

Biomaterials

WMF 2022



Progress beyond

Dr. Ilham Kadri
CEO of Solvay and Chair of WBCSD

June 17th, 2022

“

There is nothing permanent except change. – **Heraclitus**



“From science
will derive the
progress of mankind.”

Ernest Solvay



Progress
Beyond

WE bond

PEOPLE

IDEAS

& ELEMENTS

to reinvent

PROGRESS

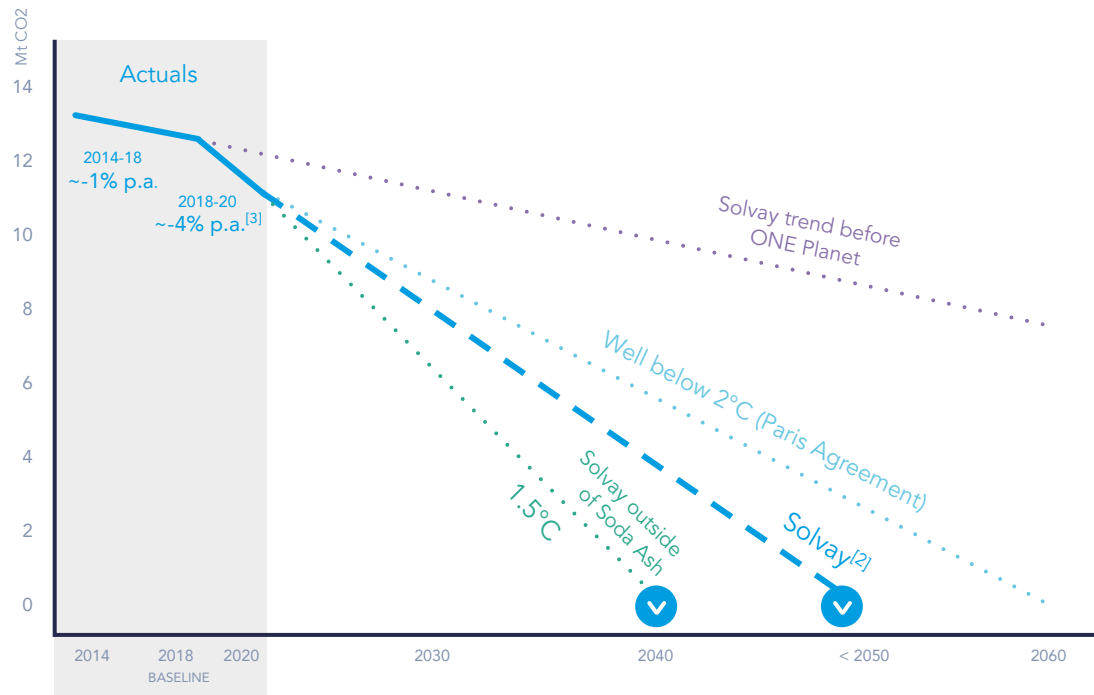
Solvay One Planet broad and strong progress



	Target	2021	Progress versus 2018	Comment	2030 targets
CLIMATE	Align GHG emissions with Paris Agreement and SBTi	11Mt	-14% -11% structural	Above Paris Agreement	Reduce by 30% (-2.5%/yr)
	Phase out coal wherever renewable alternatives exist	27 (1 plant exiting coal)	-18% (petajoule)	Rheinberg in 2020, Dombasle in 2021, Devnya in 2022	Achieve 100%
	Reduce negative pressure on Biodiversity	-13%	-24%	Torrelavega Cuchia quarry restoration (CEFIC award), Paulinia's (WHC Gold Certification), Santa Lucia conservation area	Reduce by 30%
RESOURCES	Increase sustainable solutions, % of Group sales	53%	+3pp	Solef® PVDF, Addibond™, Actizone™, SOLVAir® Marine	Achieve 65%
	Increase circular economy, % of Group sales	5%	+1pp	Silica HDS, RhodiaSolv IRIS, Amodel Bios, Natural Vanillin, Augeo Green Solvent	More than double
	Reduce non-recoverable industrial waste	58 kt	-34%	45 projects initiated	Reduce by 30%
	Reduce intake of freshwater	315 Mm ³	-5%	71 projects initiated	Reduce by 25%
BETTER LIFE	Safety with a zero accident policy (RIIR* indicator)	0.43	-16%	Action plan on globalizing near misses	Aim for zero
	Accelerate DEI, parity in mid & senior management	25%	+1.3pp	Launched Solvay One Dignity 9 goals	Achieve 50% by 2030
	Extend parental leave time	implemented	achieved	16 weeks policy open to all co-parents regardless of orientation since January 2021	16 weeks since 2021

* Reportable Injury and Illness Rate

New carbon neutrality^[1] ambition before 2050



[1] Scope 1+2 GHG emissions

[2] Visualization of the theoretical path to achieve Solvay's GHG reduction targets vs public benchmarks. Annual fluctuations may differ.

[3] Structural excluding the impact from Covid reduced activities

OUR COMMITMENTS



Paris Agreement

2020



Carbon neutrality before 2050

2021



Scope 3 SBTi targets to be announced

2022

The Bio Revolution

60%

of the inputs could be produced biologically in 2040

65%

are industrial

\$2T-\$4T/y

of annual impact in 2030-40



[36%] in Agro / food



[19%] in Consumer products / services

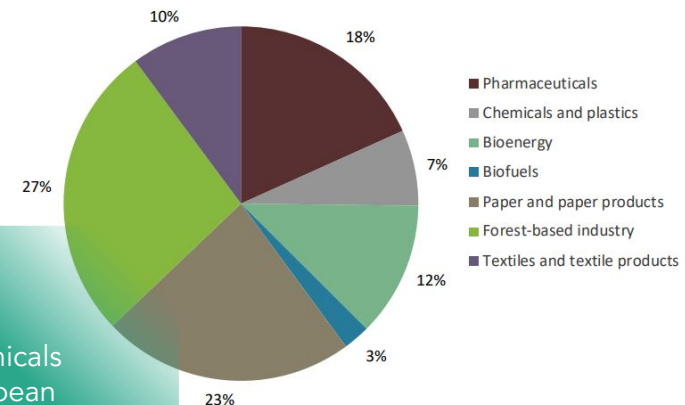


[8%] in Materials / chemicals / energy

Bio-based Industries Consortium

Turnover in the bio-based economy in the EU-27+UK, 2018

TOTAL: 776 billion Euro*



54B€

of the turnover for chemicals and plastics in the european bio-based economy

Solvay's growth platforms

Batteries



Thermoplastic
Composites



More than
€10Bn
growth
opportunity

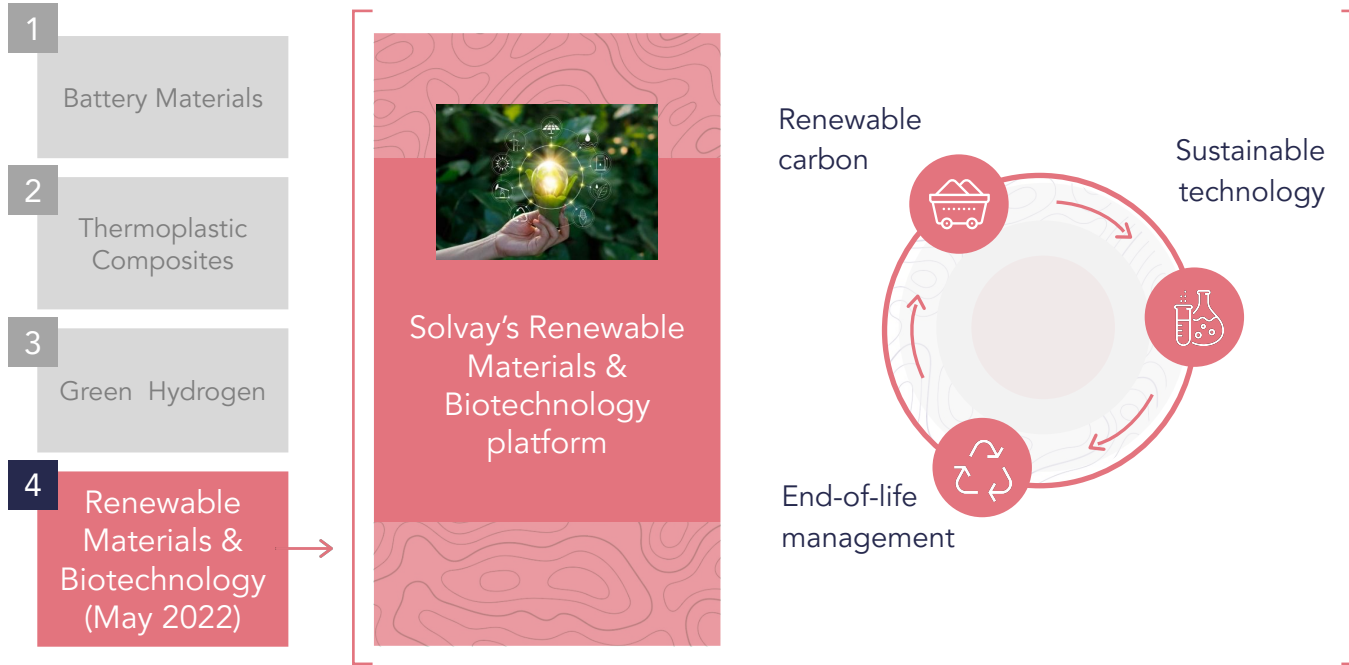
Green
Hydrogen



Renewable Materials
and Biotechnology

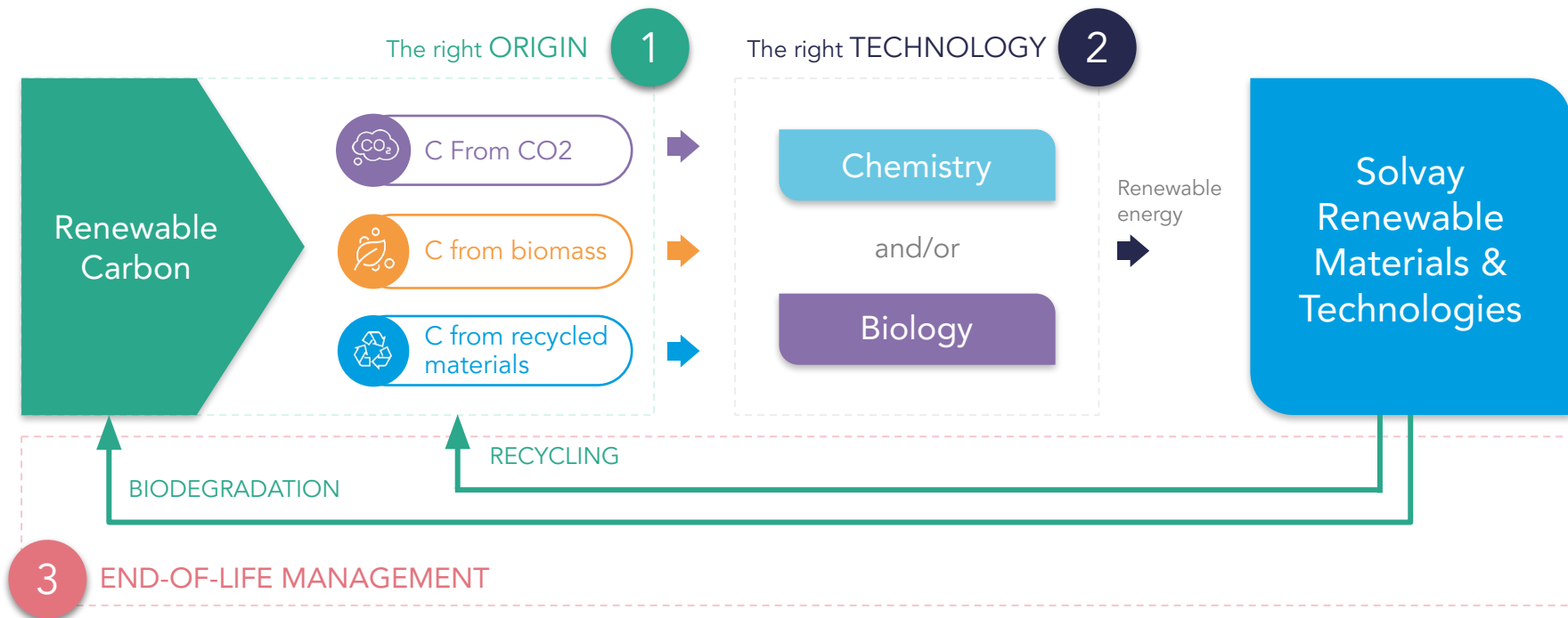


Solvay's Renewable Materials and Biotechnology platform embeds circularity in the core of our businesses



Potential to contribute
€0.5bn
in revenues by 2030

Solvay's holistic approach for a complex challenge



From the End of Life to the End of Use...while the Carbon is not the enemy



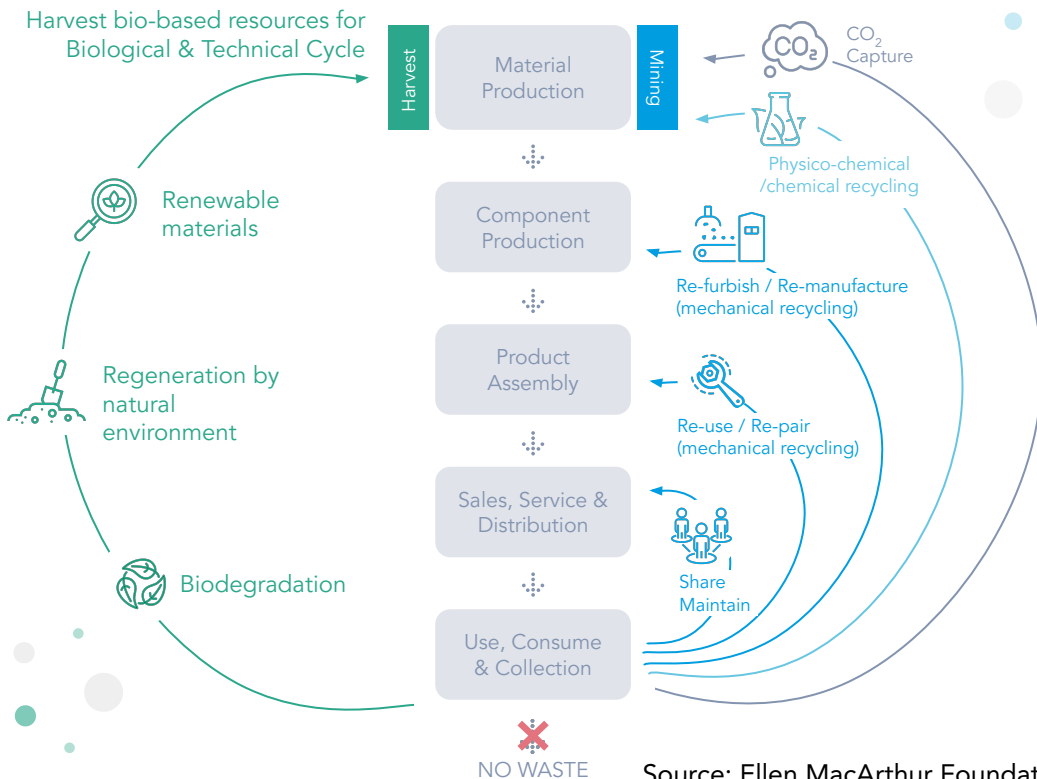
Recycling AND Biodegradability by design... jointly leading to Circularity



Biological Cycle

Solvay Innovations

- ▶ Biotech-enabled Natural Vanillin
- ▶ Biodegradable-by-design surfactants for Personal Care and Agriculture



Technical Cycle

Solvay Innovations

- ▶ Battery Materials Closed loop Recycling
- ▶ Enzymatic Recycling of Polymers

NO WASTE

Source: Ellen MacArthur Foundation



Innovations

Market leader in green solvents



Increased demand for more sustainable solvents

Context

Regulations and customer preferences are shifting towards higher sustainable solutions



Portfolio update

We developed the green solvent Rhodiasolv® IRIS



Portfolio upgrade offers key benefits to our customers



- ✓ Better performance vs. conventional petrochemical solvents
- ✓ Improved secondary characteristics
- ✓ Our products are specified in our customers' formulations, showing long-term commitment to greener technology
- ✓ Our continuous efforts are well recognized





Leader in biodegradable Guar and Emulsifiers



Sustainably sourced, biodegradable polymer portfolio expansion

Context

We have a **strong portfolio in biodegradable** polymers that we **continuously expand** with innovative polymers

Portfolio updates

Recently added **2 new biodegradable guar-based** solutions to our portfolio:

Jaguar® Excel

Jaguar® NAT SGI



has joined our **Sustainable Guar Initiative** in April 2022

Portfolio upgrade enabled our customers to...



- ✓ Address **consumer** expectations for more sustainable and biodegradable beauty ingredients
- ✓ Meet **evolving regulatory** demands while providing **excellent performance** in hair conditioning
- ✓ Use **sustainably-sourced** guar from our **SGI program**

Global leader in natural vanillin



Upgrade of our natural vanillin capacity

Context

We are the market leader in vanillin for FFF, and are developing natural solutions

Portfolio update

In May 2022, we invested in Suanfarma's fermentation plant to further expand our natural vanillin capabilities



RHOVANIL[®]
NATURAL



Portfolio upgrade sets us up to better serve customers



- ✓ Expansion allows to meet strong customer demand in natural vanillin (>30% p.a. growth for Solvay)
- ✓ Customers can source regulation-compliant¹ natural vanillin from Europe
- ✓ Internal biotech capabilities support the expansion of our natural ingredients portfolio

Note: (1) Natural vanillin European Flavour Regulation EC n°1334/2008
Source: Solvay internal data

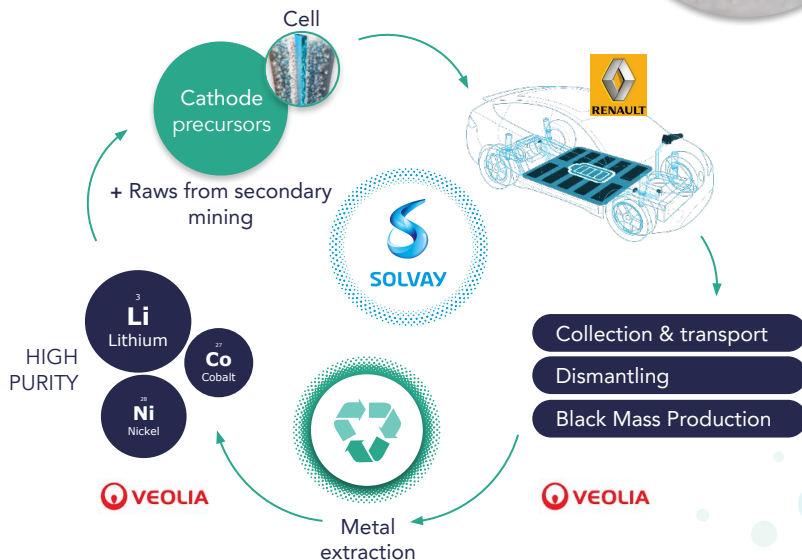
End-of life to End of Use for Circular Advanced materials



Automotive, EV, Hybrids



Packaging



Diofan®

High barrier polymers (PVDC) used for food packaging applications

Ixan®



Multilayer scraps before recycling



Recycled PVDC with similar performance



Progress beyond

Takeaways



For the next Generation

