

Sustainable Coating Solutions



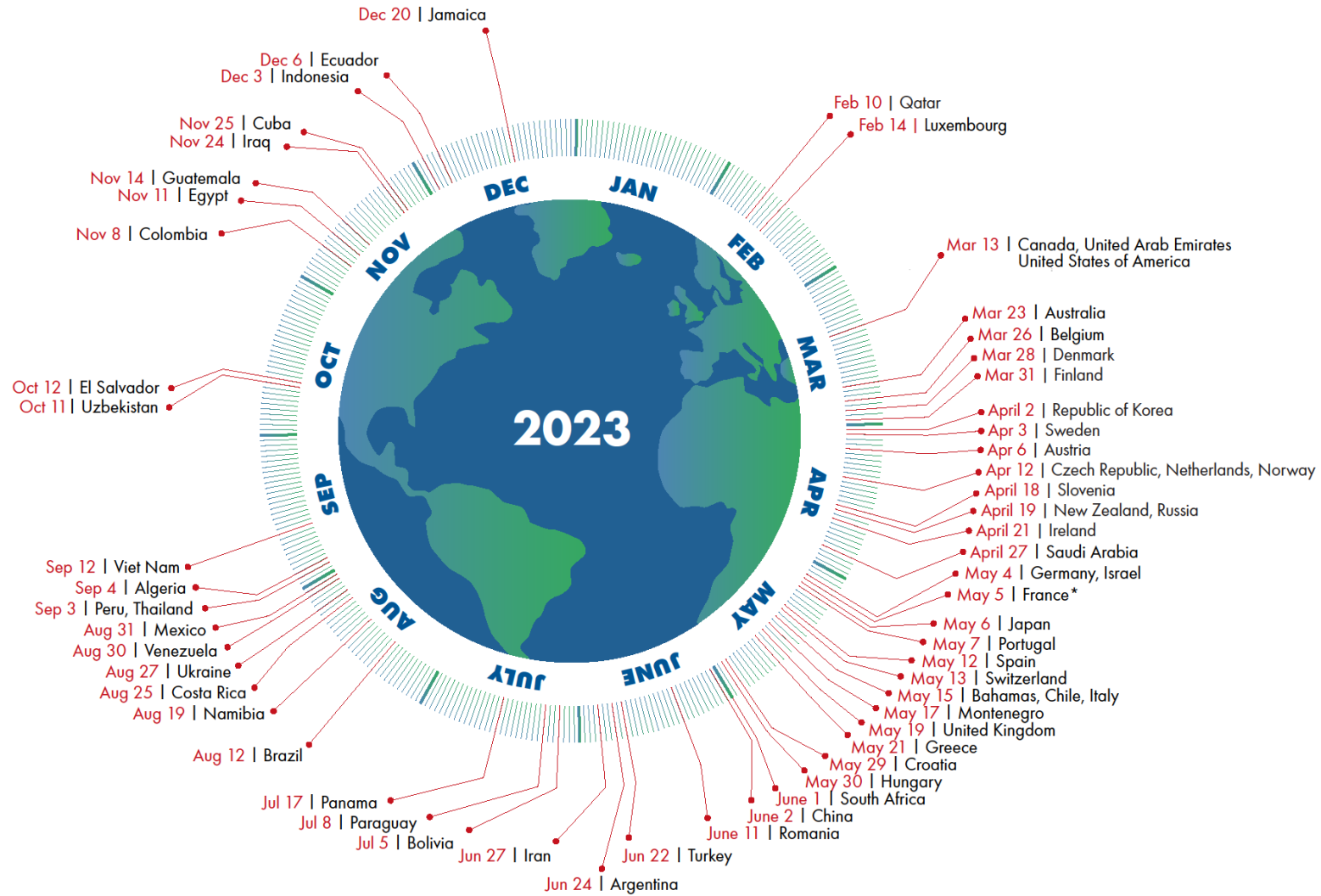
Finding sustainable coating solutions is an ongoing process

How SDG's give guidance

Joost Broeders – Nationale Biobased Conferentie 2023, September 5th

Country Overshoot Days 2023

When would Earth Overshoot Day land if the world's population lived like...



For a full list of countries, visit overshootday.org/country-overshoot-days.

*French Overshoot Day based on nowcasted data. See overshootday.org/france.

Source: National Footprint and Biocapacity Accounts, 2022 Edition
data.footprintnetwork.org





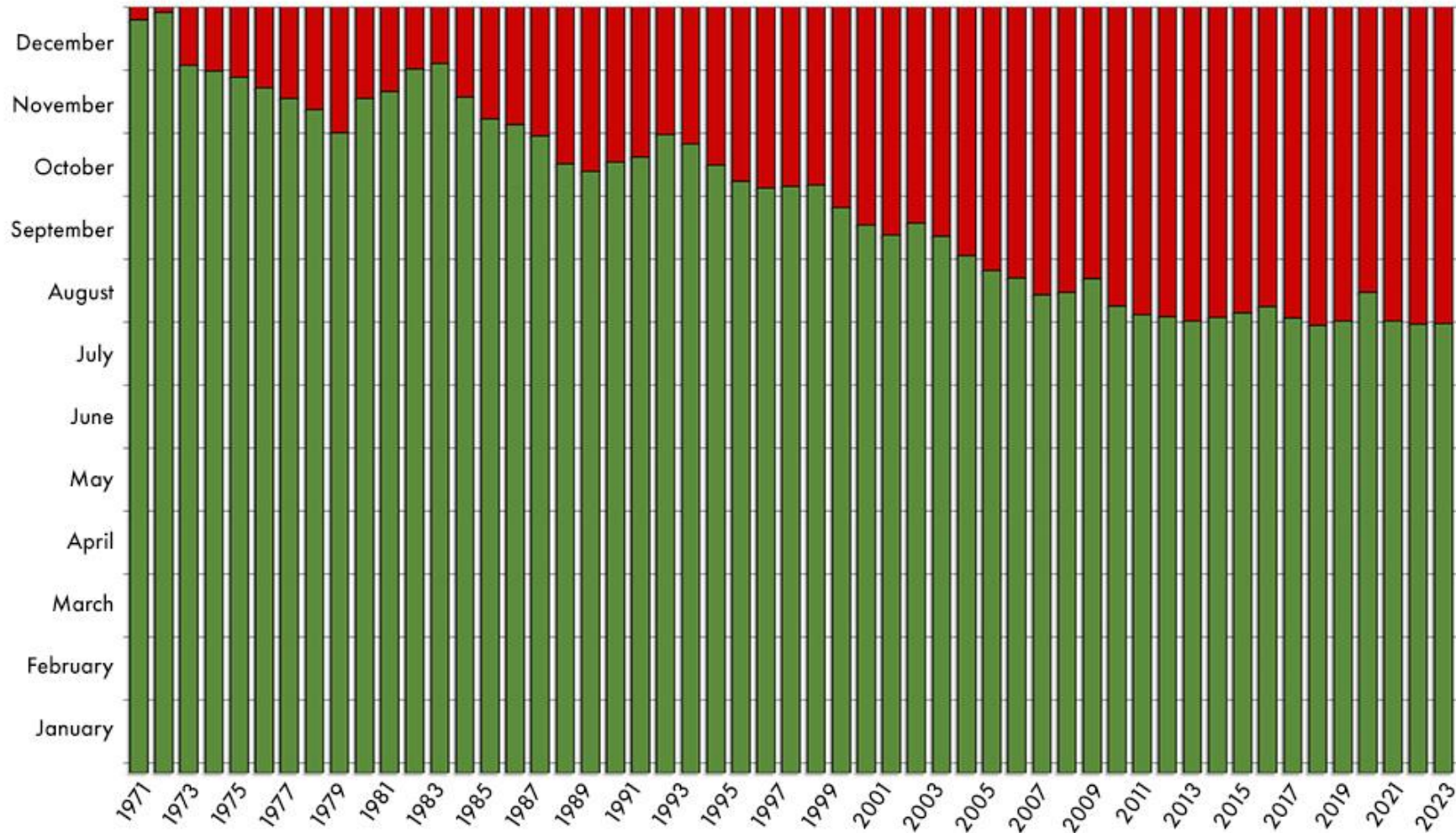
1 Earth

Earth Overshoot Day

1971 - 2023

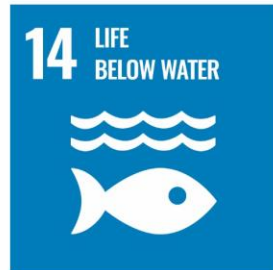
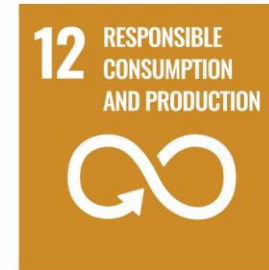
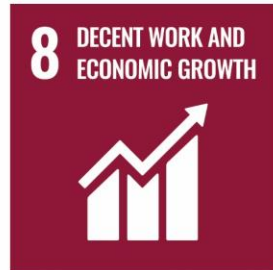


1.7 Earths



Source: National Footprint and Biocapacity Accounts 2023 Edition
data.footprintnetwork.org

SUSTAINABLE DEVELOPMENT GOALS



European Commission – Green Deal

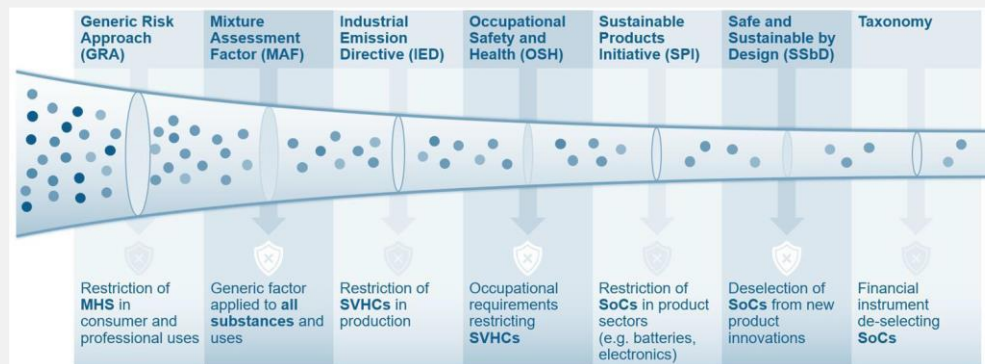
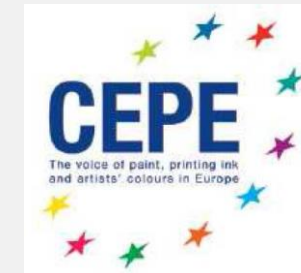
EU Green Deal – climate neutral continent by 2050
including EU taxonomy for sustainable activities



EU Green Deal CSS – Chemicals Strategy for Sustainability,
towards a toxic-free environment (published 14th October 2020):
for better protection of citizens and the environment
boost innovation for safe and sustainable chemicals (SSbD)

CEPE – Green Deal Task Force

CSS subgroup (GRA, essential use, MAF, REACH, CLP revision)
Circular Economy – Sustainable Product Policy Initiative (green claims)



Source: BASF



CHALLENGES

How are we dealing at Baril Coatings with all these challenges?

INTRODUCTION BARIL COATINGS B.V.

Sustainable Coating Solutions



SME, established in 1982, family owned

Baril Coatings develops, produces and sells high quality and durable industrial coatings and construction paints for protection of various substrates like steel, non-ferrous metals, concrete, wood, engineering plastics

Markets:

- Construction and infra
- Industry and machine construction
- Marine and offshore
- Building and maintenance

Baril:

- 80 employees in NL, 's-Hertogenbosch and Etten-Leur
- Capacity ± 6 million liter
- ISO 9001 (quality), 14001 (environment), 45001 (occupational health and safety)





BARIL AND SUSTAINABILITY

> 20 years sustainable thinking and acting

- BOV trophy 2002, CO₂ corporate footprint, product development based on finding most durable solutions, SDG's incorporated in company policy, 2022 Golden Circle Award
- CSR in our veins
- MVO NL Chemistry partner



- 'More with less' in multiple ways:
- production (and raws)
 - application (at customers)
 - life time expectancy (durability)





BARIL AND SUSTAINABILITY (selection of SDG's)



on a daily basis, we want to achieve more with less, by means of innovation and improving durability of paint systems

low emission products (A+) and production (ionisation), use of renewable raw materials



renewable energy, solar panels, certified wind energy and full electrical cars

use of biobased raw materials



labour friendly working environment and progressive rewarding

reformulation to prevent use of toxic ingredients and extreme reduced use of plastic packaging



Baril Academy – training of both internal and external customers

We can't do it on our own, we team-up with partners throughout the supply chain



PRODUCT DEVELOPMENT - RENEWABLE / REUSE

Continuous search to reduce the use of virgin and fossil material

WHY?: Earth Overshoot Day the Netherlands 12th of April 2023!

Biobased:

- resins
- solvents
- additives
- pigments

Recycling:

- pigments
- solvents
- fillers

Reduce:

- thin film protection
- cold cure



EXAMPLE OF CONSORTIUM PROJECT

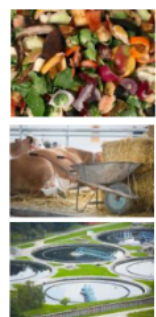
BA4C: testing of bio-MPA based alkyd resins in comparison to fossil based alkyd resins

Evaluation of resin samples as such

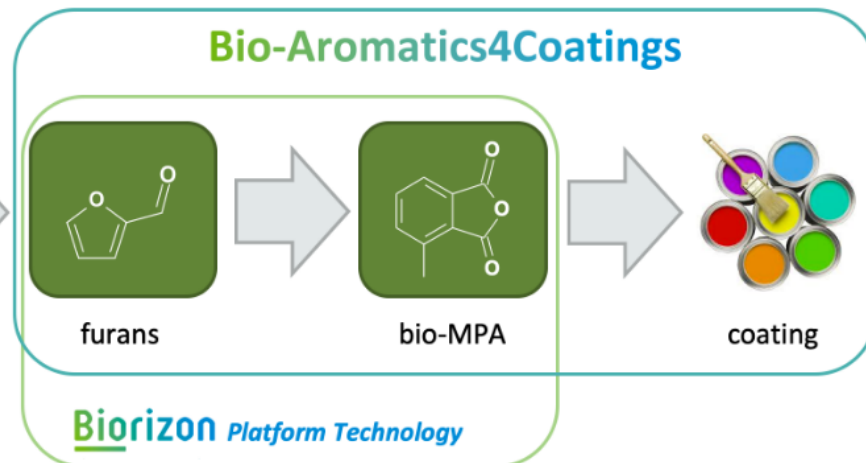
Evaluation of the samples in a standard coating formulation, both transparent and pigmented

Testing of the coating samples

Evaluation of application properties of the coatings



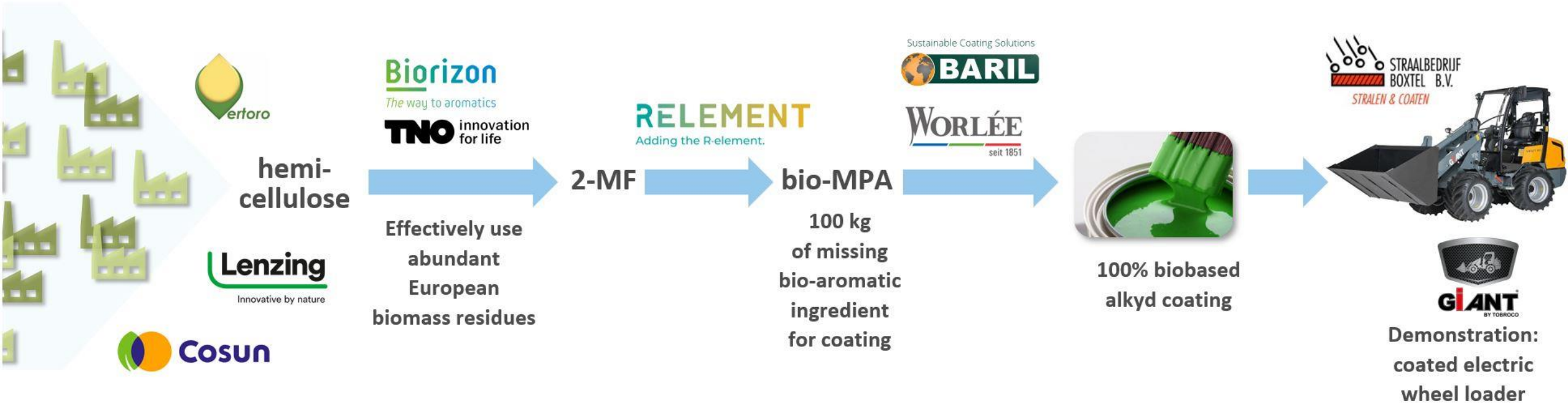
residual biomass



Partners:



BRIGHT COATINGS PROJECT



This project is made possible by the European Regional Development Fund as part of REACT-EU



EUROPEAN UNION
European Regional Development Fund
Funded as part of the Union's response to the COVID-19 pandemic.



Ministry of Economic Affairs
and Climate Policy

COPPERANT BIOBASED

COPPERANT
de groenste verf van nederland



- Deco paints indoor / outdoors
- Fossil based products reformulated using biobased resins.

Target: quality should prevail in both application and technical performance properties. No compromise!

Examples:

- **Pura Multiprimer + Lacquer**



- **Quattro Primer + Lacquer**



WATERBASED ARCHITECTURAL INDUSTRIAL COATINGS

Product examples:

- Sprayable wall paint
- Sprayable primer (40% BB) + silky gloss finish (50% BB)



Recently introduced:

- Sprayable full gloss finish (38% BB)



BIOBASED PROTECTIVE COATINGS



Biobased components:

- Patented DualCure Technology combined with the 70% biobased (PDI) activator
- Epoxy resin (27%), reactive diluent (100%) and (phenalk)amine activators (45-82%)
- Biobased solvent alternatives (45-95%)

Product examples:

- DualCure 2-coat system 180-200 μm total dft with benefits in all segments of the process, including transport and construction at the site
- SteelKote Biobased HS Epoxy 25-40% BB
- SteelKote Solvent Free Epoxy 47% BB

All with equal (or even enhanced) performance



OUTLOOK: 2030 – only ~~100~~ 76 MONTHS TO CHANGE...

100 Months to Change

100 MONTHS LEFT FOR THE 2030 CLIMATE GOALS...
How much positive change can we make in 100 months if we work together?

Join the movement: 100monthstochange.com/nl

THE GLOBAL GOALS
For Sustainable Development
2030

*#groen
is
doen*

#groenisdoen
(be green, just act)

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Sustainable Coating Solutions



PAINTING A RENEWABLE FUTURE

Sustainable Coating Solutions



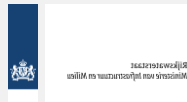
PAINTING A RENEWABLE FUTURE

TRANSPARENCY

Evidence based policy/development

Testing and certification, e.g. Protective Coatings

- NORSOK (corrosion protection)
- System and product certification (COT)
- Approved by Rijkswaterstaat
(Dutch government)



And for biobased paint developments

- Biobased content product certification
(USDA & OK Biobased, ASTM D6866)
- Closed chamber emission testing (Eurofins)
- Toxicology (plant growth, OWS)
- EU Ecolabel certification (SMK)
- C2C Bronze certificate (C2C institute)



BARIL AND TRUE VALUE

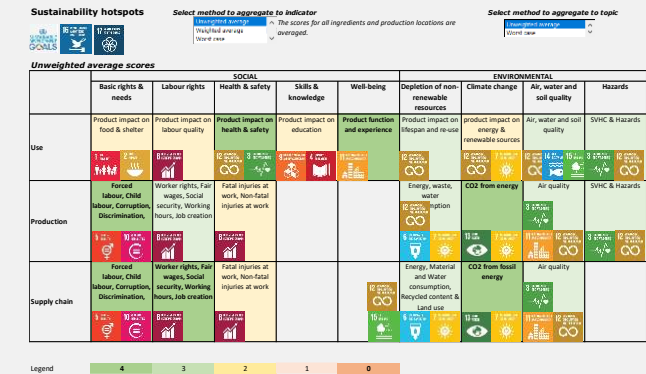


Instruments – towards true value:

- CEPE Eco Footprint Tool
- Sustainability Hotspot Scan – MVO NL / TNO / Baril / Kornuyt (2016-2018)
- Ware Winst Brabant icw Economy for the Common Good / ECG Balance (2018 - 2022)
- KPMG-MVO NL - New Wealth (true pricing)
- Klimaatplein (CO₂ balance) and ClimateAlliance



TAKE YOUR SHARE IN THE NEW ECONOMY



CSR Expedition @ Nyenrode – MVO NL :
Stewardship / creating shared value

TU/ecomotive - ZEM



Zero Emission Mobility

Student project TU/e Eindhoven University

- CO₂ capturing filter unit
- 3D-printed bodyparts (from recycled plastics and reprintable)
- Baril's biobased 2K WB DTS coating based on Black Bear carbon black pigment and Prima-II recycled TiO₂ pigment and fillers



TU/ecomotive - Eterna

Sustainable Coating Solutions



The car that lasts a lifetime

Student project TU/e Eindhoven University

- two distinct lifecycles: a swappable top and a durable bottom
- 3D-printed bodyparts (from recycled plastics and reprintable)
- Baril's biobased 2K WB DTS coating



TU/e ECOMOTIVE

