



Driving sustainable innovation – challenges and opportunities for industry

Richard Northcote
Chief Sustainability Officer
Covestro AG

GC3 Innovators Roundtable
8 May 2018

covestro.com

Our purpose

To make the world a brighter place



OUR MISSION:

We inspire innovation and drive growth through profitable products and technologies that benefit society and reduce the impact on the environment

Chemical and plastic industry

Enables sustainable solutions for key sectors



MOBILITY



Lightweight construction

RENEWABLES



Higher yield

CONSTRUCTION



Thermal insulation

Our future is being collectively shaped

Pathway forward



Contribute to
UN Sustainable Development Goals
Ensure future economic growth
Enhance durability of products

... while

- reducing CO₂ emissions in production and over the lifetime of products
- increasing energy efficiency
- improving use of resources (carbon) along the value chain



Covestro sustainability goals 2025

Fully committed to contribute to UN SDGs



Research & Development

Our R&D project portfolio aligned with UN Sustainable Development Goals



Procurement

100 % of suppliers compliant with our sustainability requirements



Production

Reduce specific CO₂ emissions by 50%



Products on the market

10 million people in underserved markets reached through our business solutions



Across the value chain

We aim to get the most value out of the carbon employed



Sustainable products

Covestro is rethinking its raw material base



FROM POLLUTANT TO RAW MATERIAL

- Covestro is integrating CO₂ into the production chain
- *dream production*: CO₂ as raw material for polyols
- technical and commercial viability of CO₂-containing PU foam proven in two-year test phase

Sustainable products

Material innovation for efficiency



STRONGER, LIGHTER, LONGER

- Better mechanical properties
- Superior fatigue performance
- Weight reduction
- Improved cost efficiency

A breakthrough: bio-based aniline

Producing a crucial chemical more sustainably



DISRUPTIVE NEW PROCESS DEVELOPED

- Producing the key chemical aniline based on renewable resources
- Carbon content: 100% biobased – sparing fossil resources like crude oil
- Reduction of carbon footprint
- Proof in laboratory – now scale-up

Further rethinking the raw material base

Towards circular economy, renewable raw materials and carbon productivity



GENERATE VALUE FROM ENTIRE CARBON FROM THE FLUE GAS STREAM

- Industrial waste gases (mixed CO/CO₂ streams) into intermediates for PUR
- For rigid foams, insulation and coatings
- Covestro is leading a consortium of 14 partners from seven countries

Carbon Productivity vision

Drive a new perspective on value creation through carbon



Covestro's role:

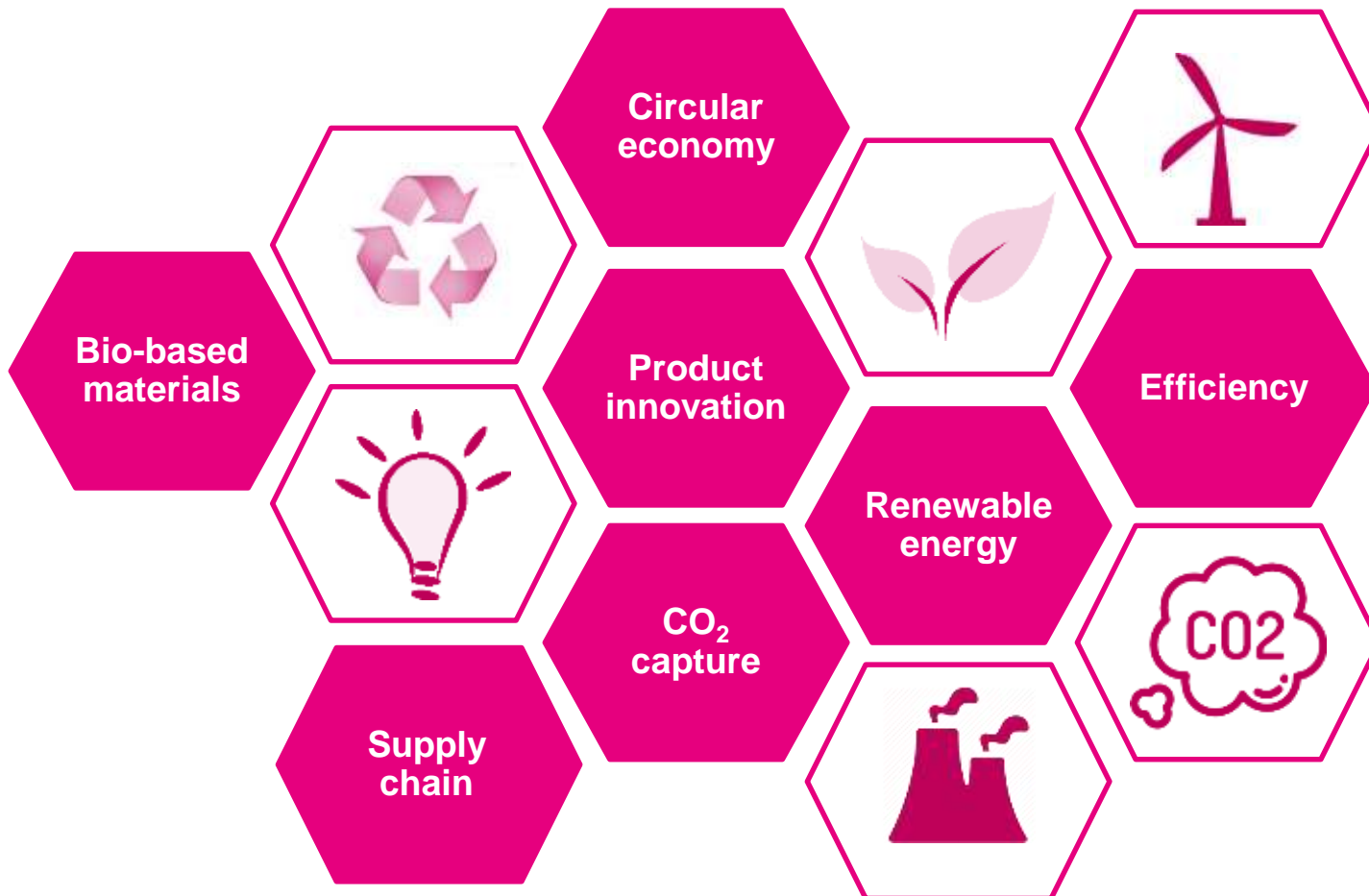
- **Catalyse new insights** about carbon at various stakeholder levels
- Support collaborative creation of a tool which will be made available as **open source**, embraced by key stakeholders and adopted across industries
- Consortium officially announced Carbon Productivity initiative **at the UN Global Compact Breakthrough Summit 2017**

CARBON
PRODUCTIVITY 



Defining a measurement and improvement tool

...that complements existing metrics and approaches



Carbon Productivity



$$\frac{\text{Value created}}{\text{Non-renewable carbon as input for energy and feedstock}}$$

A practical tool for climate mitigation and a change in mindset



FROM...."Carbon is the enemy"

TO..."Carbon as a source of value"



Decarbonisation

Mitigation and reduction

Focus on carbon emissions from company-owned facilities¹



Creating more value from less fossil carbon



Productivity increases and re-coupling to new sources of carbon



Life-cycle and circular view of carbon including product use and after-use

¹ Analysis of ET Global 100 data shows that Scope 1 and 2 GHG emissions (emissions related to company-owned facilities and direct energy sourcing) make up less than 30% of the life-cycle emissions of a product, and even for those companies reporting, only one-third report more than five Scope 3 emissions categories



Thank you



Forward-looking statements

This presentation may contain forward-looking statements based on current assumptions and forecasts made by Covestro AG.

Various known and unknown risks, uncertainties and other factors could lead to material differences between the actual future results, financial situation, development or performance of the company and the estimates given here. These factors include those discussed in Covestro's public reports which are available on the Covestro website at www.covestro.com.

Covestro assumes no liability whatsoever to update these forward-looking statements or to conform them to future events or developments.