

Webinar on Renewable Electricity

CO2REDUCE – DSM'S SUPPLIER ENGAGEMENT PROGRAM

17th of June, 2020

BRIGHT SCIENCE. BRIGHTER LIVING.™

Including presentation from:



Welcome to the DSM webinar on renewable electricity!



Harry Coorens
VP Procurement
Excellence & Sustainability



Sim van der Linde
Project Director
Renewable Energy



Wieke Hofsteenge
Sourcing
Sustainability Engineer



Mark Helmsing
Sustainability Director –
Program Mgr Scope 3

The Eneco team welcomes you too !



Thijs van de Grift

Strategic Partner Manager



Lucien de Coo

Senior Account manager



Christian Coppieters

Manager Tender & Industry



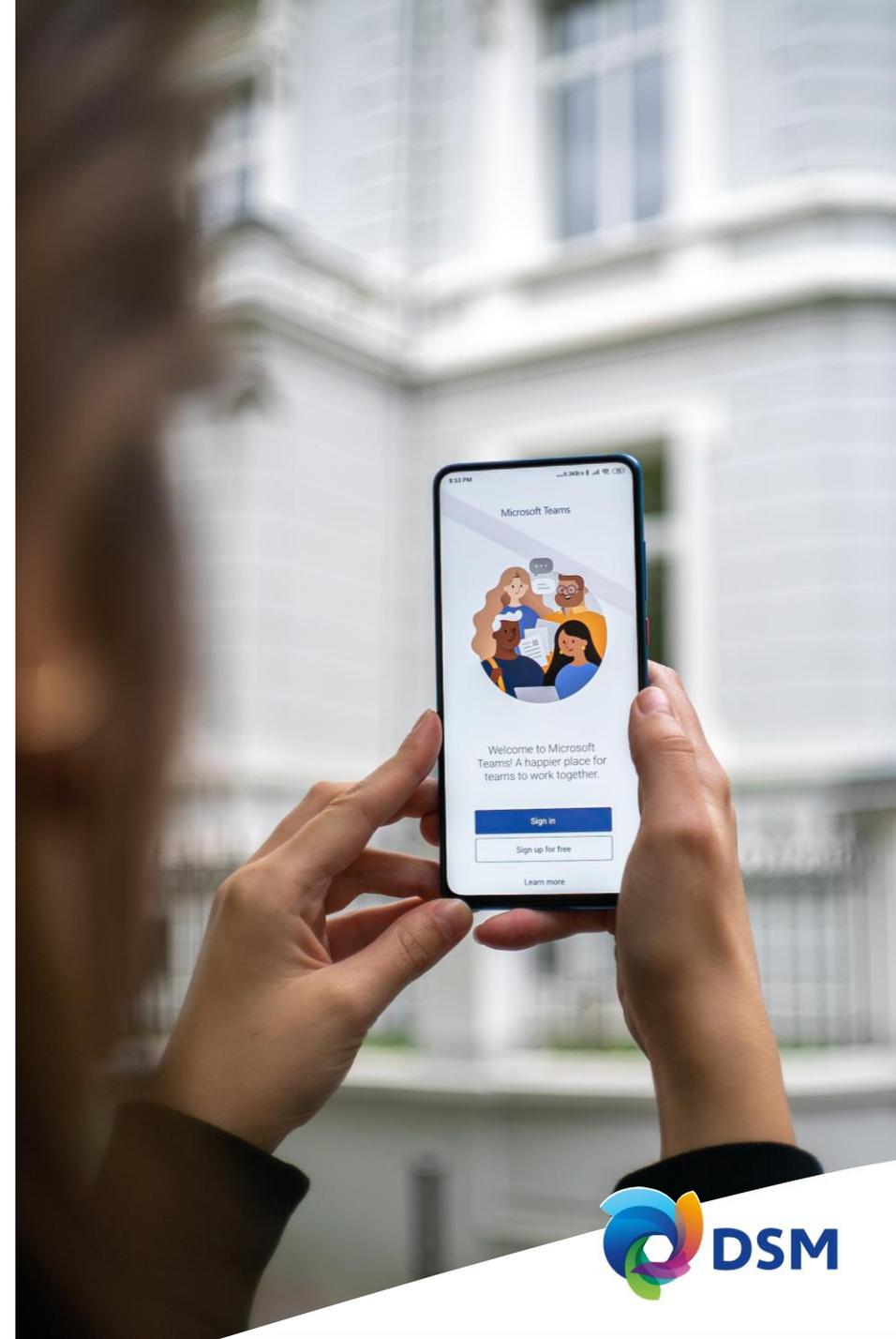
Renewable electricity at DSM and Eneco's solution landscape overview

DSM

- Welcome and practicalities
 - DSM's sustainability ambitions
 - DSM's journey on Renewable Electricity
 - Question & Answer (Q&A)
- Mark Helmsing
 - Harry Coorens
 - Sim van der Linde

Eneco

- Solution landscape for renewable electricity
 - Question & Answer (Q&A)
- Thijs van de Grift



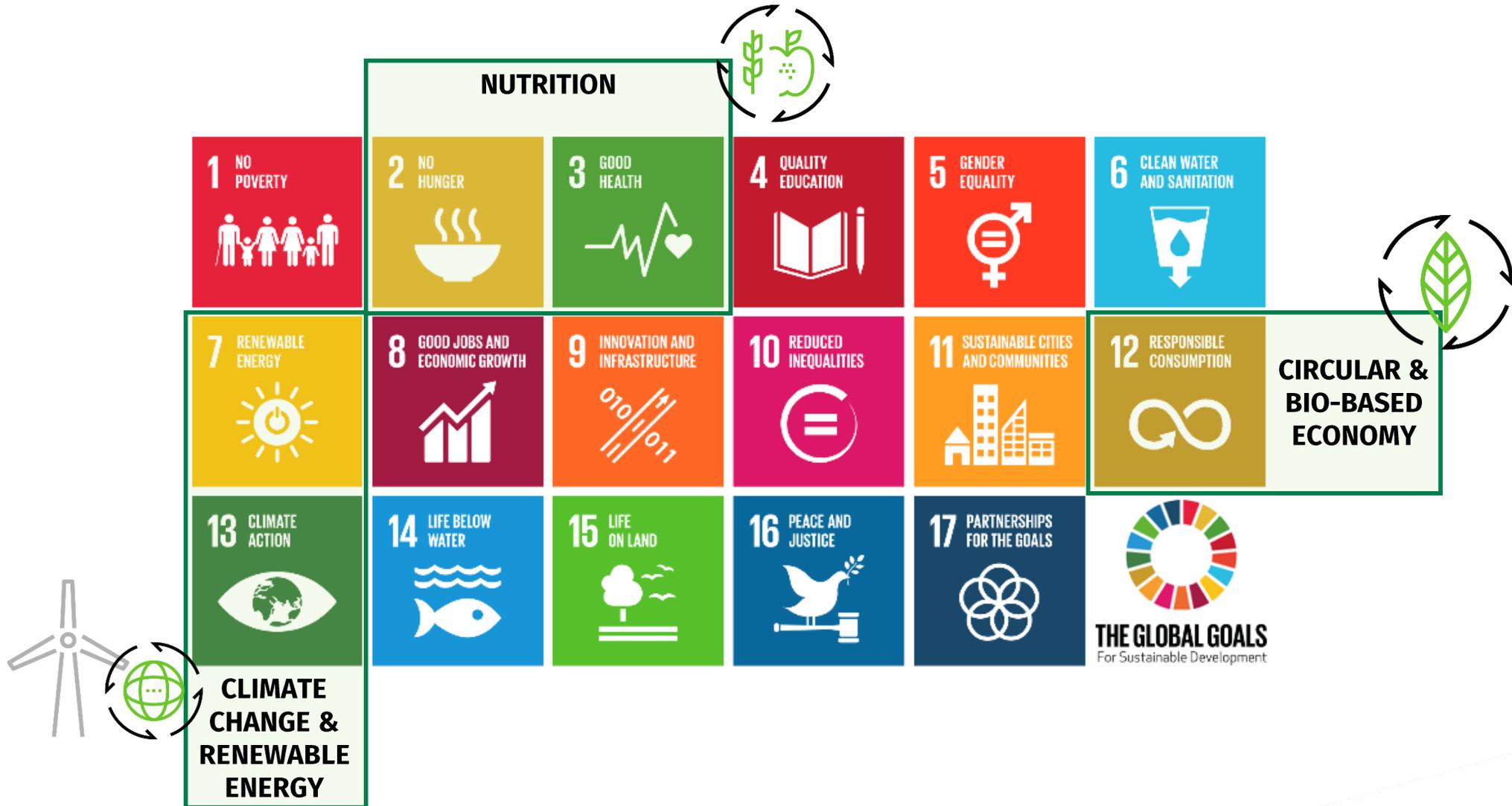
A close-up portrait of Harry Coorens, a middle-aged man with short dark hair, looking directly at the camera with a slight smile. He is wearing a dark suit jacket over a blue and white striped shirt. The background is a solid teal color.

Harry Coorens

*VP Procurement
Excellence & Sustainability*

Sustainability is a core value of DSM

Strategy is well aligned with the UN Sustainable Development Goals



Purpose led company created: “Doing well and doing good”



DSM's science-based emission reduction targets

- DSM has committed to **decouple emissions from economic growth** reducing 30% of emissions from operations (scope 1 and 2) in absolute terms by 2030.
- Additionally, indirect **value chain emissions** (scope 3) will be reduced by **28% per ton of product**.
- To help meeting the targets, DSM also has complementary targets to **source 75% of purchased electricity from renewable sources by 2030** and improve energy efficiency 1% annually

TARGET30

30%

Emissions
reduction from
operations

In absolute terms
by 2030 vs. 2016

CO2REDUCE

28%

Value chain
emissions
reduction

Per ton of product
by 2030 vs. 2016



SCIENCE
BASED
TARGETS

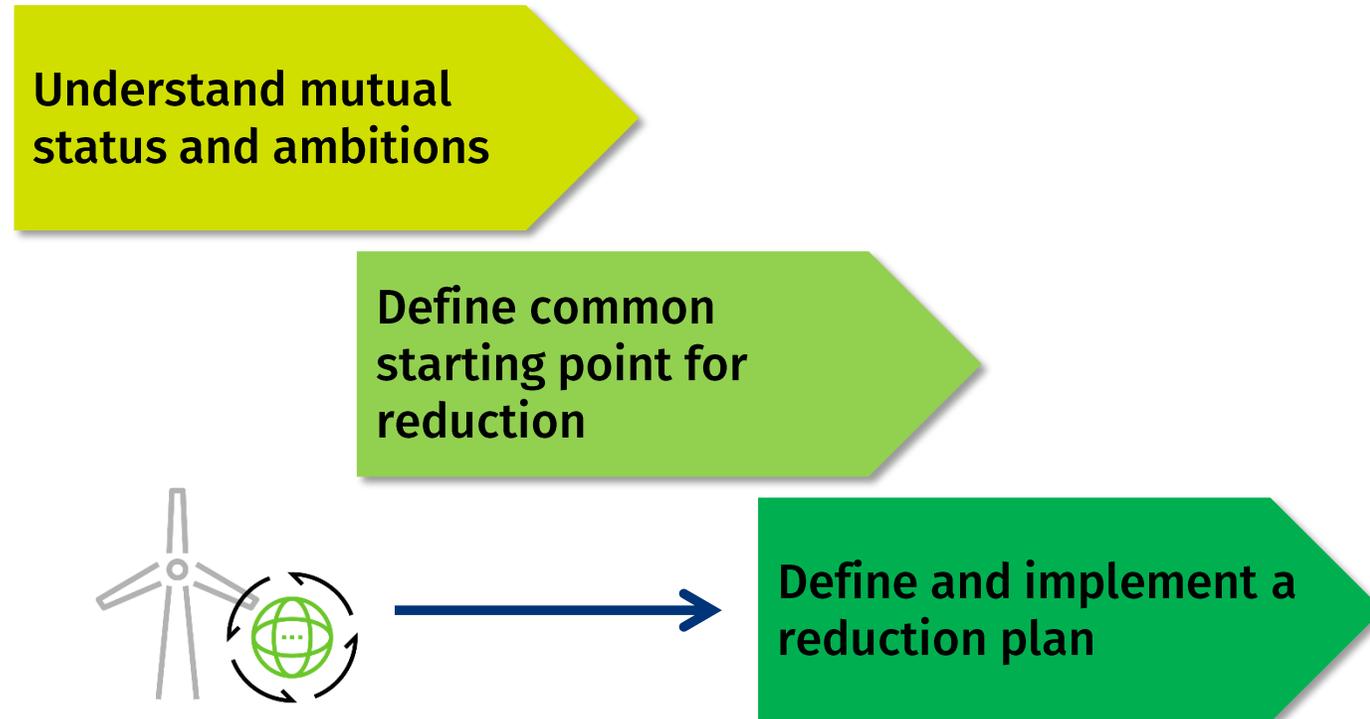
DRIVING AMBITIOUS CORPORATE CLIMATE ACTION



Majority scope 3 is from raw materials

Reducing emissions upstream in 3 steps

More than 80% of DSM's scope 3 emissions are related to the purchased goods & services (=raw materials)



Six solution themes to lower GHG emissions

Switching to **renewable electricity** is a straight forward emission reduction



- Energy efficiency (e.g. electricity/heat saving, insulation)



- Renewable energy (e.g. wind PPA's and solar for electricity, alternative fuels for heating)



- End-of-pipe solutions (e.g. N₂O decomposition, usage of waste streams)



- Closure of the materials chain (e.g. reuse and recycle)



- Alternative feedstocks (e.g. bio-based feedstock)



- Sustainable products (e.g. green product innovation)

Increasing complexity



“Supplier base development based on carbon footprint performance will be increasingly important in the coming years to future proof DSM’s business”



Sim van der Linde

*Project Director
Renewable Energy*

DSM has committed to purchase 75% of electricity from renewable sources by 2030, our journey started in 2015

DSM'S CLIMATE CHANGE PLEDGE



Move global operations to 50% renewable electricity by 2025

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DSM HAS COMMITTED

▶ to procure 100% of electricity from renewable sources.



RE 100

- Dialogue with NGO's
- Additionality preferred
- Renewable Attributes; same country/grid, recent vintage
- Mix of wind, solar and hydro
- Cooperation with other parties
- Off-balance (IFRS)

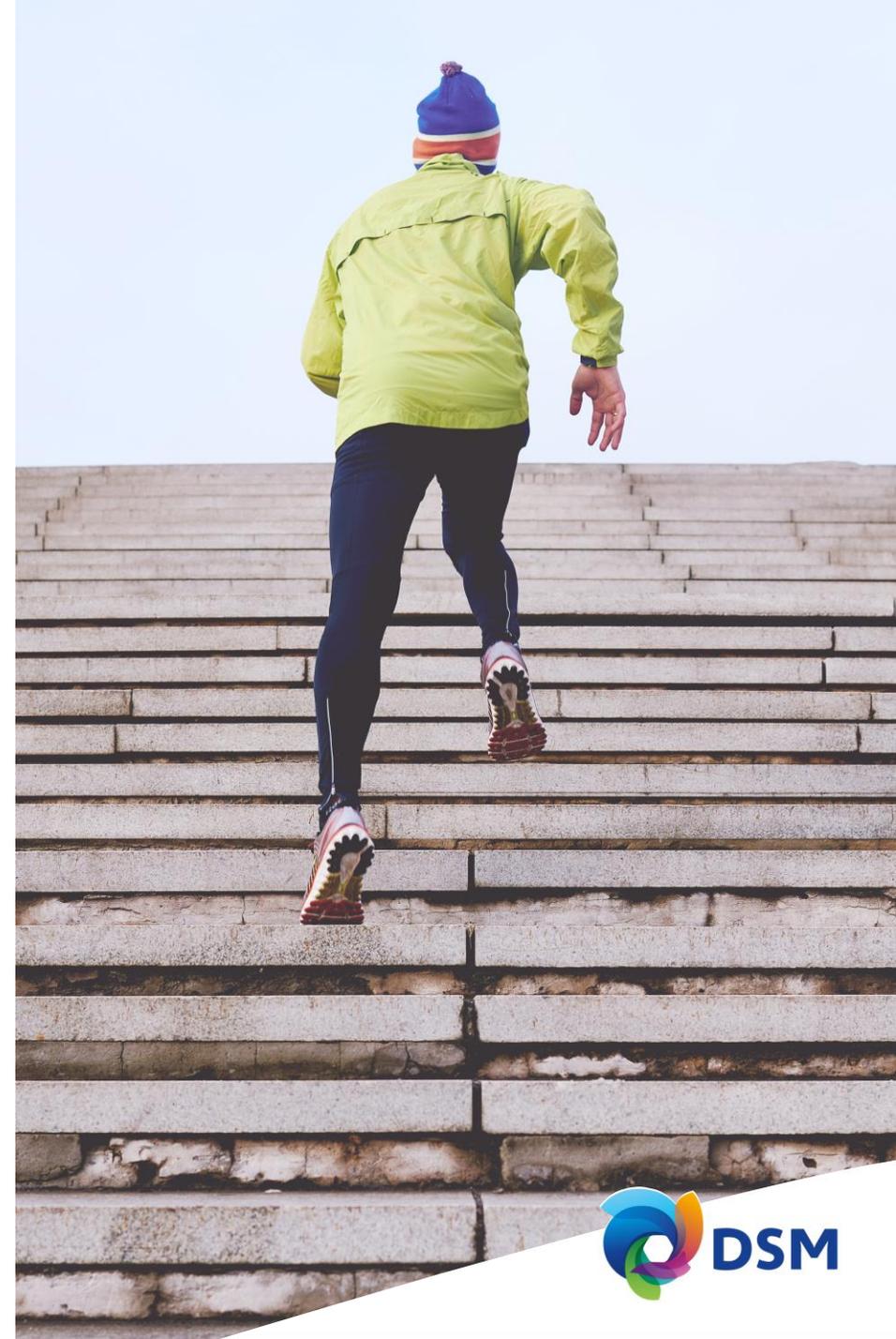
- Target extended to 75% Renewable Electricity by 2030
- Current: 50% Renewable Electricity (2019)

What we have achieved so far

A customized approach is required

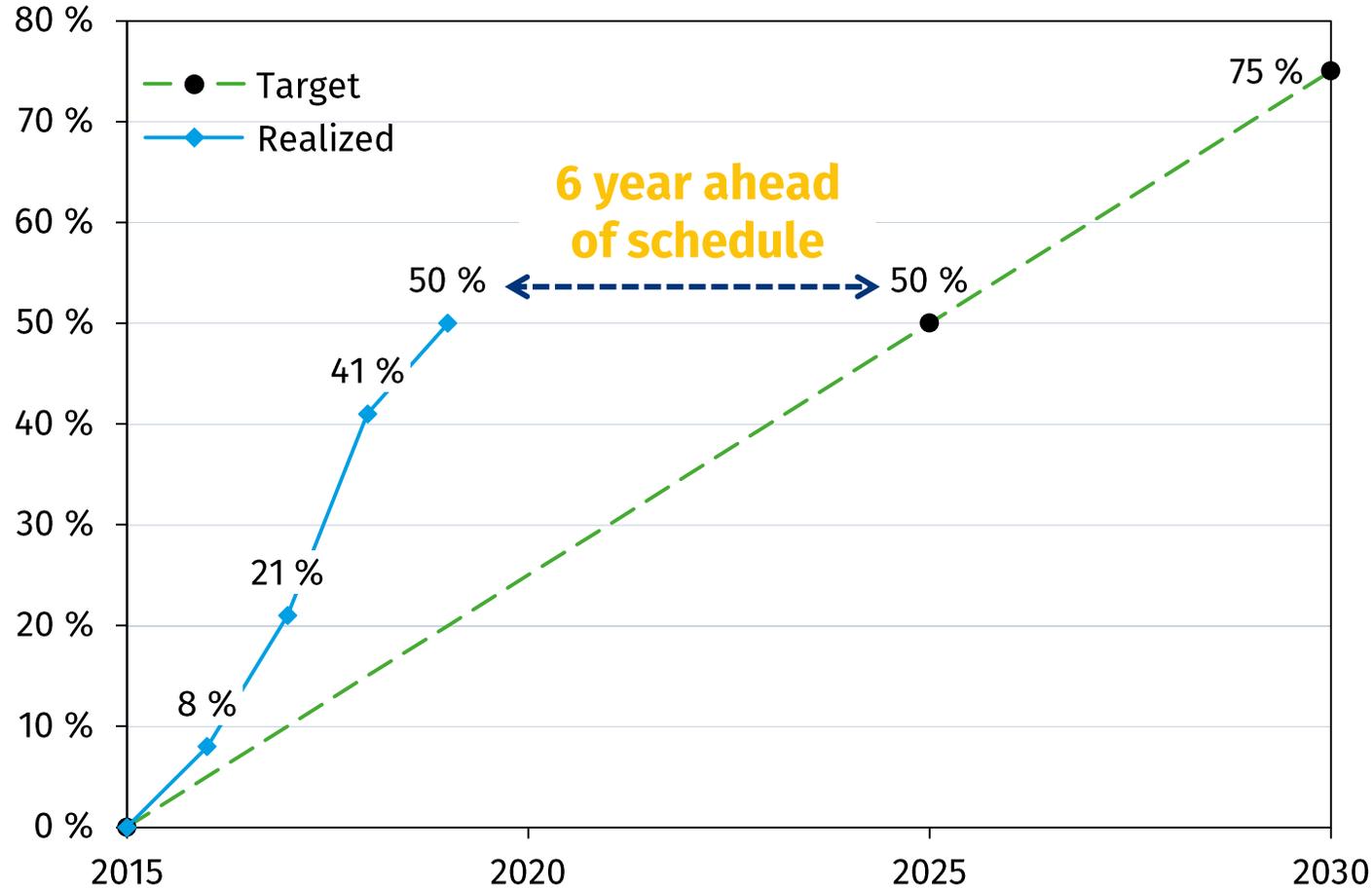
Different solutions for DSM locations around the world

- **Netherlands and Belgium** 100% Renewable Electricity (RE) through PPAs and utility agreements (wind)
- **Switzerland** around 40% RE with baseload hydro power
- **Rest of Europe** partially covered via recent VPPA combining solar and wind (future construction)
- **USA** towards 70% with VPPAs (wind, solar future construction)
- Various smaller contracts in other countries



Well ahead to reach target of 75%

Focused approach yields fast results and traction



Example: announcement of consortium & first deal KRAMMER in October 2016

Consortium members



Windpark Krammer

- 35 Wind mills x 3MW
- 105 MW total capacity

Location: Krammer locks in Province of Zeeland (NL)

Shareholders:

- Majority owned by two local cooperatives (4000 members)
- Enercon

Windpark Krammer, NL



Consortium:



2 new VPPA's in Europe and USA

A big step towards a low carbon future

Press release on 22nd of April, 2020

Today the 50th anniversary of Earth Day is celebrated. No better day than today to announce a reduction of CO2 emissions by approximately 85,000 tons/year.

Through the signing of its largest Power Purchase Agreements (PPAs) to date, one in Europe and one in the USA, DSM covers approximately one quarter of its current total annual electricity consumption by renewable energy. With these deals DSM is well positioned to outpace its target of achieving 75% of purchased electricity from renewable sources by 2030.

Commitment

The PPA in Europe has been signed with EDPR, a global leader in the renewable energy sector and one of the world's largest wind energy producers. DSM will source renewable electricity from one wind farm and two solar power plants in Spain with a total capacity of 76 MW.



Lessons learned

1. Setting targets supported by leadership is a must
2. Early involvement of internal stakeholders is crucial for effective decision making
3. The first Renewable Electricity contract takes the longest time and one can significantly speed up thereafter:
 - Several months from start to signing an agreement
 - Construction time dependent on the actual project
4. Cost of renewable electricity varies greatly and can offer an attractive business case depending on the approach
5. Finding the right partners is essential and necessary



Leaders in the energy transition Sustainable partnerships

Welcome to the new world.



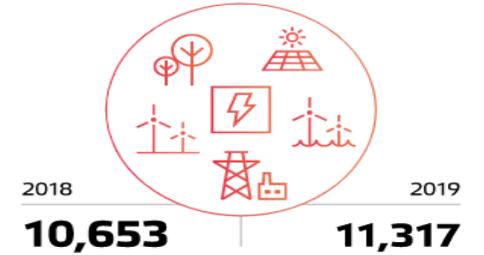
Thijs van de Grift

17 June 2020

About Eneco Group

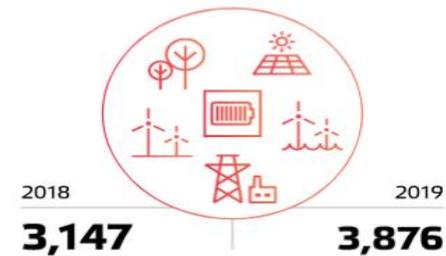
Integrated energy group,
based in the Netherlands and
operating in 4 countries.

Produced (GWh)



Produced (GWh)

Production capacity (MW)



Production capacity (MW)

Offers sustainable and
innovative products and
services to over 5.3 million
contracts.

Legenda

- Zon
- Offshore wind
- Onshore wind
- In ontwikkeling
- Biomassa
- Warmte & Koude
- Waterkracht
- Gascentrale
- Stadswarmte
- Gasopslag

Capaciteit is geïnstalleerde capaciteit

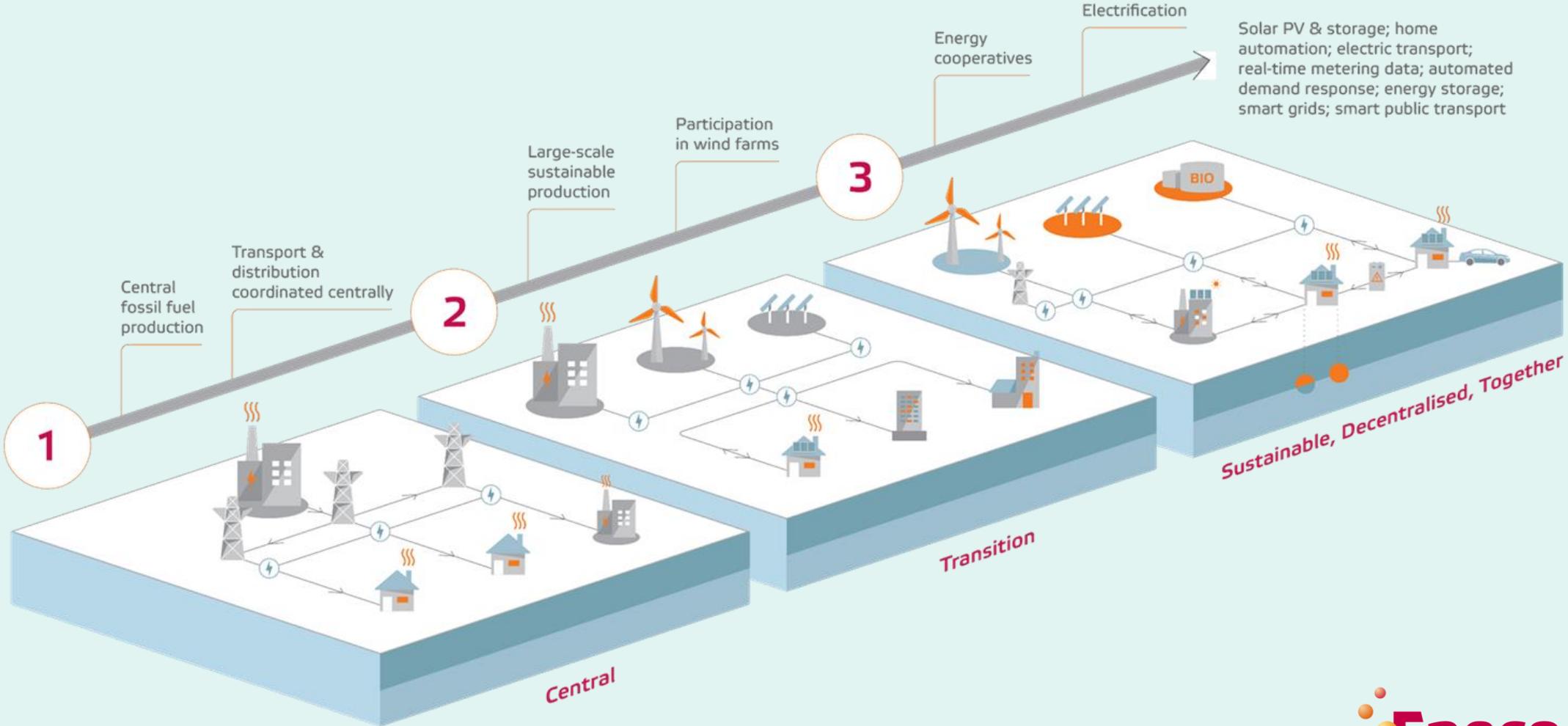
*Onderdeel van Mitsubishi Corporation

Huishoudens: vergelijkbaar met het verbruik van het genoemde aantal huishoudens

	Eneco Luchterduinen
Capaciteit	129 MW
Huishoudens	150.000
Afnemers	NS, TU Delft, Unilever, KPN
Partners	Eneco (50%), Mitsubishi Corp. (50%)
	Enecogen
<i>Een van de schoonste en meest efficiënte gascentrales van Europa</i>	
Capaciteit	870 MW
Huishoudens	1.400.000
Partners	Eneco (50%), Castleton Commodities International (50%)
	Zonnepark Tholen
Capaciteit	17 MW
Huishoudens	5.300
	Norther
Capaciteit	370 MW
Huishoudens	400.000
Partners	Elicio (50%), Eneco (25%), Diamond Generating, Europe* (25%)
	SeaMade
Capaciteit	487 MW
Huishoudens	485.000
Partners	Orany, ENGIE Electrabel
	ArcelorMittal
Capaciteit	50 MW
Huishoudens	2.900

	EnspireME
<i>Grootste batterij van Europa die reservecapaciteit levert aan het Europese elektriciteitsnet</i>	
Capaciteit	48 MW
Huishoudens	5.300 huishoudens per dag
Partners	Mitsubishi Corporation
	BioWarmte Installatie Lage Weide
Capaciteit	60 MW
Huishoudens	45.000 warmtekanten in 2020
	Stadswarmte
<i>Eneco is marktleider stadswarmte in Nederland</i>	
Huishoudens	137.355
	Borssele 3 & 4
<i>Naar verwachting operationeel in 2021</i>	
Capaciteit	700 MW
Huishoudens	825.000
Partners	Eneco, Shell, Partner Group, Diamond Generating Europe*
	Hogezandse Polder
Capaciteit	30,6 MW
Huishoudens	Ca. 30.000
Partners	Hoeksche Waard Duurzaam

Our strategy: Sustainable, Decentralised & Together



Eneco's vision on partnerships



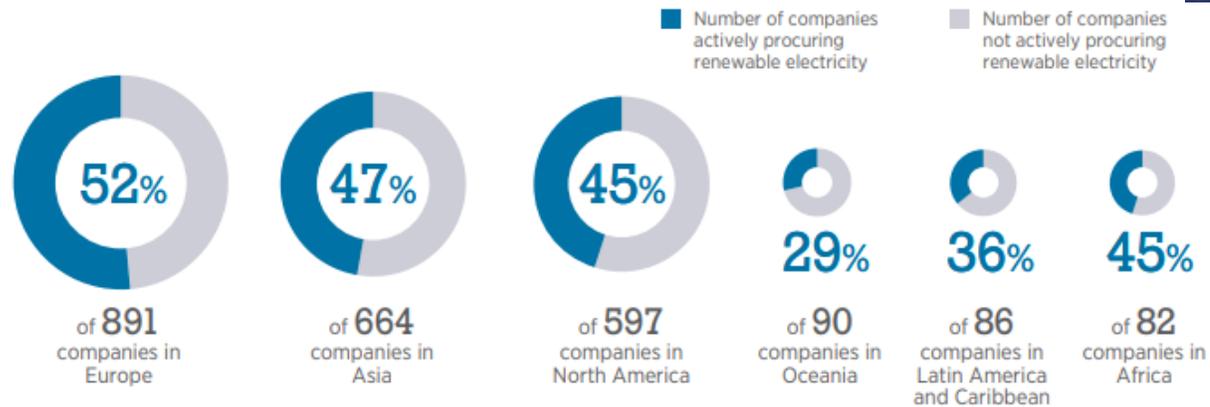
Create value and positive impact
to maximize **sustainable leadership** !

- **Strategic fit** between partners
- Joined **exploration of opportunities** to
 - create **added value** on your reputation and brand value
 - apply **innovative solutions** where possible
 - create **stakeholder engagement** in and around the value chain
 - based on tailor-made **positive** business cases

More and more organizations are facing the challenge of becoming fully sustainable



Figure 1.1. Regional overview of companies reporting renewable electricity consumption



Source: Irena 2018

There are plenty of reasons to switch to sustainable energy: environmental reputation and economic



Contribution to the climate agreement

You make an active and visible contribution to the climate agreement and thus help make the Netherlands more sustainable.



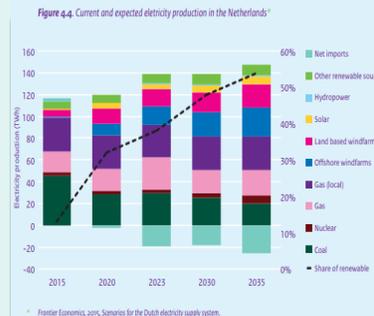
Become a case for NGOs

NGOs need good examples for their communication to support their mission



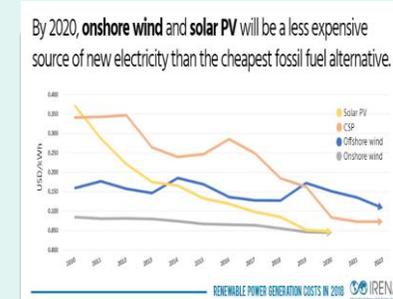
Get or improve your DJSI position

A long-term partnership for sustainable energy counts for a higher DJSI ranking.



Renewable energy is scarce

Given current expectations, the demand for sustainably generated energy is increasing faster than new assets are being built.



Production is getting cheaper

Cost reductions, particularly for solar and wind power technologies, are set to continue into the next decade. So they become more attractive on the long run



Temporarily low GO-prices

Since this year, the costs of electricity and GOs have fallen sharply. Getting into a long-term contract now offers advantages.

Case: Choices to be made, which option fits your strategy?

What to choose?

Tailormade solution, based on:

1. Company Sustainable ambitions
2. Long term outlook on energy prices
3. Consumption profile (degree of predictability & shape)
4. Risk appetite

Options

Guarantees of Origin (grey electricity offsetting)



Bundled green power product



Redemption of unbundled GOs

Power Purchase Agreements



PPA with real-time matching of generation and consumption



PPA with balanced consumption over time

Self-generation (on-site or near-site)



Self-generation with direct self-consumption (microgrid)



Self-generation with grid feed-in and extraction (net-metering)

Period:

- 3 – 5 year (GoO)
- 10 – 15 year (PPA)
- > 15 year (on-site)

Pricing structure:

- Fixed
- Variable
- Mix

Volume structure:

- As produced
- As contracted
- As consumed

Case: Risk appetite can be tailored



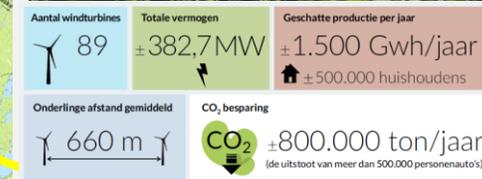
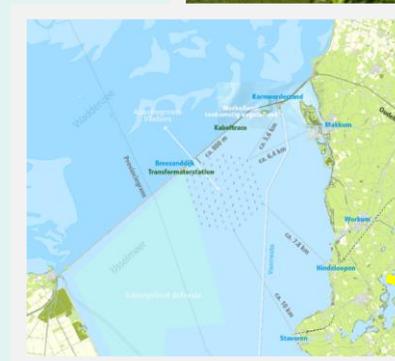
Risk to be allocated and priced

In General

- Volume Risk
 - Profile/Shape
- Price Risk
 - Basis
 - Merchant
 - EPEX/ENDEX

PPA

- Execution Risk
 - Permitting
 - Construction
 - Interconnection
- Counterparty Risk
 - Bankability
 - Credit Support
 - Termination
- Operational Risk
 - Availability
 - Curtailment



What to choose?

Tailormade solution, based on:

1. Risk appetite
2. Company strategy
3. Competition – Level playing field
4. Energy Costs (Lump sum or direct costs)

Three solutions for traceable green energy

Solution 1 | General Green (GoO)

All or part of your
electricity from a
Dutch/Belgian/
German - asset

Guarantees of Origin
(grey electricity offsetting)



Bundled green
power product



Redemption of
unbundled GOs



Three solutions for traceable green energy

Solution 1 | General Green (GoO)

Unilever follows a sustainable course and has made a large part of its operations sustainable with Eneco HollandseWind®.



There are now charging posts for electric cars and bicycles



Three solutions for traceable green energy

Solution 2 | Green from a specific asset (PPA)

**All or part of your
electricity
sustainably from
a specific asset**



Power Purchase Agreements



PPA with real-time matching of generation and consumption



PPA with balanced consumption over time



Three solutions for traceable green energy

Solution 2 | Green from a specific asset (PPA)



100% of the energy generated by the 19 windmills of Windpark Delfzijl Noord, and 100% of the production of Zonnepark Sunport, goes to Google's data center located in Eemshaven.

Google buys sustainable energy for 10 years from a nearby wind farm and a nearby solar park.



PPA with real-time matching of generation and consumption



Three solutions for traceable green energy

Solution 2 | Green from a specific asset (PPA)



In addition to saving energy, Schiphol also uses green electricity. That is why Schiphol buys all its electricity from Eneco from new sustainable sources to be built in the Netherlands.

Schiphol has been operating entirely on wind energy since 2018



PPA with Balanced consumption over time



Three solutions for traceable green energy

Solution 3 | Green on site

**Solar-PV or
Wind turbine(s)
on your own
site**



Self-generation
(on-site or near-site)



Self-generation with
direct self-consumption
(microgrid)



Self-generation with grid
feed-in and extraction
(net-metering)



Three solutions for traceable green energy

Solution 3 | Green on site

Fujifilm uses 100% wind power, including from 5 windmills on their own site. In addition, all generated electricity goes from Windpark Anna Vosdijkpolder to Fujifilm. The remainder comes from Belgian wind farms.



Sustainability is important for a healthy future for Fujifilm



FUJIFILM

How to start? Make a climate action plan

1. Set ambitious objectives
2. Get support of your board
3. Pick your project team
4. Choose a energy partner
5. Analyze current situation & determine roadmap
6. Determine how to fill in your strategy
7. Choose Structure, Volume & Source(s)
8. Work out a Business Case
9. Present BuCa to your board for approval
10. Start contracting



Becoming more sustainable is a necessity → Start Now!

As you can see, there are plenty of reasons to **choose** sustainable energy. With all possible options, there is **guaranteed** to be an option that best suits your company. Do not wait any longer and start exploring the possibilities **today**.

As a 100% **green** energy supplier we would love to **help** you carry out your **climate action plan**

There are several ways to achieve this...



Interested? Or more questions? Please contact us



Contact Details

NL

Thijs van de Grift
Lucien de Coo

Thijs.vandegrift@eneco.com

Lucien.decoo@eneco.com

+31611752415

+31615903516

BE

Christian Coppieters

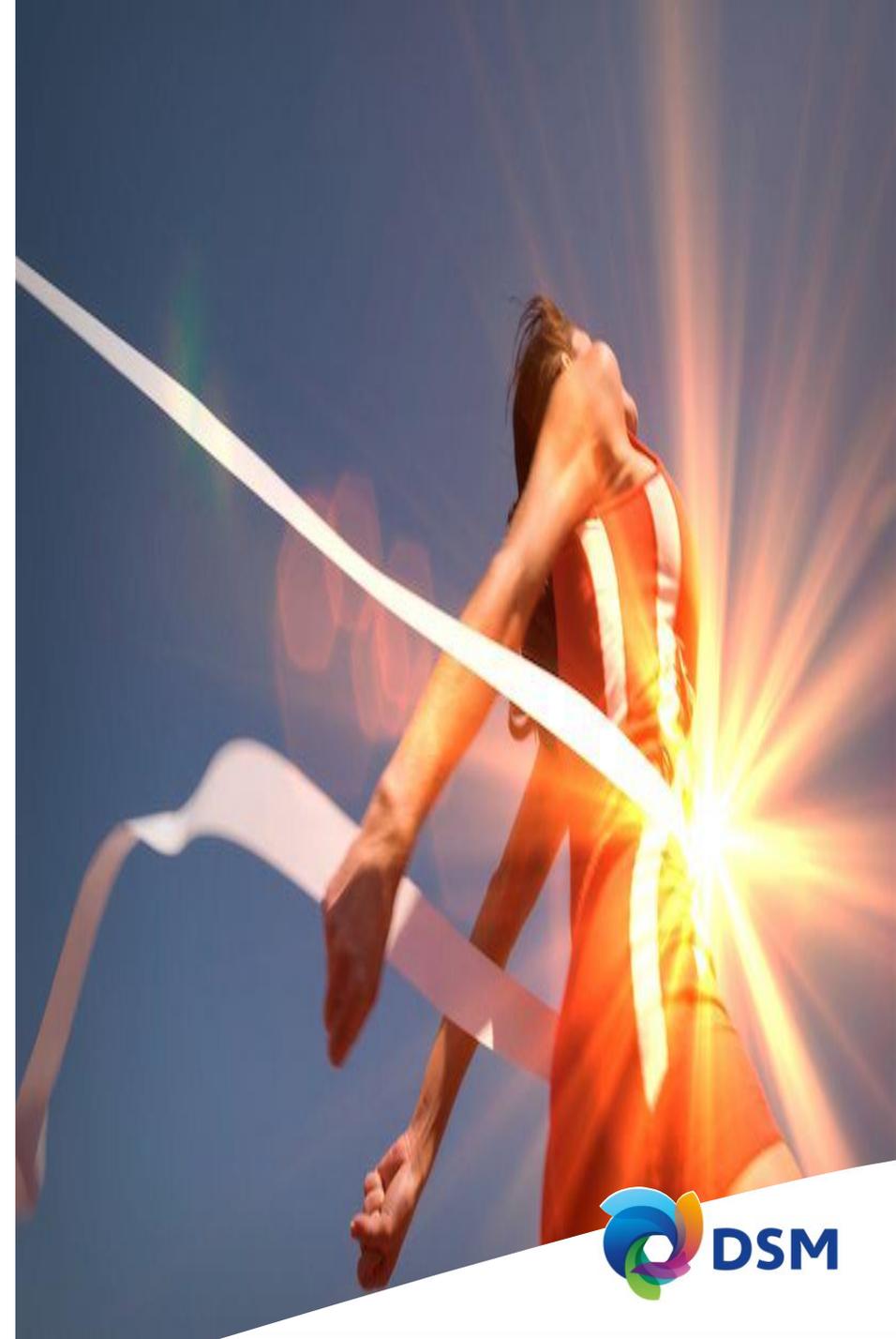
Christian.Coppieters@eneco.com

+32476438147



Key elements from this webinar

- DSM has a scope 3 emission reduction target of -28% by 2030 (vs baseline 2016).
- Renewable Electricity can be an important and necessary first step to reduce Greenhouse gas emissions without major investments
- DSM is willing to share further information if required
- A customized RE approach is required due to many different corporate targets, options, market understanding and local energy market dynamics
- Finding the right partner has proven crucial for DSM to define the right solution(s) for our situation, requirements and demand profile



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