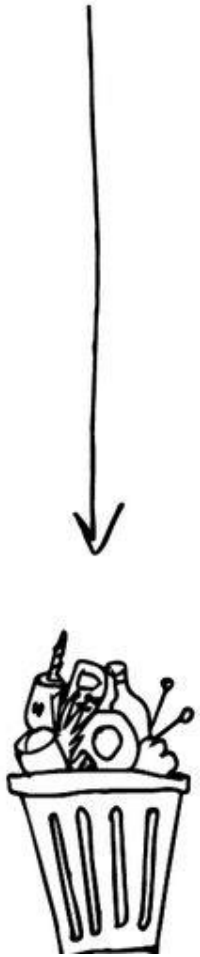
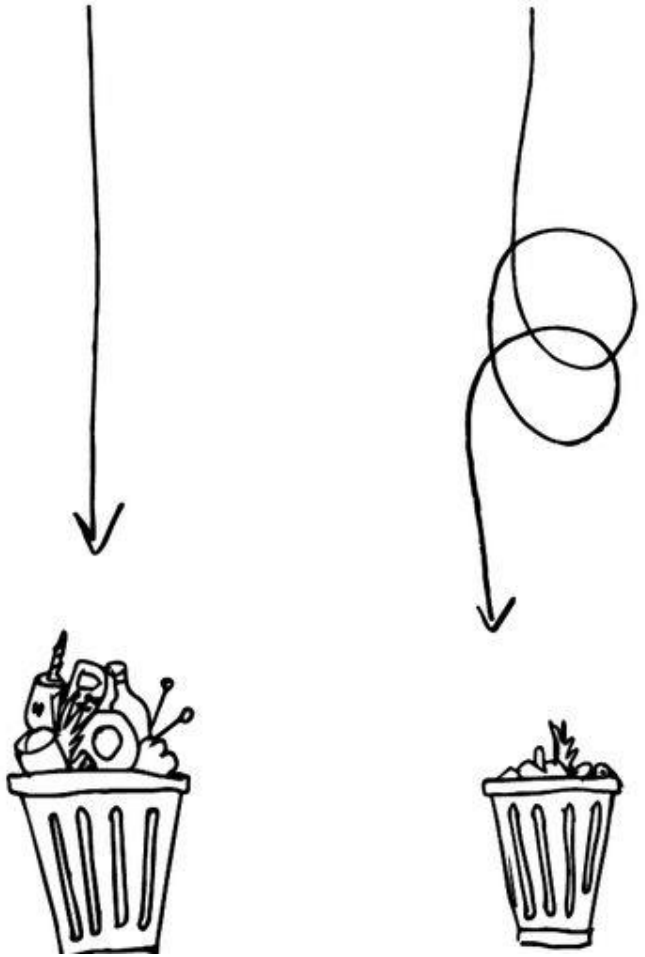
Linear economy



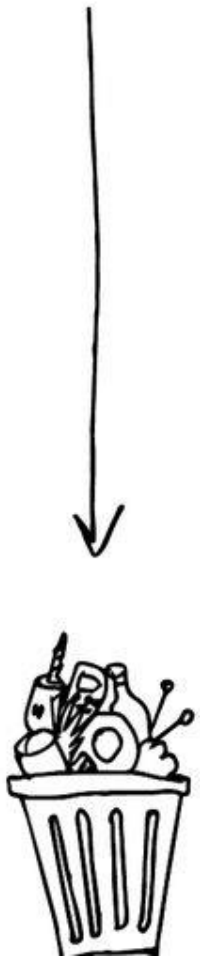
Linear economy

Recycling economy



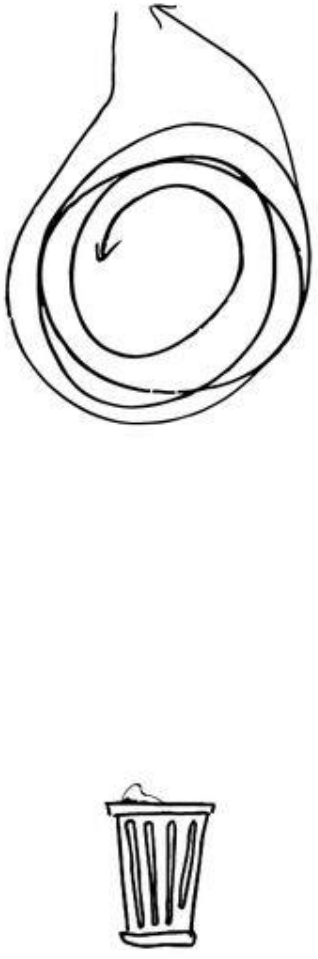
CIRCULAR NORWAY

Linear economy



Recycling economy

Circular Economy



CIRCULAR NORWAY

CIRCULAR NORWAY

Circular economy:

- Minimalize extraction of raw materials.
- Optimal use of materials and products.
- Regenerate natural systems.
- Design out waste and pollution.

This will reduce pollutions, waste and climate gas emissions

CIRCULAR NORWAY

We need to **rethink** the extraxion of raw materials, production, services, circular design, reuse and sustainibilty.

Circular Economy – a tool for a more sustainable society

Ellen Høvik,
Circular Norway

19.01.22

Circular Norway helps businesses and muncipalities to transform from linear to circular economy by digital tools, innovations and business development.

Sirkulær analyse

Circle scan

Sirkulære strategier

Foredrag

Workshops

Materialbank

Our method

1. Scan the baseline

2. Define the circular gap

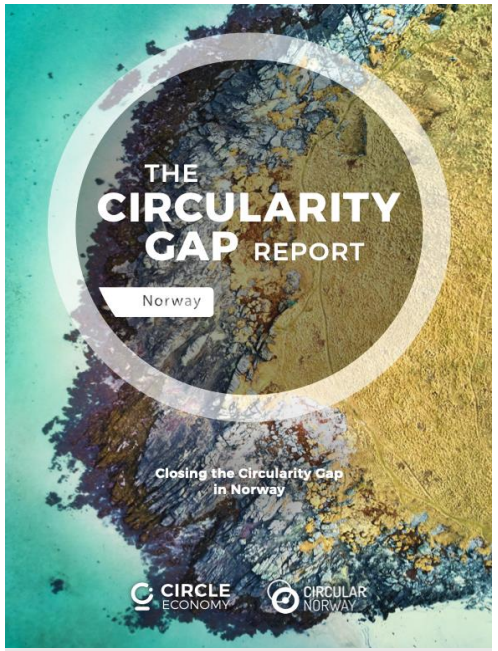
3. Develop circular strategies and business models

The results:

- Increased circularity
- Cut of raw materials
- Cut of carbon emissions
- Circular jobs
- Saved costs

Our focus areas

National politics

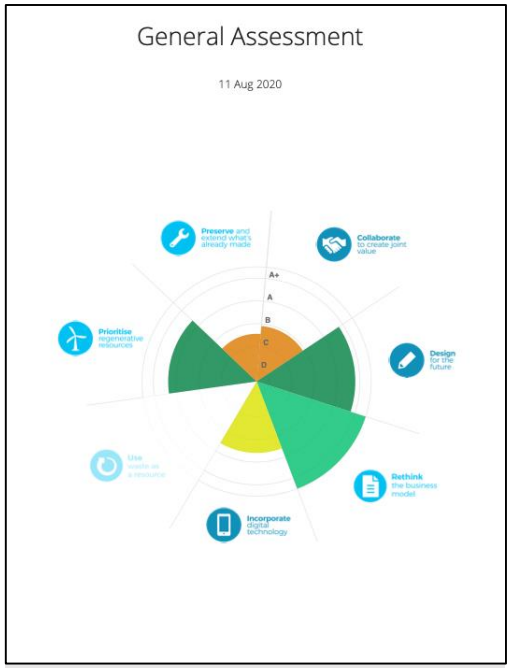


- Reports
- The Big Circular Conference

Local transforming

- Muncipality network
- Analysis
- Circular Procurement

Helping businesses



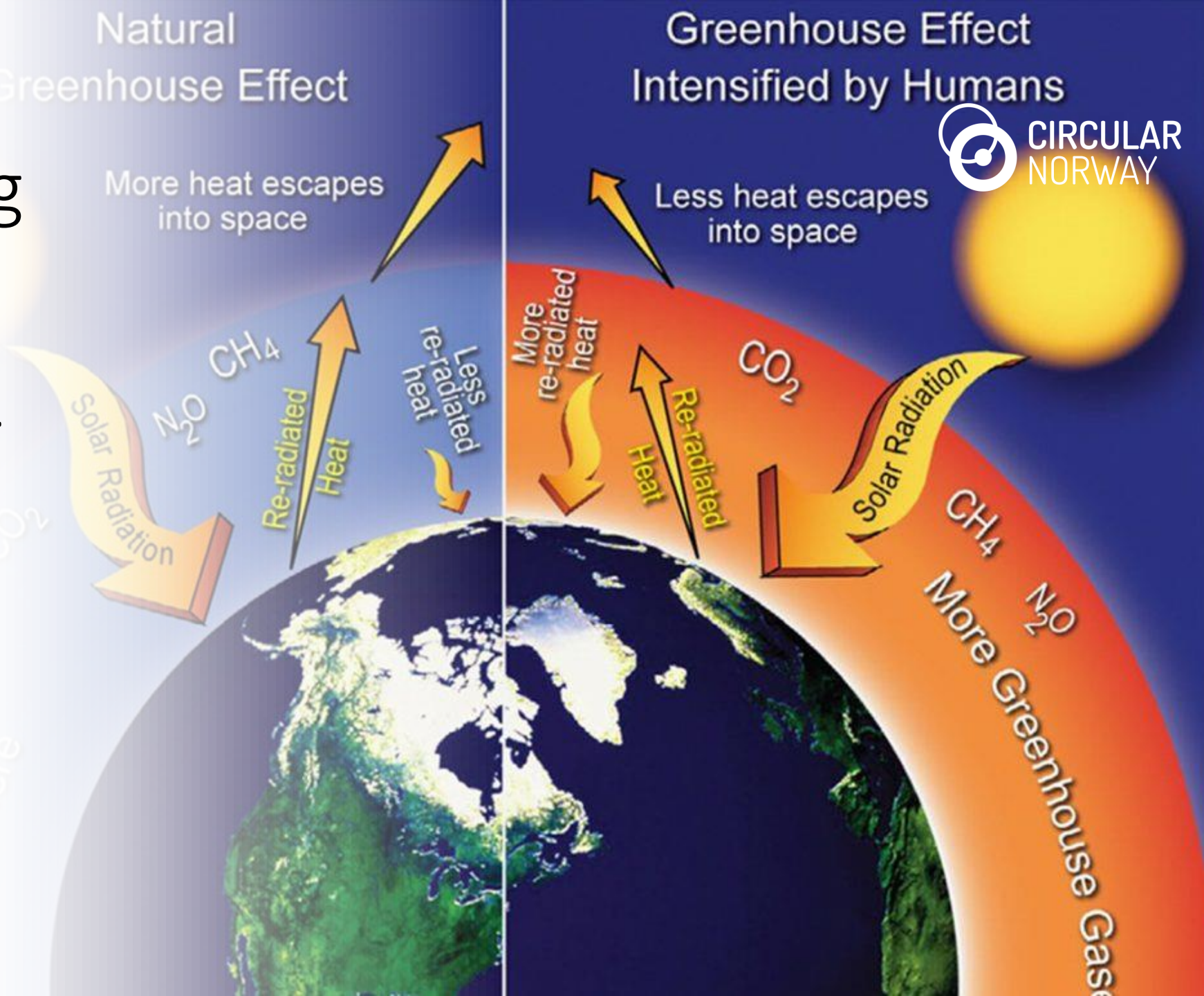
- Cicrular Analysis
- Seminars
- Workshops

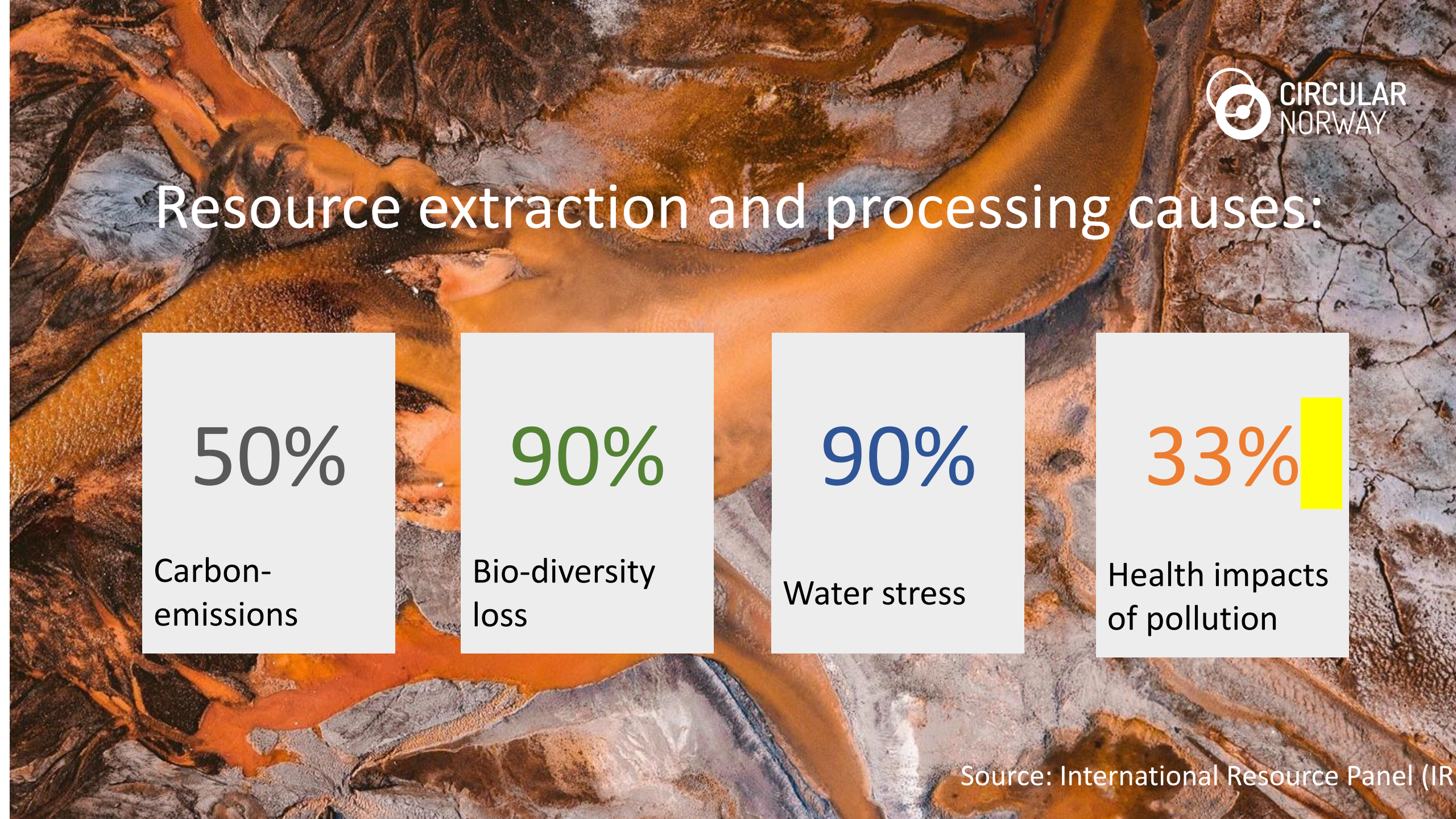
Today

- Global temperature is rising
- The ocean is warmer, more acid and level is rising
- Shrinking ice sheets
- More rain and extrem weather

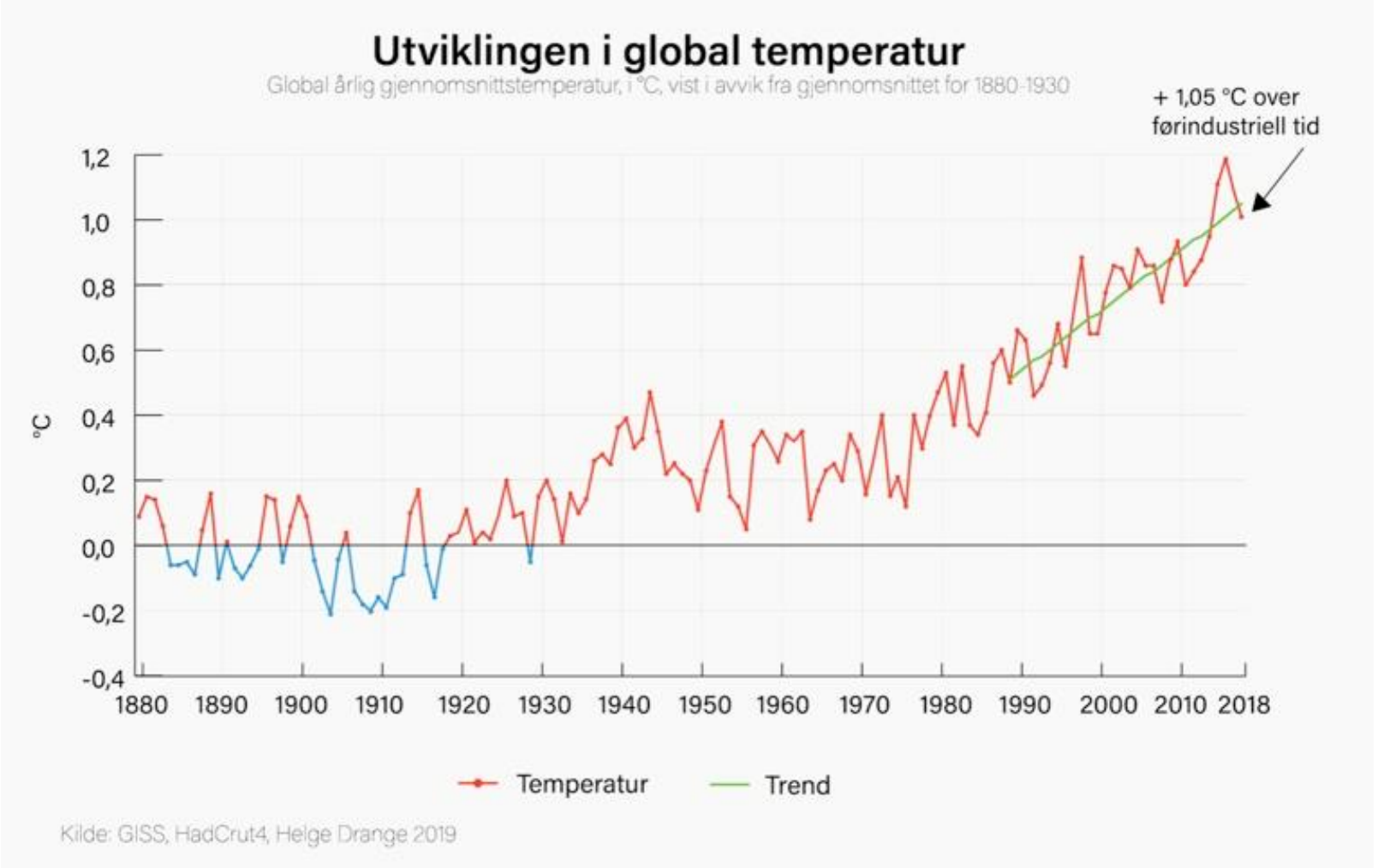
Global warming

- The atmosphere only absorb a certain level of natural carbon emissions.
- Increased man made carbon emissions is trapped inside the atmosphere
- Temperature is rising on earth.



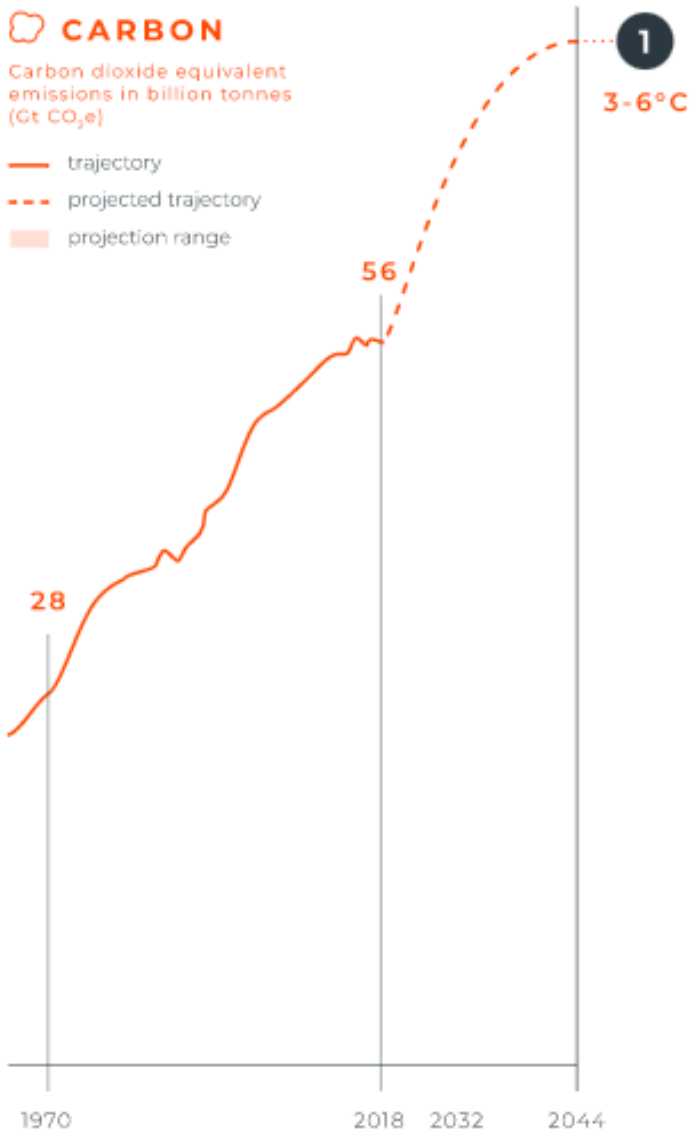

CIRCULAR NORWAY
Resource extraction and processing causes:
50%
Carbon-emissions
90%
Bio-diversity loss
90%
Water stress
33%
Health impacts of pollution
Source: International Resource Panel (IR

+1,13 degree after industralization



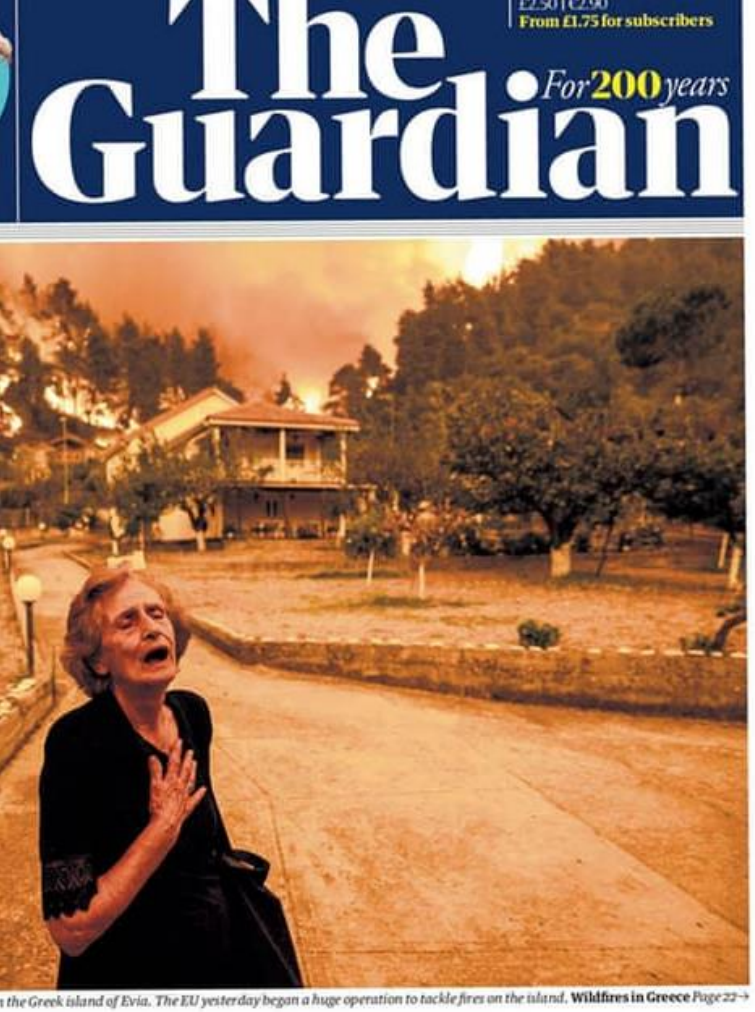
Time is running out

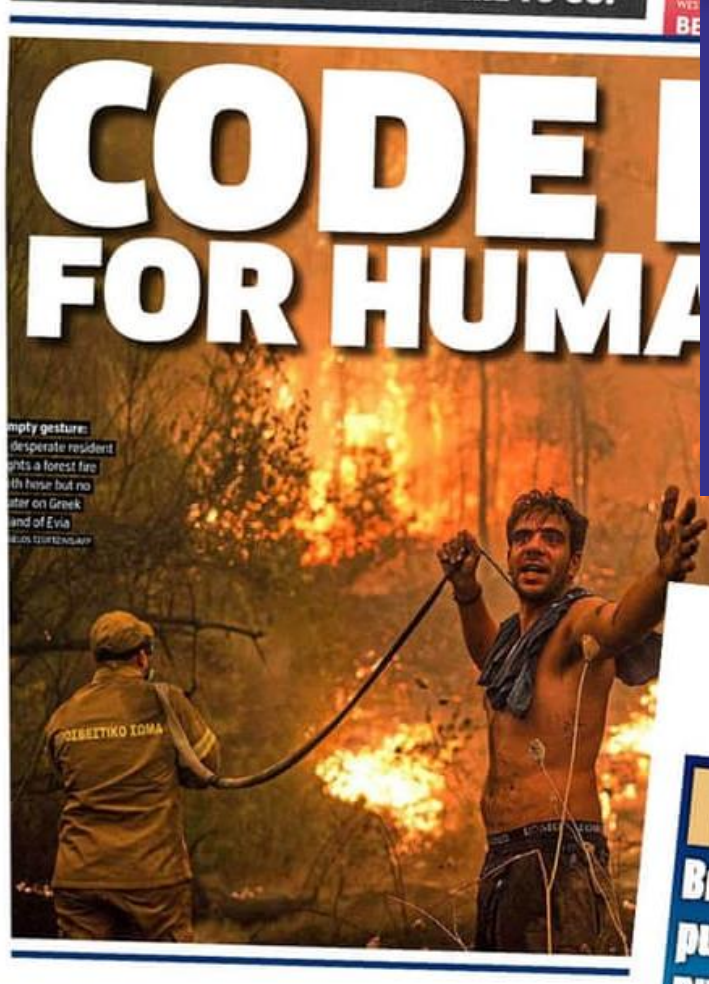
- With linear economy we will reach 3 to 6 degrees of global warming.



CIRCLE ECONOMY

CIRCULAR NORWAY

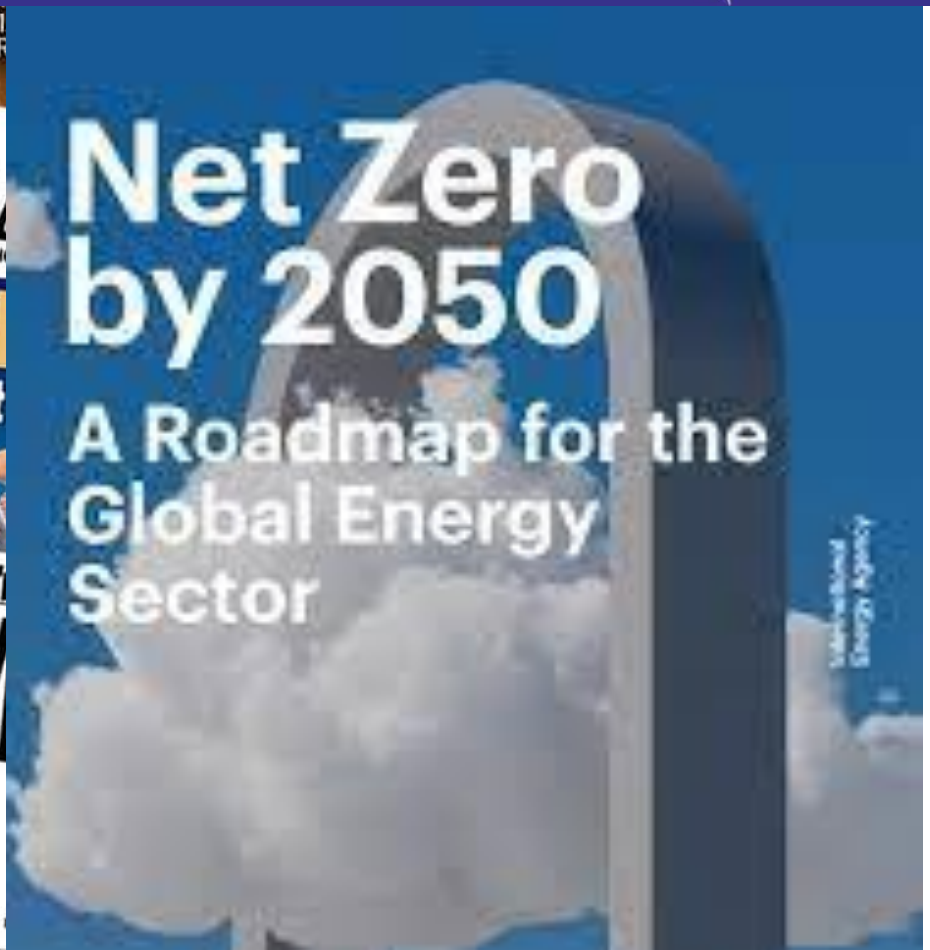

The Guardian
From £1.75 for subscribers
For 200 years
the Greek island of Evia. The EU yesterday began a huge operation to tackle fires on the island. Wildfires in Greece Page 22→
ate crisis: inevitable,
nted and irreversible
widespread devastation and extreme weather. Only rapid and drastic reductions in greenhouse gases in this decade can prevent such climate breakdown, with every fraction of a degree of further heating likely to
Leader comment
The science is unequivocal. The verdict is clear. There is no more
ever there was going to be a wake-up call to the world when it comes to climate change, this report is it," said Alok Sharma, the minister who will preside over the Cop26 UN climate summit in Glasgow in November. "But the future is not yet written. The very worst of climate change is


CODE
FOR HUMA
mpty gesture:
desperate resident
hts a forest fire
th hose but no
ater on Greek
and of Evia


WSPAPER OF THE YEAR + JOURNALISM YO
CODE
RED
locking verdict on future of humanity


LEAST
EARLIER
DA
CAMPAIGNIN
FR
Brilliant
puzzles
pullout
Next decade
PM
TO


31 OCT - 12 NOV 2021
GLASGOW
COP26
IN PARTNERSHIP WITH ITALY
CIRCULAR
NORWAY


Net Zero
by 2050
A Roadmap for the
Global Energy
Sector

31 OCT - 12 NOV 2021
GLASGOW
COP26
IN PARTNERSHIP WITH ITALY

CIRCULAR NORWAY

The Glasgow Pact

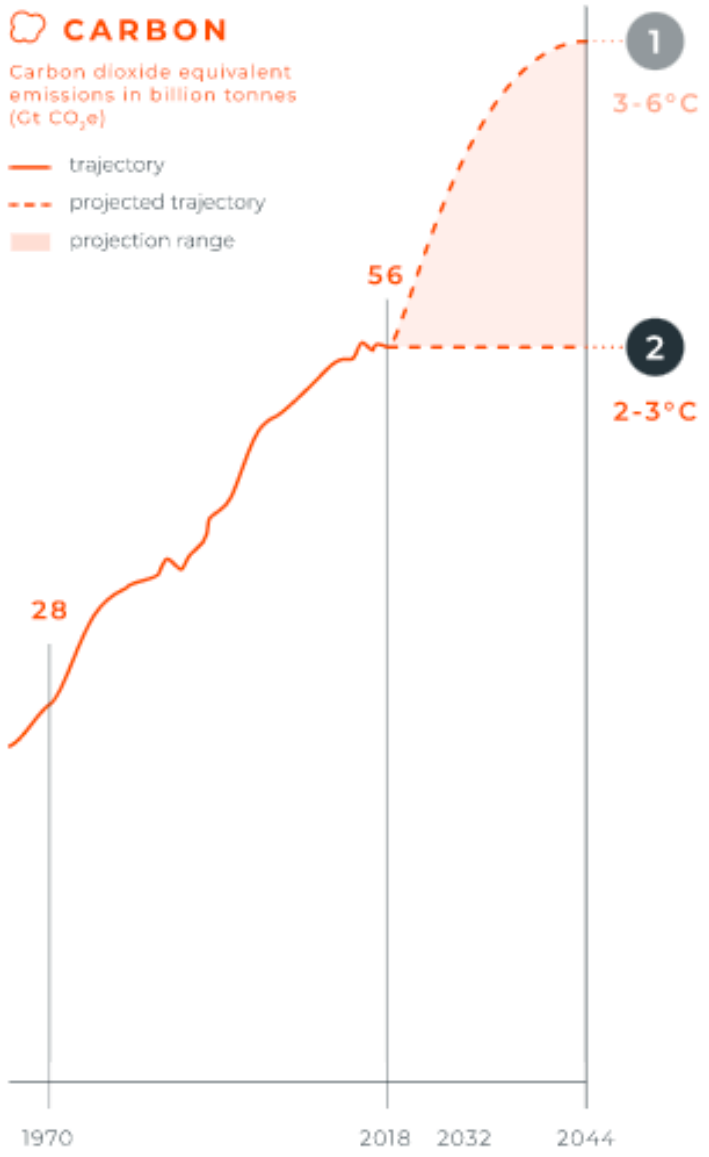
Agreement of max 1,5 degree increase in 2100.

BUT still 2,4 degree increase in this centuary.

Global warming is still a treath.

Todays promises is not enough

- We move towards 2,4 degree global warming in this century.
- More than 1,5 degree increase destroy our livelihood.
- **We need to act.**



Business-as-usual: Emissions cut of 80 billion tonn CO2e

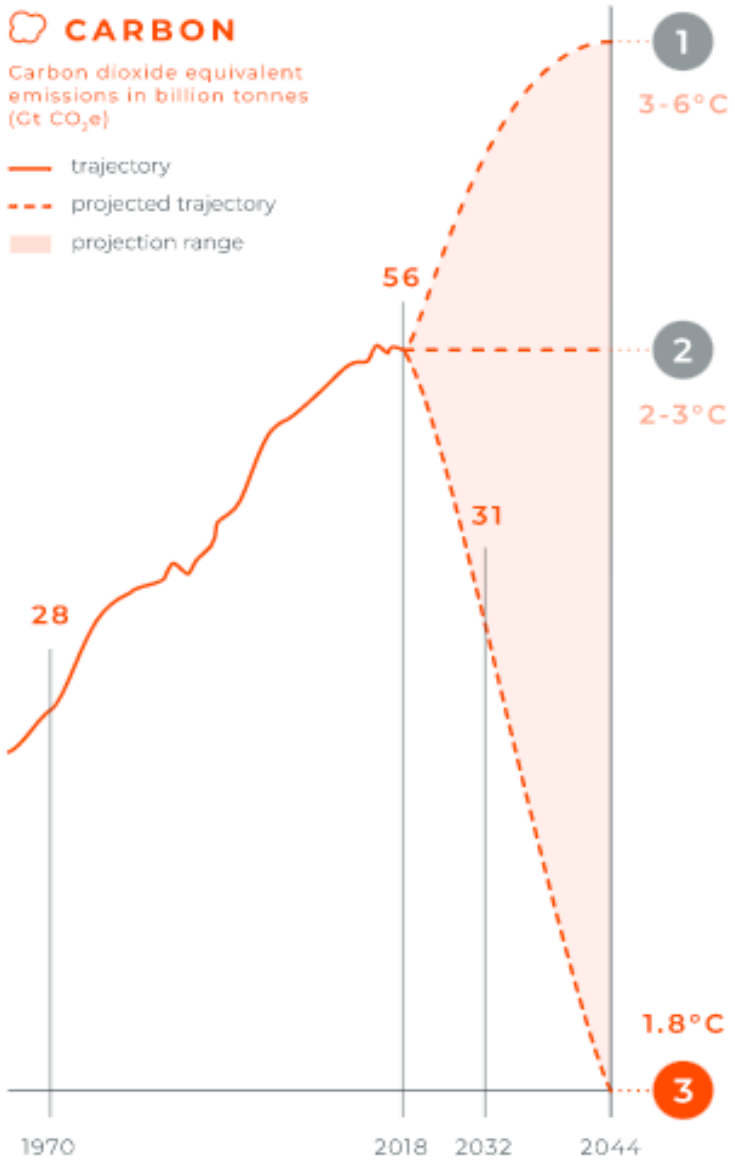
The 2021 obligations only leads to cut of 56 bliion tonns of CO2 emission.

CIRCLE ECONOMY

CIRCULAR NORWAY

The solution is circular economy

Increacing circularity reduce climate gas emmissions to ZERO and
reduce global warming to 1,8 degrees.



Business-as-usual: Emissions of 80 billion tonn CO2e

The 2021 obligations only leads to cut of 56 bliion tonns of CO2e

17 percent circularity cuts climate emmissions to ZERO.

CIRCLE ECONOMY

CIRCULAR NORWAY

Benefits of Circular economy

Lower CO2 emissions.	Reduce pressure on environment.	Increased circularity.
Improving security of raw materials supply.	Reduce decline in biological diversity.	Decline of waste.
Stimulating innovation.	Boosting economic growth (an additional 0.5% of GDP)	Creating new jobs (700,000 jobs in the EU alone by 2030).

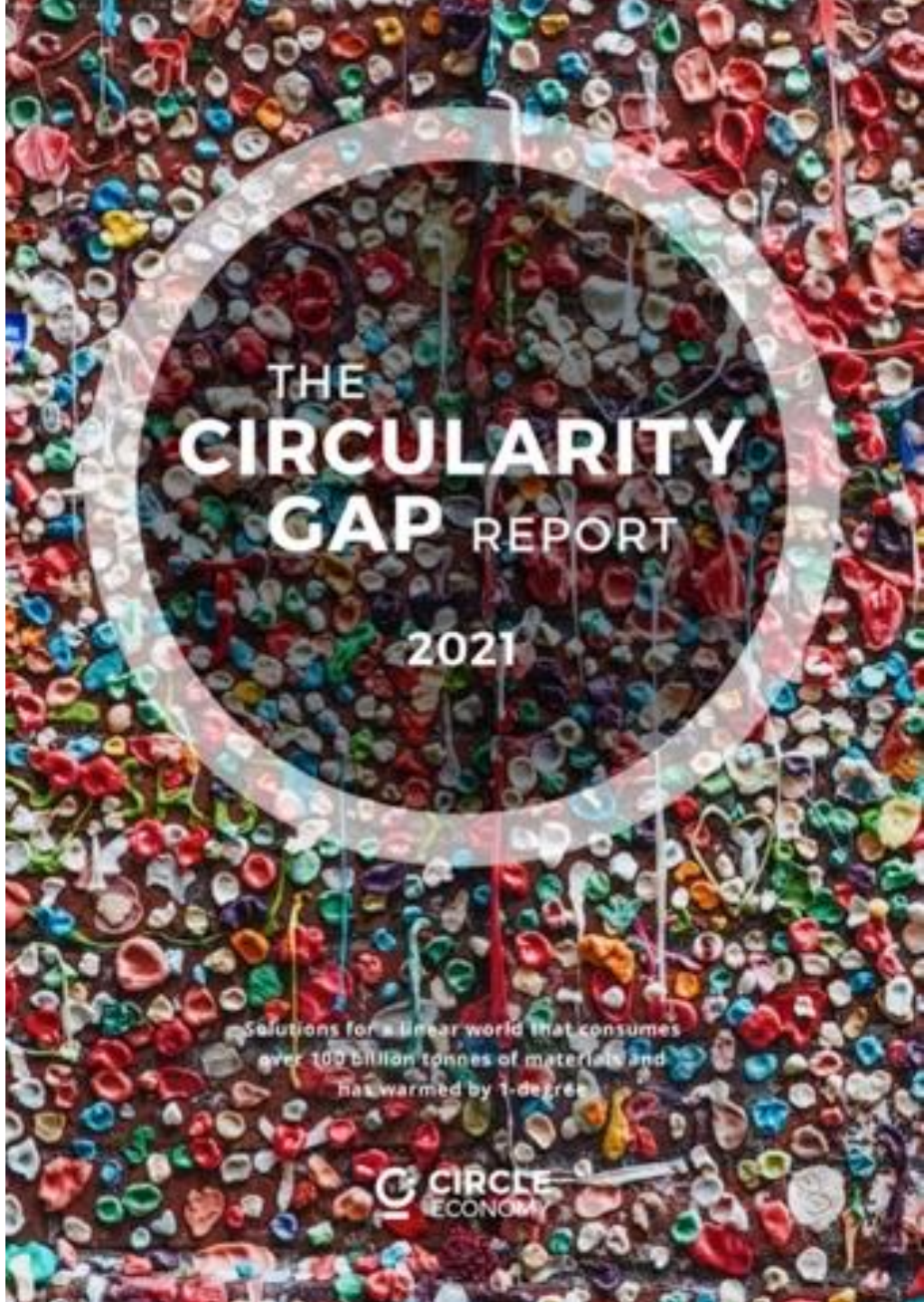

CIRCULAR
NORWAY
Today the world is 8,6% circular

From 8,6 to 17 % circular

- Circular economy strategies can cut global greenhouse gas emissions by 39% and help avoid climate breakdown.
- The 22.8 billion tonnes (Gt) of annual emissions associated with creating new products from virgin materials to cover our needs – can be eliminated or drastically reduced.

CIRCLE ECONOMY

CIRCULAR NORWAY



THE GREEN SHIFT

Sustainability Goals and Agenda 2030

Paris Agreement

1,5 degrees

EUs Green Deal

Circle Economy Action Plan


All that surrounds us
comes from nature.
CIRCULAR
NORWAY

Four categories of raw materials.

- Biomass
- Minerals
- Metals
- Fossil fuels

Keep the raw materials longer in the loop.

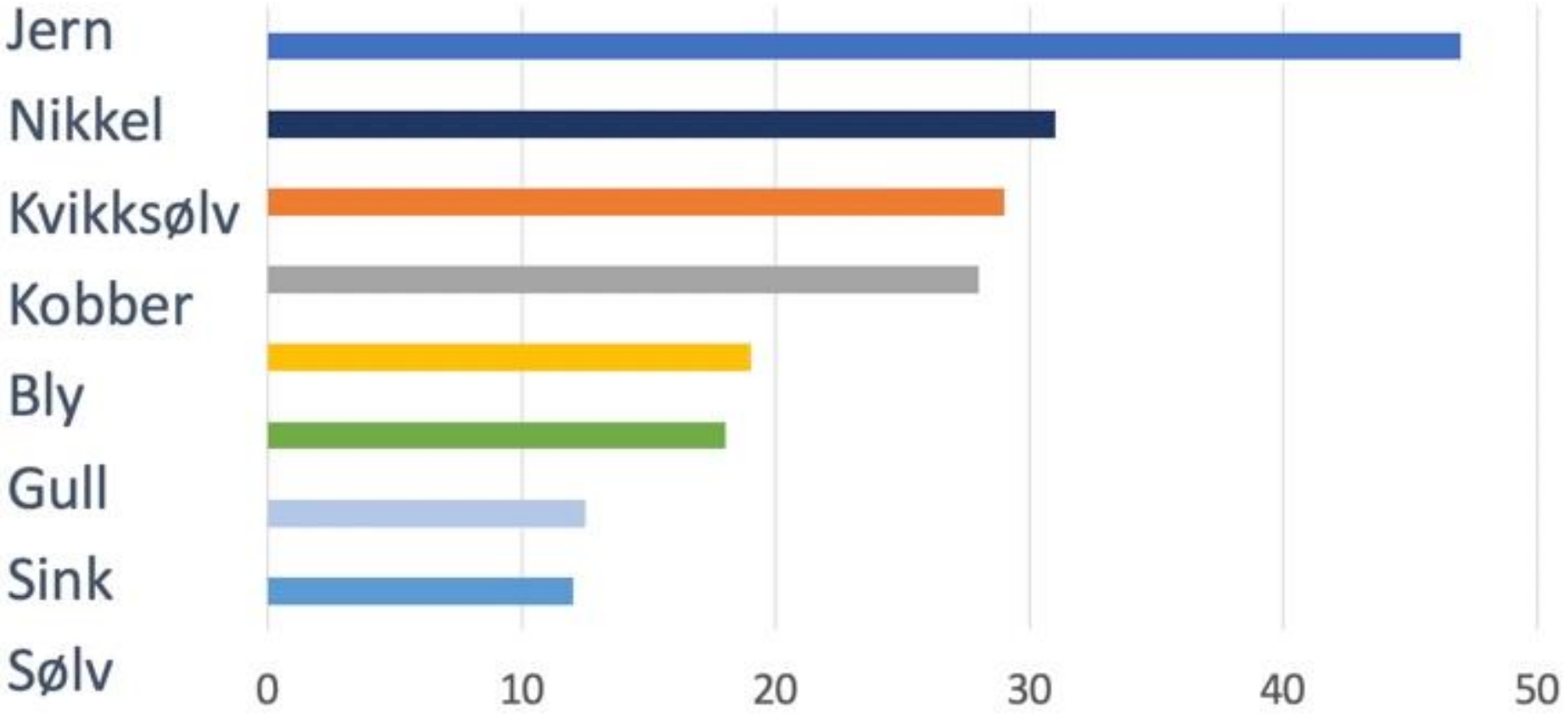
More effective use of raw materials.

Reduce waste.


CIRCULAR
NORWAY

EU list of Critical Raw Materials: 30 materials

Earth runs out of crucial raw materials



Kilde: Visual Capitalist and Agenda

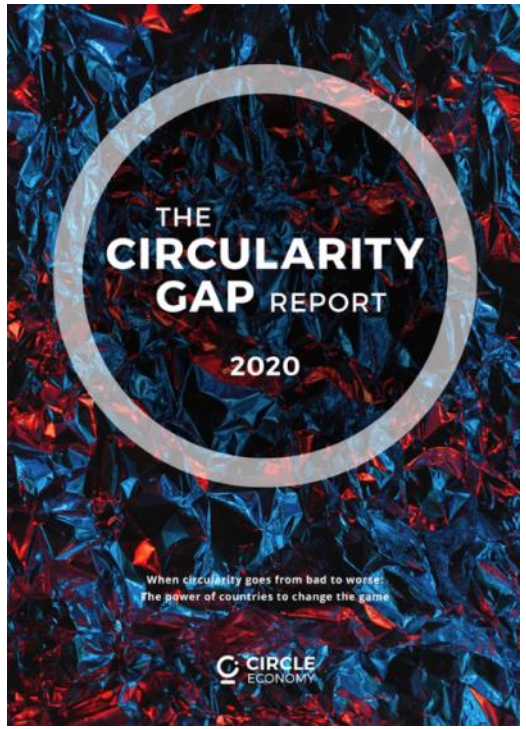
CIRCULAR NORWAY

CIRCULAR NORWAY

Circularity Gap Report Norway (CGRN)

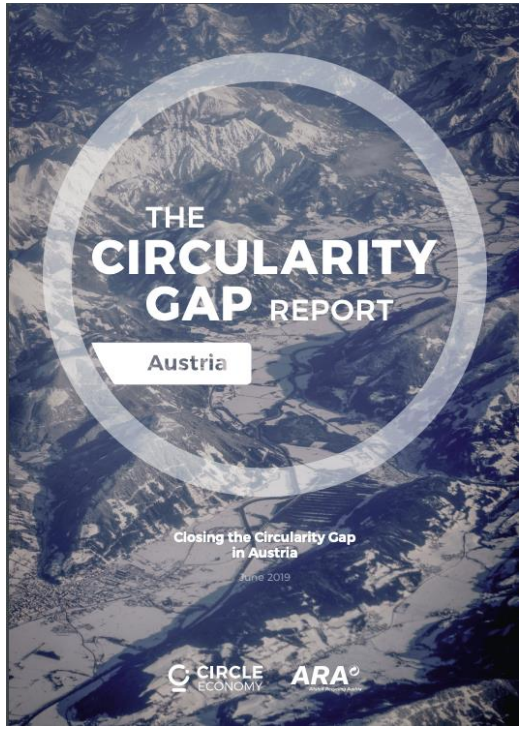

CIRCULAR
NORWAY
2,4%
CIRCLE
ECONOMY

Global



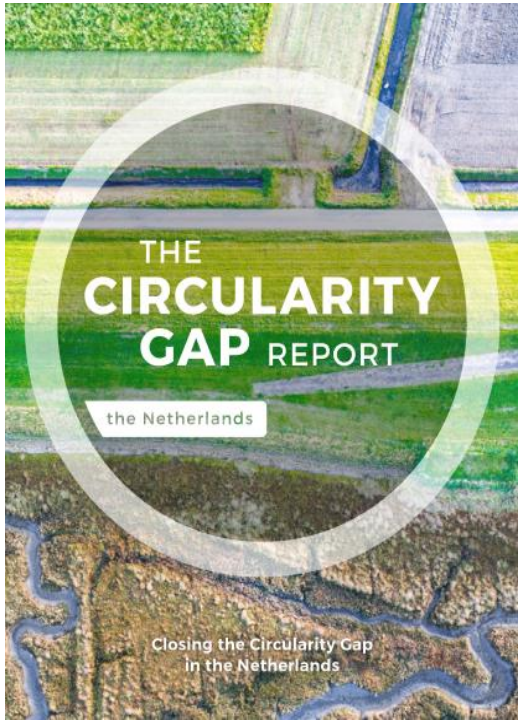
8,6%

Austria



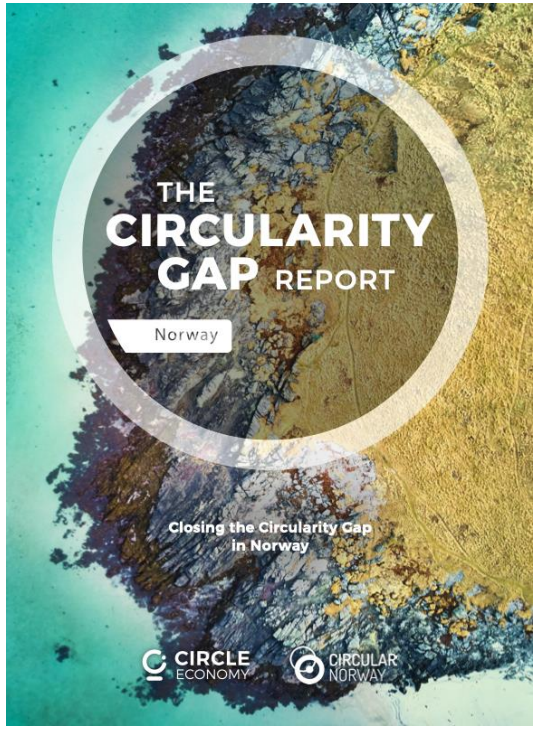
9,7%

Netherlands



24,5%

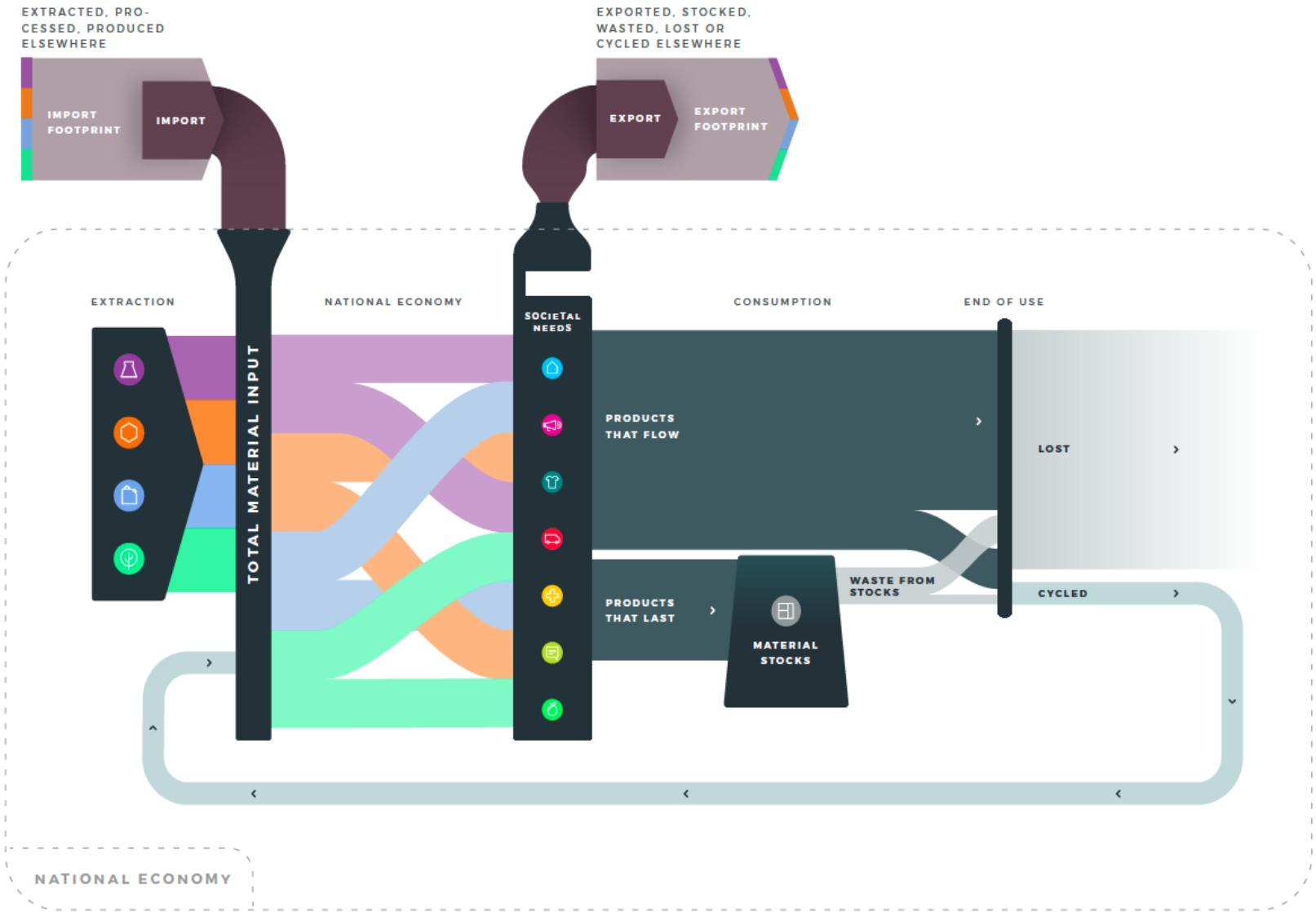
Norway

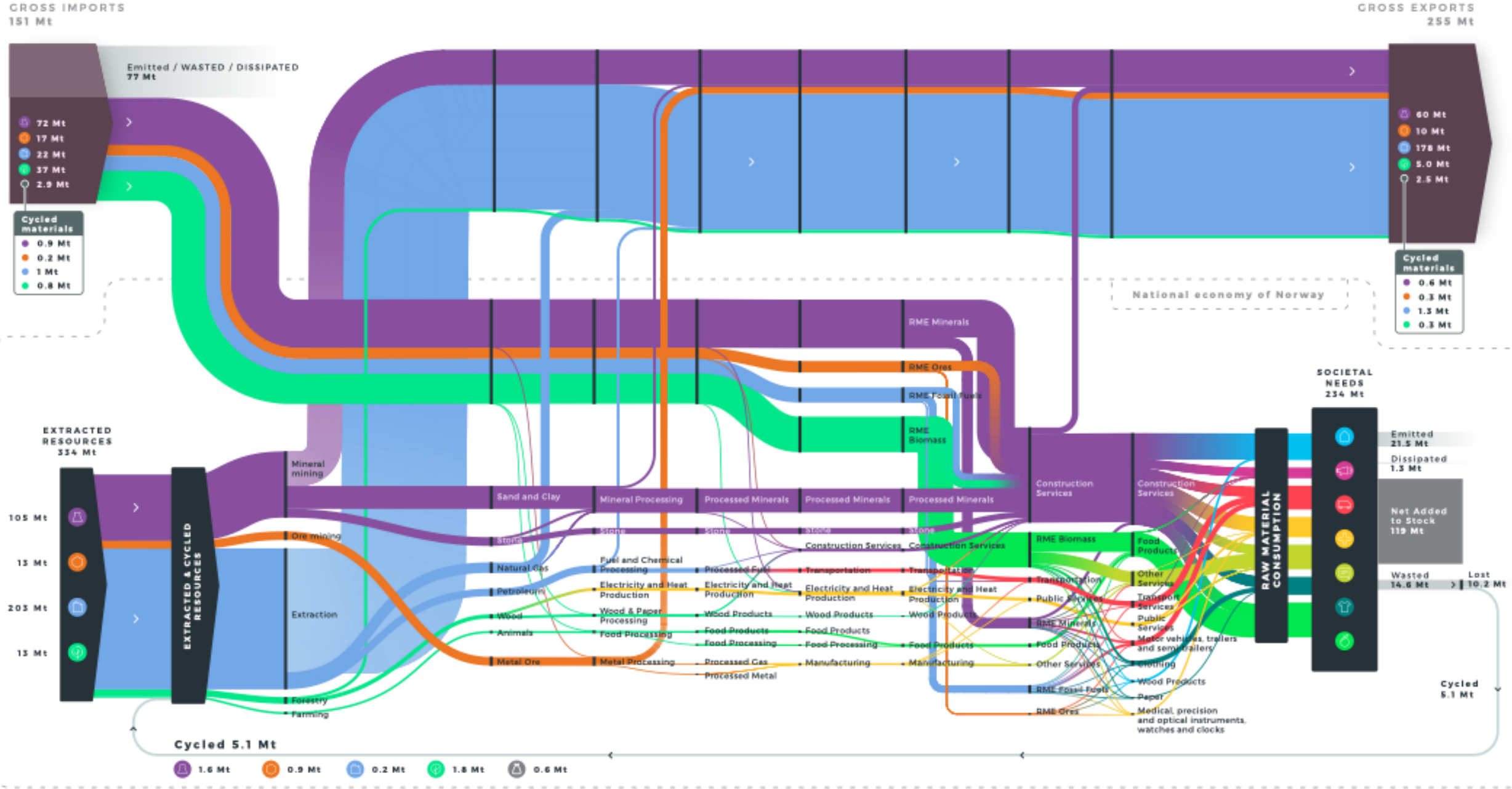


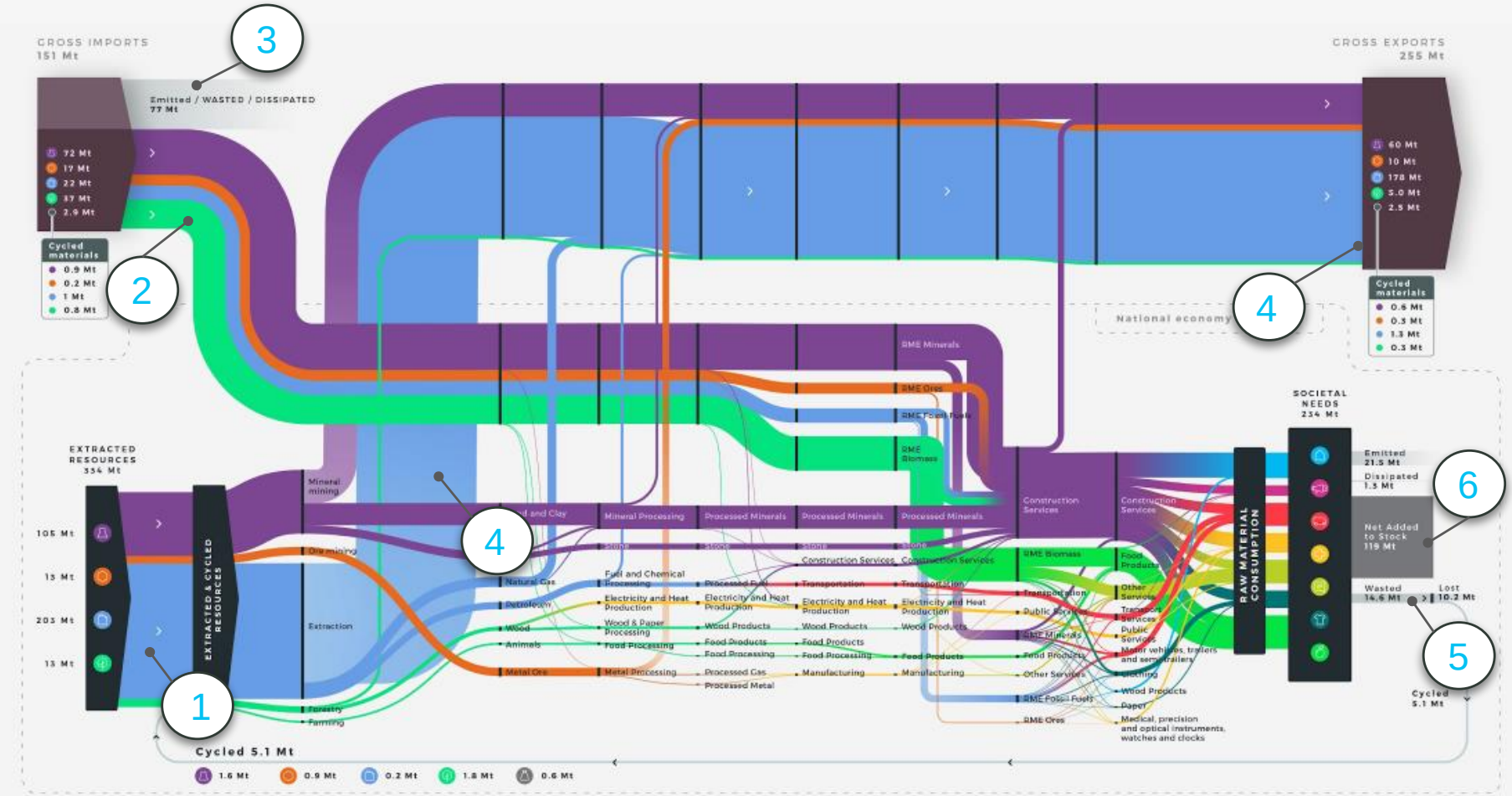
2,4 %

CIRCULAR NORWAY

National economy

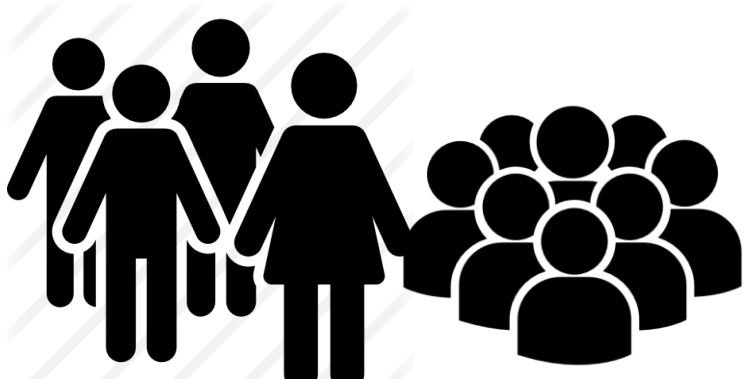


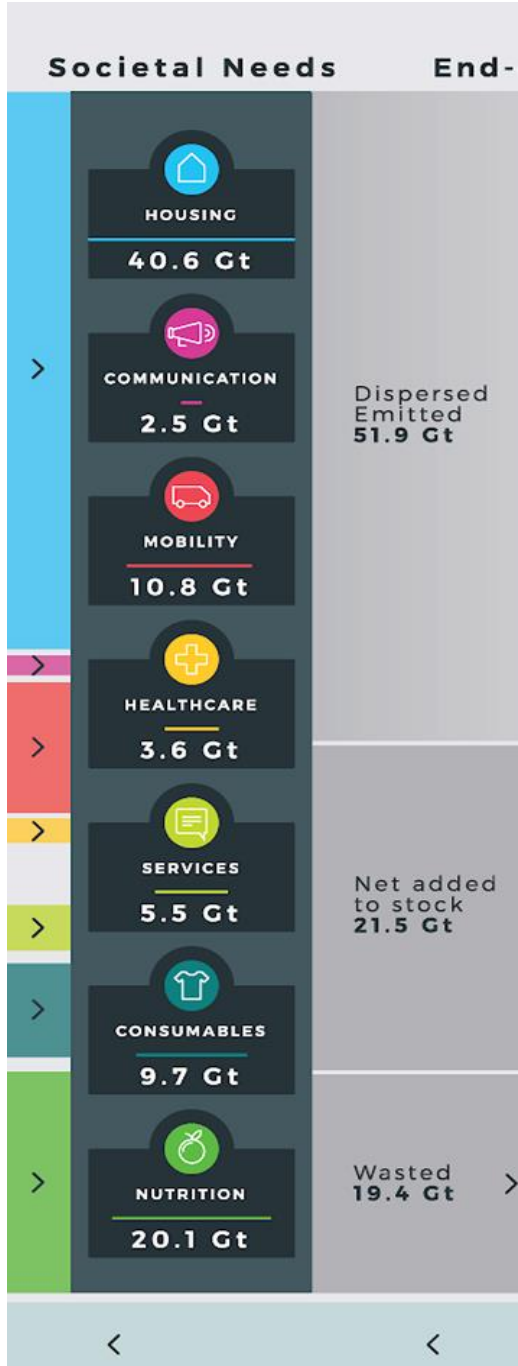

GROSS IMPORTS
151 Mt
GROSS EXPORTS
255 Mt
Emitted / WASTED / DISSIPATED
77 Mt
72 Mt
17 Mt
22 Mt
37 Mt
2.9 Mt
Cycled materials
0.9 Mt
0.2 Mt
1 Mt
0.8 Mt
60 Mt
10 Mt
178 Mt
5.0 Mt
2.5 Mt
Cycled materials
0.6 Mt
0.3 Mt
1.3 Mt
0.3 Mt
National economy of Norway
EXTRACTED RESOURCES
334 Mt
105 Mt
13 Mt
203 Mt
13 Mt
EXTRACTED & CYCLED RESOURCES
Mineral mining
Ore mining
Extraction
Forestry
Farming
Sand and Clay
Stone
Natural Gas
Petroleum
Wood
Animals
Metal Ore
Mineral Processing
Fuel and Chemical Processing
Electricity and Heat Production
Wood & Paper Processing
Food Processing
Metal Processing
Processed Minerals
Processed Fuel
Electricity and Heat Production
Wood Products
Food Products
Food Processing
Processed Gas
Processed Metal
Processed Minerals
Construction Services
Transportation
Electricity and Heat Production
Wood Products
Food Products
Food Processing
Manufacturing
Processed Minerals
RME Minerals
RME Ores
RME Fossil Fuels
RME Biomass
Construction Services
Construction Services
RME Biomass
Transportation
Public Services
RME Minerals
Food Products
Other Services
RME Fossil Fuels
RME Ores
Food Products
Other Services
Transport Services
Public Services
Motor vehicles, trailers and semi-trailers
Clothing
Wood Products
Paper
Medical, precision and optical instruments, watches and clocks
RAW MATERIAL CONSUMPTION
SOCIETAL NEEDS
234 Mt
Emitted
21.5 Mt
Dissipated
1.3 Mt
Net Added to Stock
119 Mt
Wasted
14.6 Mt
Lost
10.2 Mt
Cycled
5.1 Mt
Cycled 5.1 Mt
1.6 Mt
0.9 Mt
0.2 Mt
1.8 Mt
0.6 Mt



1. High volumes of material extraction
2. High share of imported resources
3. High volumes of waste generated abroad
4. High fossil export volumes
5. Low waste volumes and cycling rates
6. Large stock additions

Our needs drives the consumption of raw materials



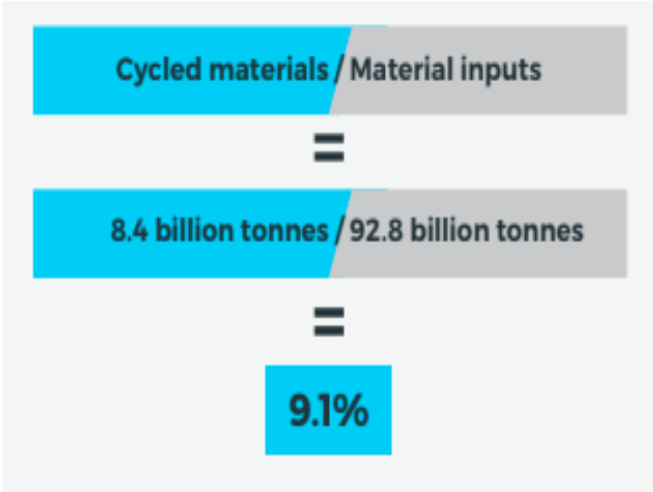


Define circular strategies

CIRCULAR NORWAY

1 Linking resources and societal needs

2 Estimate circularity



3 Develop strategies based on the key elements for circularity

CIRCLE ECONOMY

Key strategies of the circular economy

D  Design for the future

I  Incorporate digital technology

S  Sustain and preserve what´s already there

R  Rethink the business model

U  Use waste as a resource

P  Prioritise regenerative resources

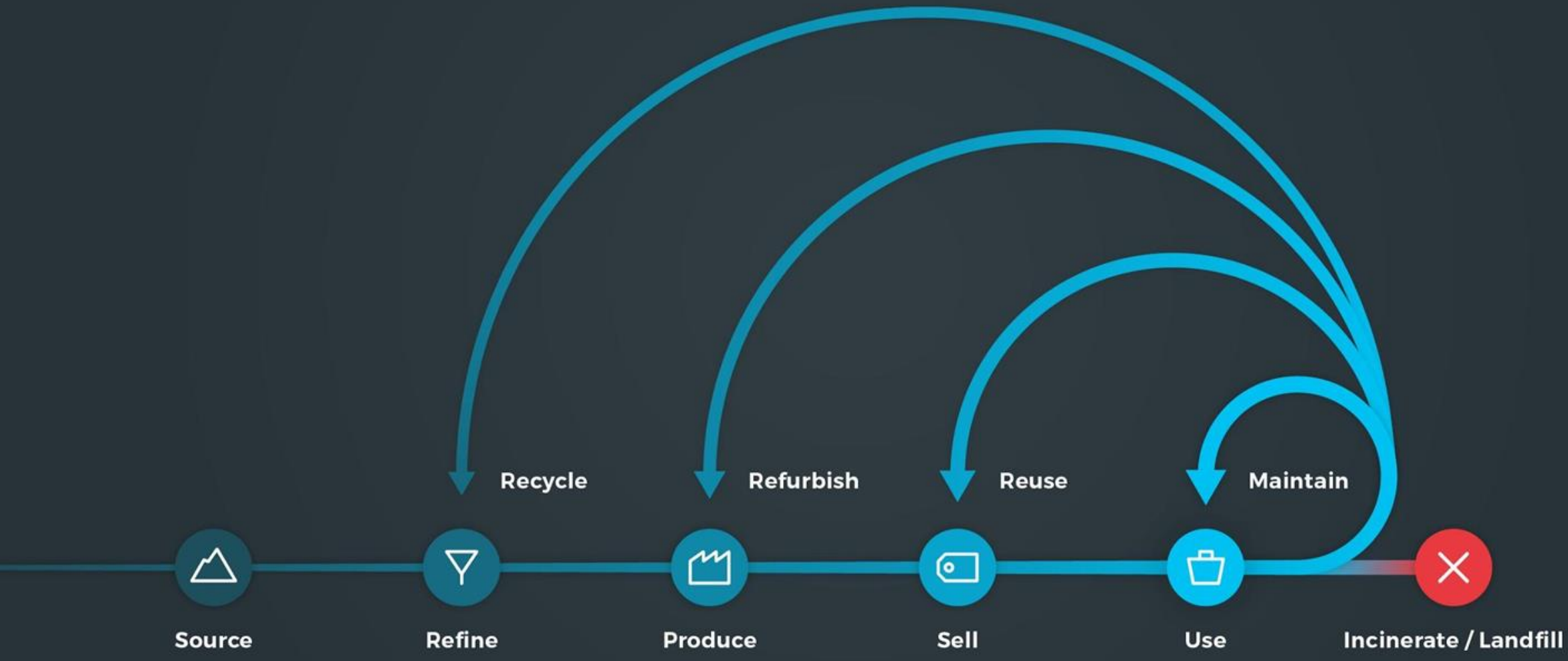
T  Team up to create joint value

Leave the linear model with **'take-make-waste'**

CIRCULAR NORWAY

Adopt circular strategies and effectively use materials to **as long as possible.**

CIRCULAR NORWAY



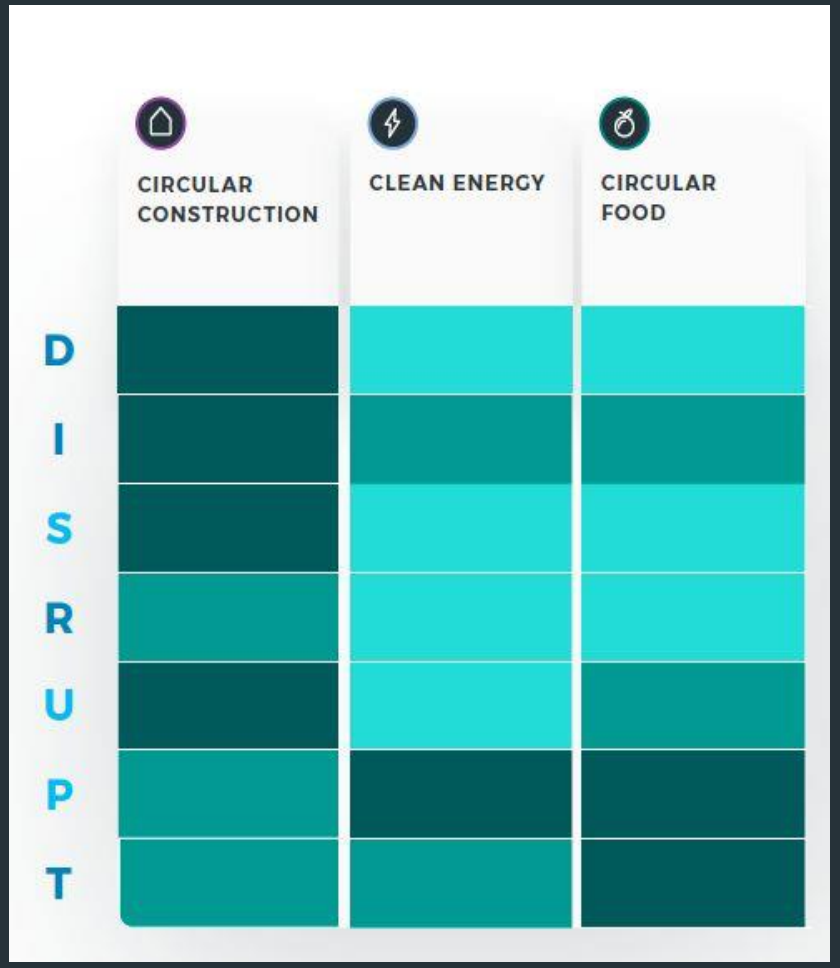
Potensial for incresed circularity

Norway can go from 2,4 % rosent to 45,8 % circular (CGRN) by adopt six strategies:

1. A more circular construction sector
2. Transition to clean energy
3. Circular food systems
4. Green transport
5. Stronger repair, reuse, recycling economy
6. Circular forestry and wood products

BRIDGING THE GAP

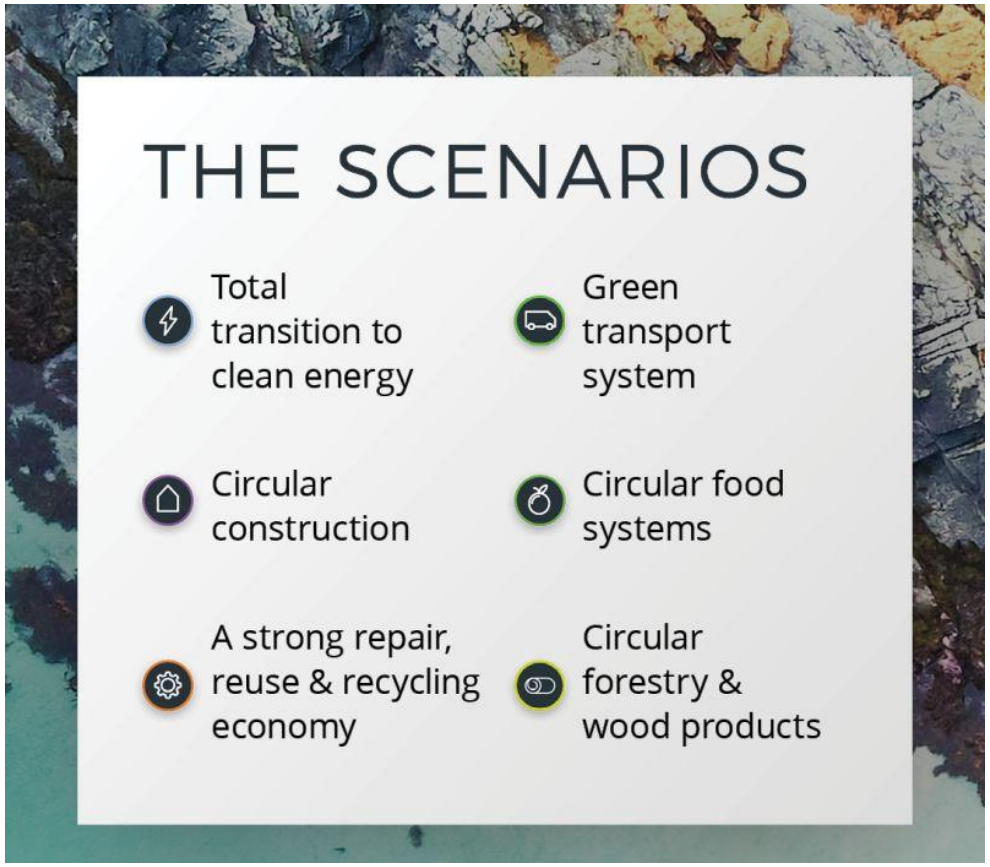
STRATEGIES

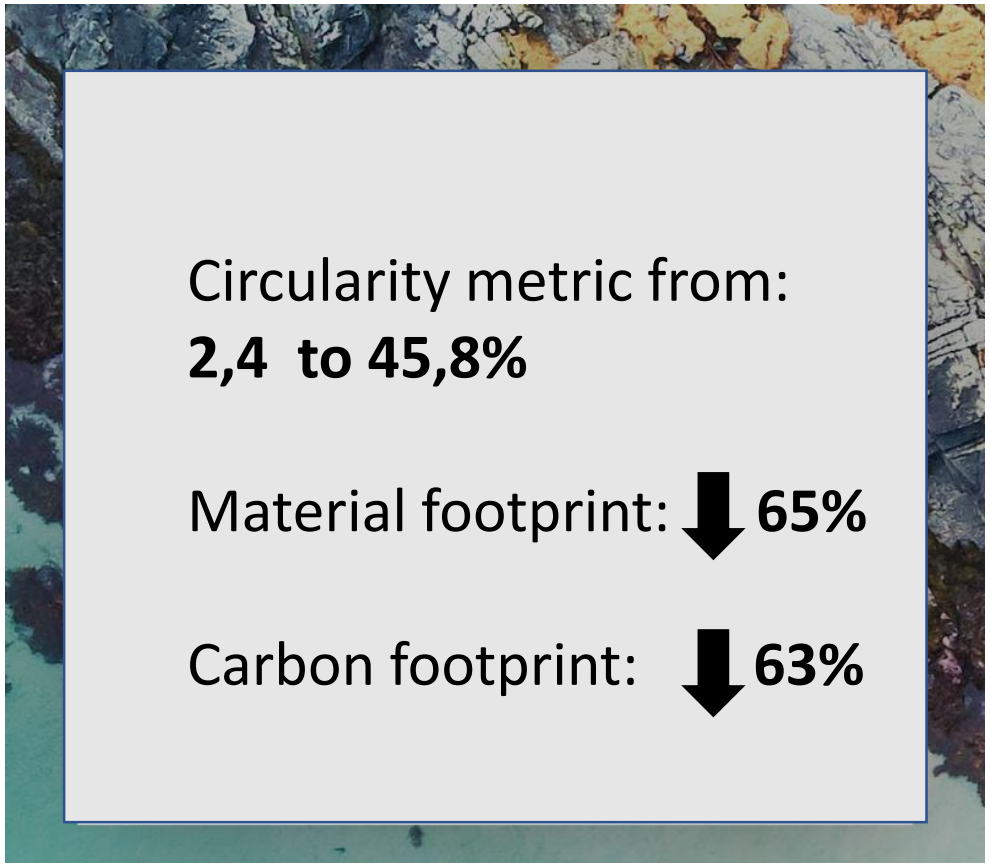


SCENARIOS

POTENTIAL

Combine actions to acheive 45,8%





Prioritize clean energy

- Renewable energy
- Renewable materials
- Reuse of water

CIRCULAR NORWAY

Celsa steel

Sustain and preserve what is already there

BERGANS:

Sustain the lifetime of outdoor clothing.

- Repair
- Redesign
- Upgrade
- Services

CIRCULAR NORWAY

Use waste as a resource

NEW MOVEMENT

- Secundary resources
- Use waste in new products

CIRCULAR NORWAY

New Movements

Design for circularity

LOOPING

- Use system perspective in design
- Reusable materials
- Reduction of waste
- New uses
- Longer life

Loopin

Incorporate digital technology

TISE

- Optimalize resources
- Data for insight
- Digital plattform for connection of actors in value chain
- Thecnology for sharing

Tise

Innovation in business models

JERNIA

- Increase value for costumer
- Produkter live longer when change of small parts
- Services instead of products

CIRCULAR NORWAY

Jernia

Team up for joint value

TORVBRÅTHEN - SCHOOL OF YEAR 2021

- Increase value in value chain
- Industrial cooperation
- Cooperation between local and national governments
- Reusable materials
- Aim for no teasing at school

CIRCULAR NORWAY

Strengthen Knowledge

Knowledge Hub med 3500 sirkulære eksempler:
https://knowledge-hub.circle-lab.com/CircularNorway

CIRCULAR NORWAY


#ClimateChamberMission
GLASGOW
CLIMATE CHAMBER
Circular Glasgow
in partnership with
Net Zero Scotland
NET ZERO


«Circle Scan is an engine for
cut of CO2-emissions and green jobs».
Lise Selnes, mayor and former head of Kongssvinger region
CIRCLE ECONOMY
CIRCULAR NORWAY

The process:
Phase 1

Socio economic analysis

Methodology: Material and stock Analysis

Circular strategies

Action plan

Phase 2

CIRCLE ECONOMY

CIRCULAR NORWAY

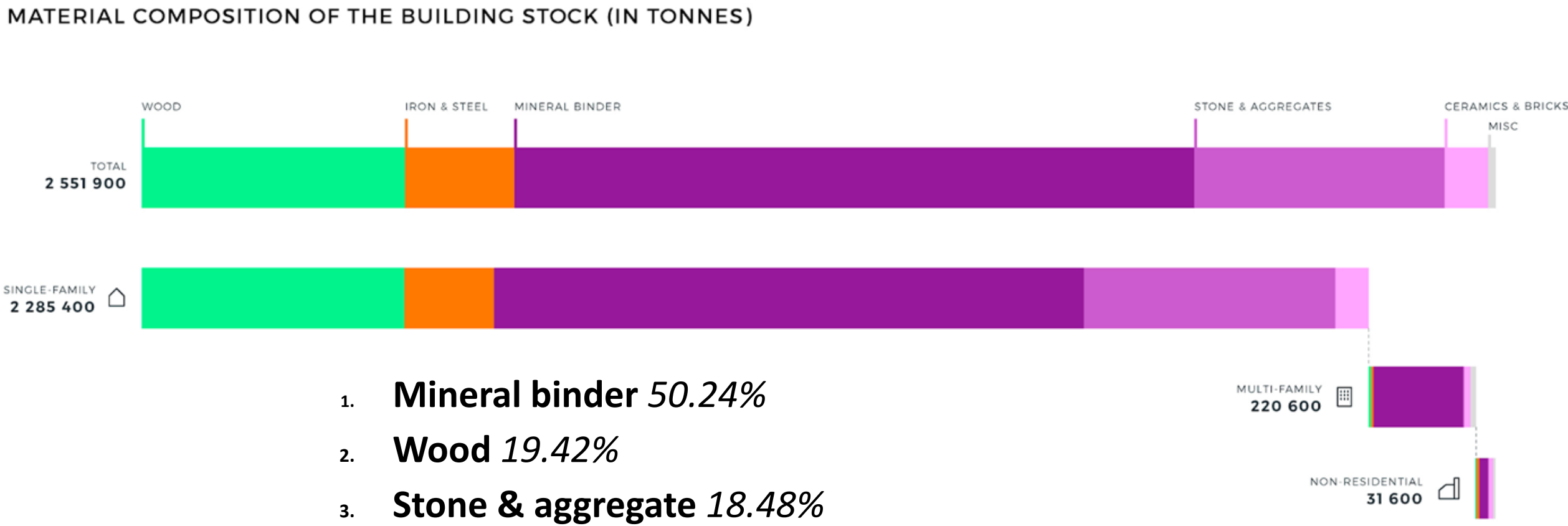
Socio economic analysis

Material flows and stock Analysis

Circular strategies

Action plan

Kongsvinger region building stock (2018)



1. **Mineral binder** *50.24%*
2. **Wood** *19.42%*
3. **Stone & aggregate** *18.48%*
4. **Iron & steel** *8.08%*
5. **Ceramics & bricks** *3.23%*
6. **Miscellaneous** *0.56%*

Phase 3:
Circular strategies and innovations

CIRCLE ECONOMY

CIRCULAR NORWAY

Define circular stategies:

1) Increase use of reused materials
2) Local value chain
3) Capasity building and training

Activities:

- In depth interviews
- Webinar for insight and exchange
- Learn of best practices globally
- Workshop for defining pilots

"Develop market thinking in the forest industry. The region has been in a backlog for 30 years, needs to come out of its sleepingstage."

"Easier and cheaper to use virgin material today than reused material. Encourage reuse."

"Challenges related to suppliers and entrepreneurs. It is a new way to think - but necessary. Possible to do, you just have to do it!"


Phase 4
Action plans
for pilots
CIRCLE
ECONOMY
CIRCULAR
NORWAY

Circular Pilots

Donorbygg

O-house

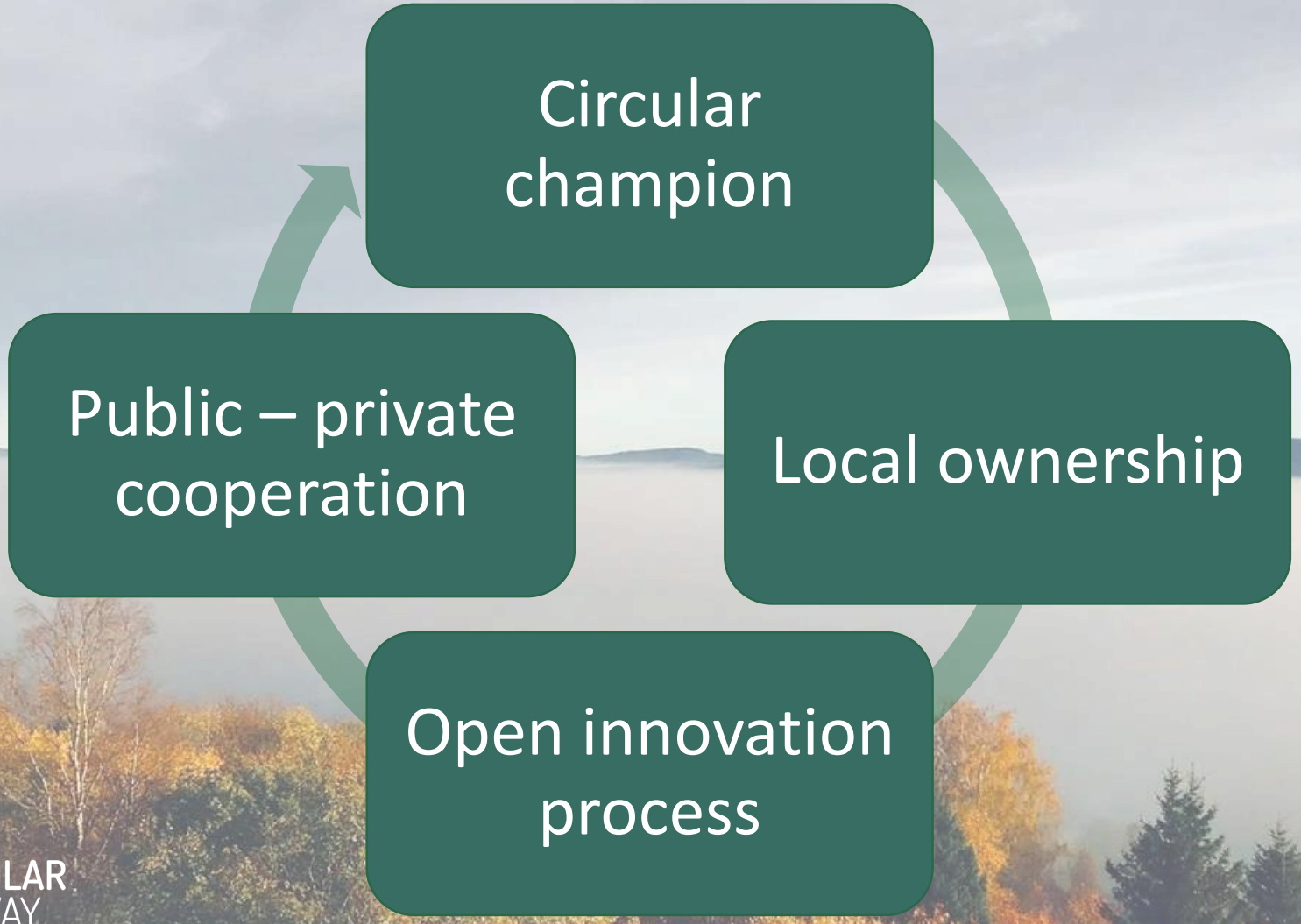
Kongsirk

Circular Procurements

CIRCLE ECONOMY

CIRCULAR NORWAY

Succes factors



CIRCLE ECONOMY
CIRCULAR NORWAY

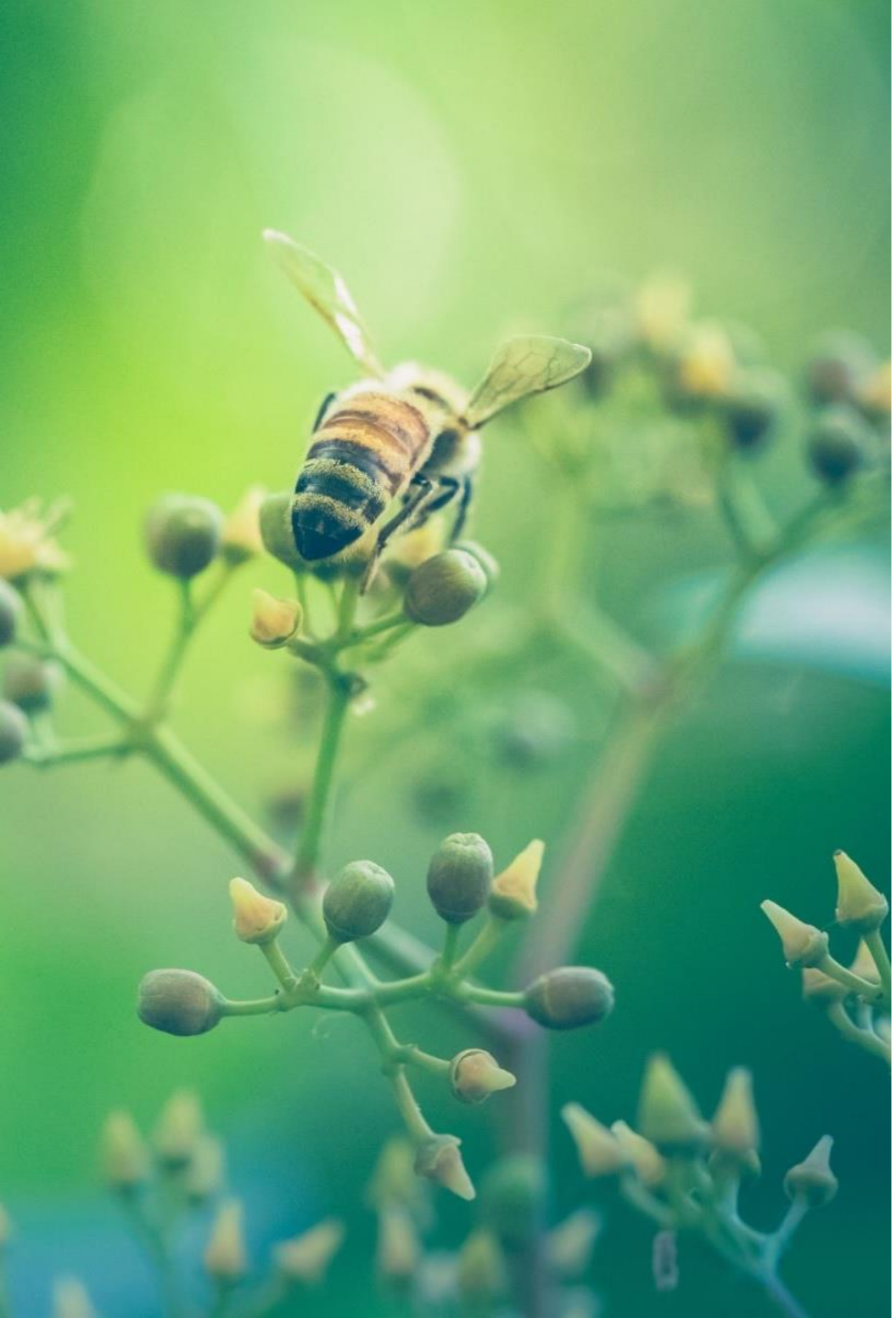
Circle Scan Kongsvinger region delivers on sustainibility goals and climate goals

Strategy for green, circular economy in Norway

- New regulations
- Standardization
- Digitalization
- Poison free products and loops
- Increase of investmest and innovation

The way forward

- Plan for circularity
- Design for circularitet
- Produce circular
- Finance circularity
- Act circular



CIRCULAR NORWAY

Circular Economy

- Cut CO2 emissions
- Preserve raw materials
- Reduce waste
- Keep biological diversity
- Circular business models
- New jobs
- More cooperation between sectors

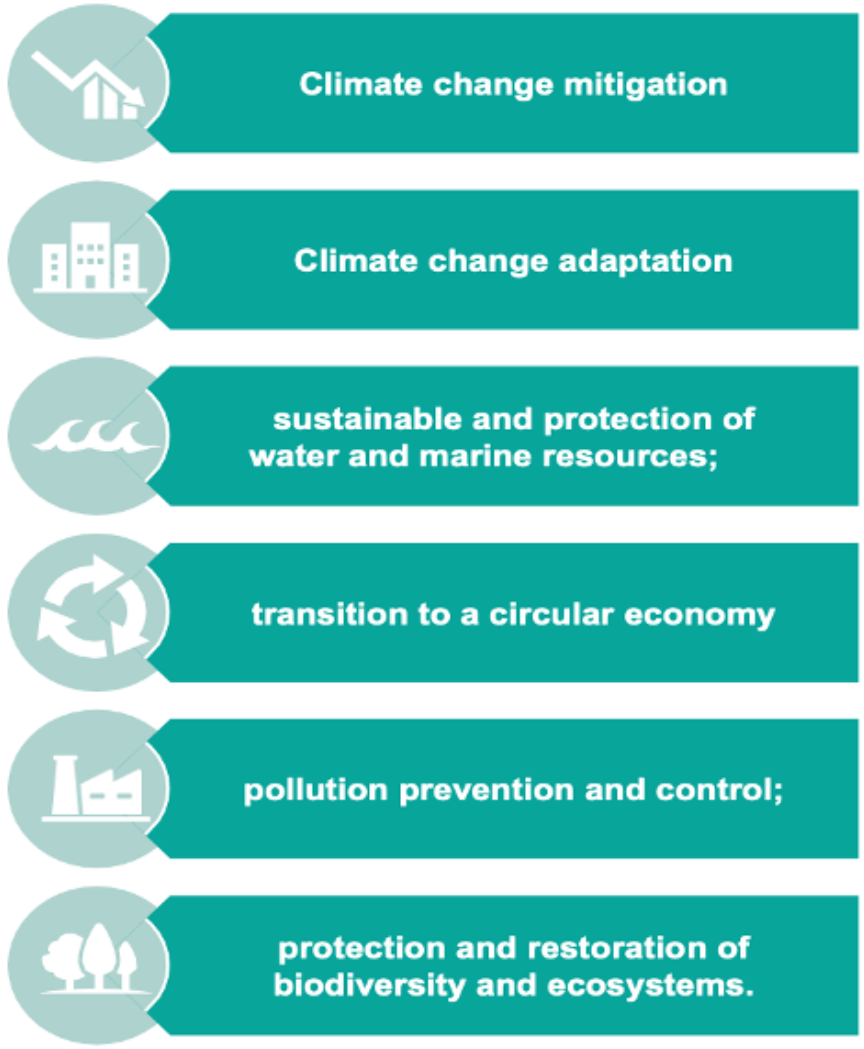

European Green Deal
Transition to a Circular Economy
Preserving Europe's natural capital
A zero pollution Europe
Sustainable Transport
Farm to Fork
Achieving Climate Neutrality
The transformation of agriculture and rural areas
Clean, Reliable and Affordable energy
Towards a modernised and simplified CAP
Financing the transition
Leave no one behind (Just Transition)
TBD with the commissioner-designate
Farm to Fork Strategy
Revising 2030 Climate targets
Extending ETS
Climate Pact
Climate Law
Carbon Border Tax
Vision for Inclusive Rural Areas
Africa Europe agenda
Review Energy Legislation
European Framework for gas
Review Energy Taxation directive
CAP reform proposal
European Investment Bank as European Climate Bank
Sustainable Europe Investment Plan
Green Financing Strategy
Mainstreaming climate transition and sustainability in the MFF
Just Transition Instrument, including the Just Transition Fund
Mainstreaming the Just Transition in the MFF

EU Circular Economy Action Plan

- Europe to become circular in 2050.
- Initiatives along the life cycle of products.
- Strategies for circular design and products, promotes circular economy processes, encourages sustainable consumption, and aims to ensure that waste is prevented and the resources used are kept in the EU economy for as long as possible.

EU Taxonomy

- The EU Taxonomy is one of the cornerstones of the EU Sustainable Finance Action Plan.
- Six different classifications to clarify what is environmentally sustainable economic activities.
- Providing definitions to companies, investors and policymakers.
- Protect investors from greenwashing.



CIRCULAR NORWAY

“By using the European Green Deal as our compass, we can turn the crisis of this pandemic into an opportunity to rebuild our economies differently and make them more resilient.”

“A more modern and circular economy will make us less dependent and boost our resilience.”

Ursula von der Leyen,

President of European Commision

1,5 degrees goal and Net Zero

The European Green Deal and Circular Economy Action Plan outlines the actions needed to transform Europe into “the first climate-neutral continent in the world” with net zero emissions by 2050.

Thank you

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