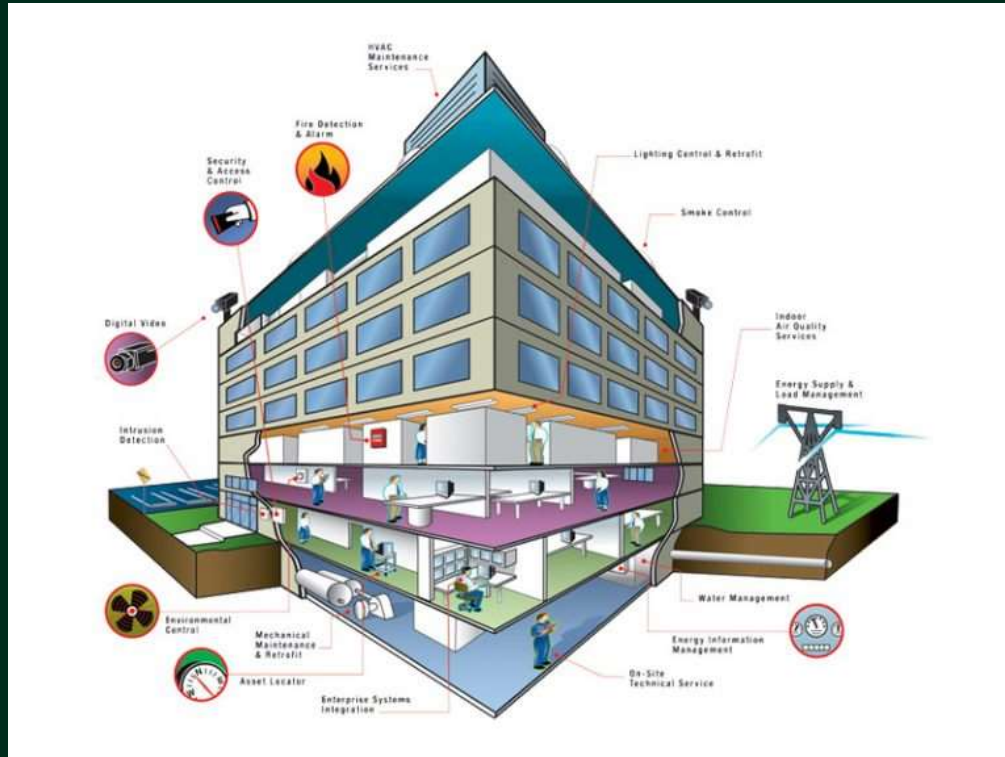


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Gebouwbeheersystemen regelen  
klimaatneutrale energiesystemen, ventilatie, ...  
in functie van gezondheid, energie-efficiëntie,  
zomer- en wintercomfort...



# Gebouwbeheersystemen



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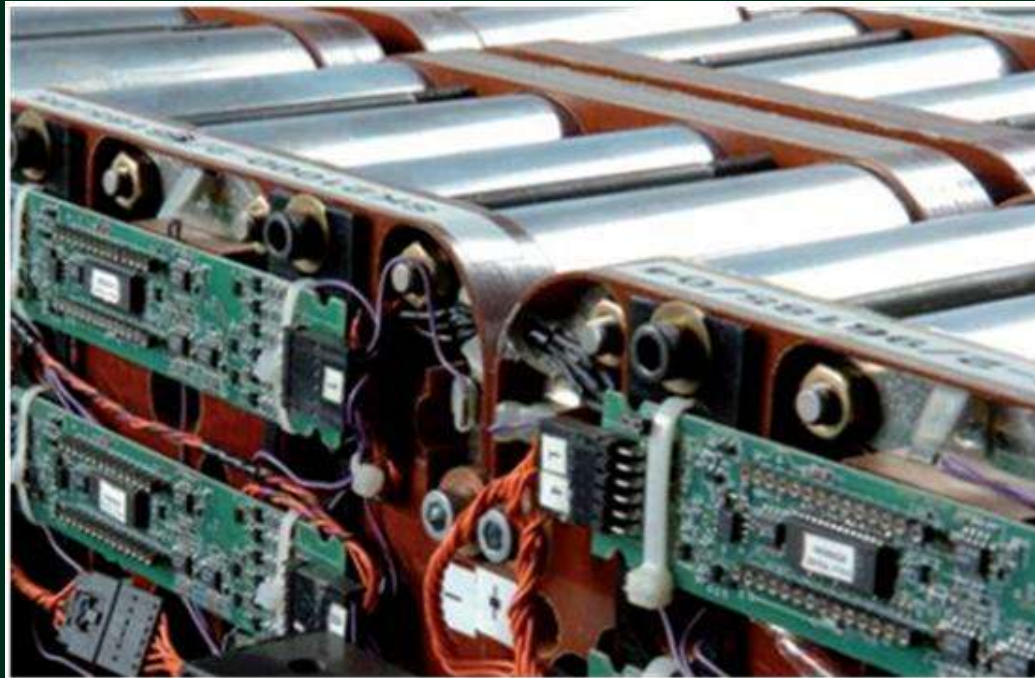


**DIGITAL** economy to invest in innovation to tackle social and environmental challenges



**RISK** economy to invest in capacity to prevent, adapt to and recover from crises

> 80% Zon + wind + batterijen + vraagsturing + EU-transmissienet vormen de kostenoptimale Belgische elektriciteitsproductiemix



# Batterijmanagement



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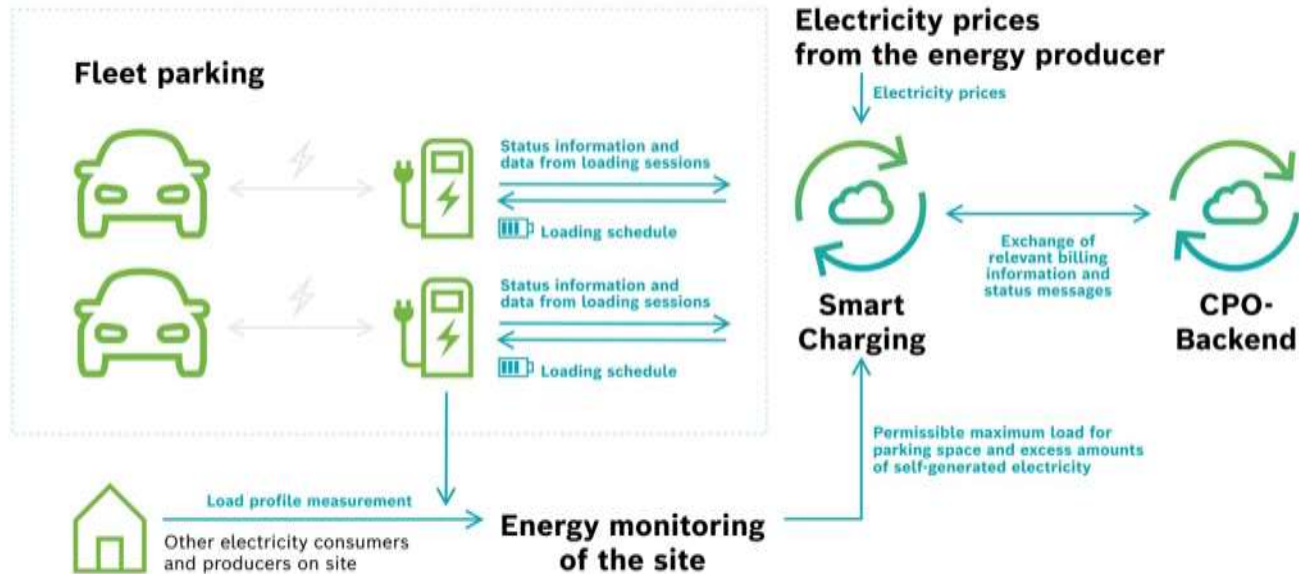


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# Load balancing en slimme EV-charging



# Elektrische mobiliteit



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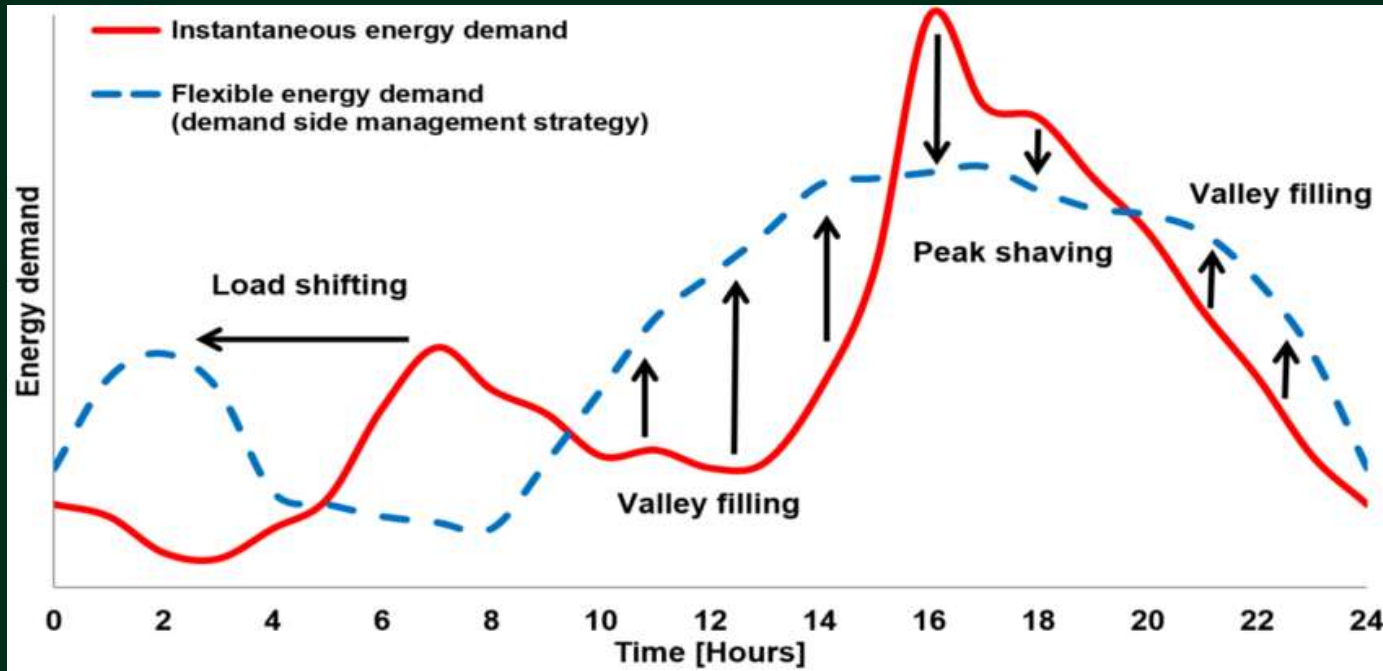


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# Vraagsturing



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Optimaal zelf gebruiken van zelf gegenereerde hernieuwbare energie (zonnepanelen)



Auto-consumptie PV



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Energiemanagementsystemen regelen vraag naar aanbod



Vraagsturing elektrische huishoudtoestellen



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Optimaliseren van energie-efficiëntie  
Elektrificatie van processen waar mogelijk  
Waterstof (-afgeleiden)  
Restwarmte-uitkoppeling en -valorisatie



# Industriële elektrificatie



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Slimme regelingen, aansturing warmtepompen,

...



# Energierenovaties van bestaande woongebouwen



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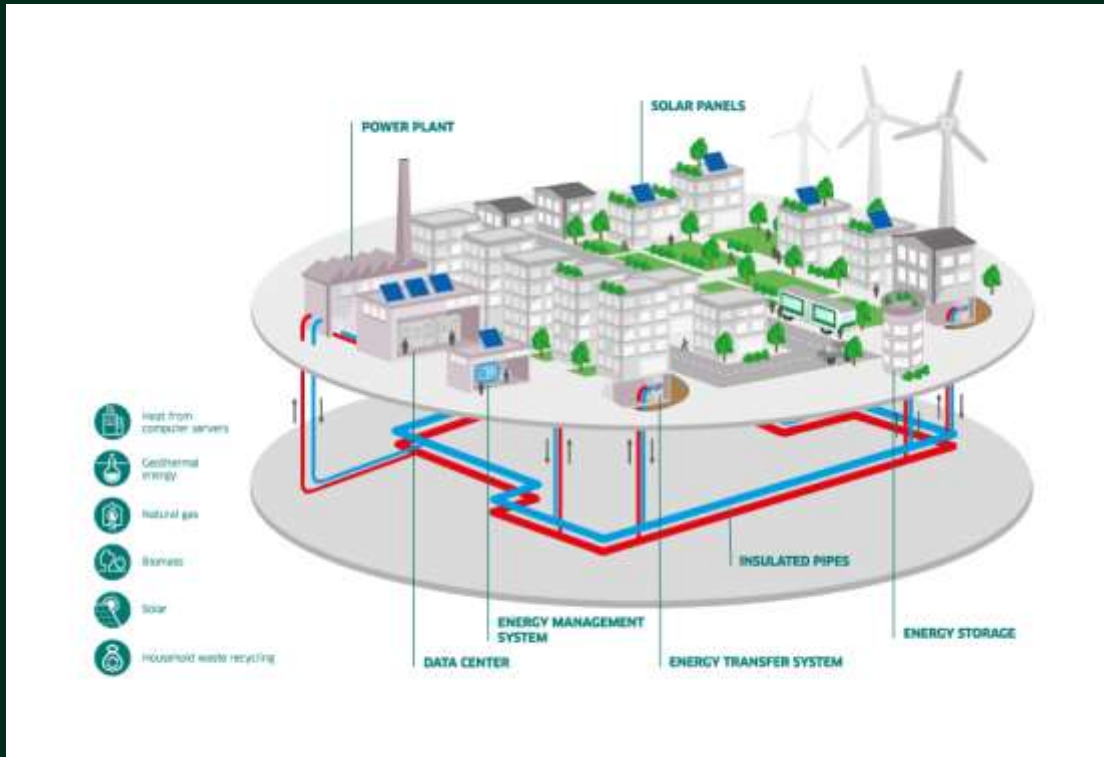
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Warmtenetten voor verdeling van restwarmte of duurzame warmte (geothermie, ...) in zones met hoge energiedichtheid



Warmtenetten



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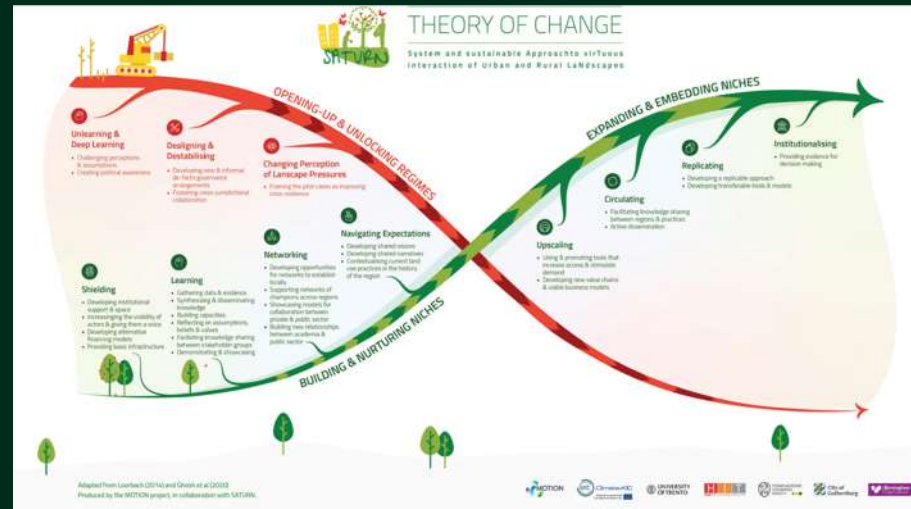
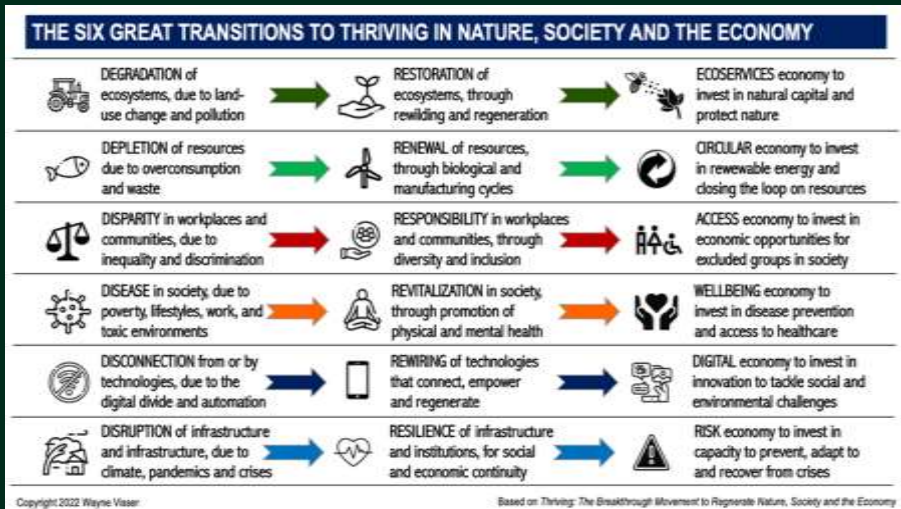
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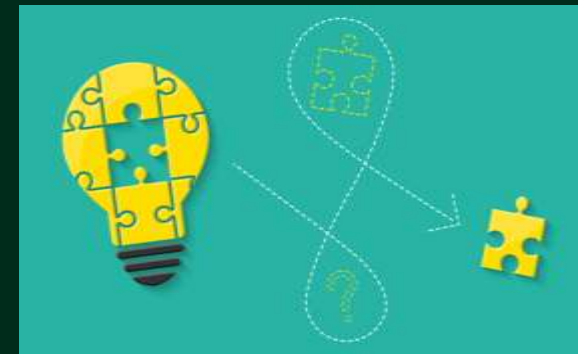
**DIGITAL** economy to invest in innovation to tackle social and environmental challenges



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Digitalisering en automatisering ondersteunen de transitie die onze samenleving, economie en natuurlijke ecosystemen kunnen regenereren.





# CONTACT

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