

Webinar on Renewable Electricity

CO2REDUCE – DSM'S SUPPLIER ENGAGEMENT PROGRAM

Including presentations from:

Life Is On

Schneider
Electric

15th of May 2020

BRIGHT SCIENCE. BRIGHTER LIVING.™



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



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Sustainability Director –
Program Mgr Scope 3

Gary Cafe
Consultancy
Manager -
Sustainability



**Alexander Quarles
van Ufford**
Director
Renewables &
Cleantech



**Michael
Krausnick**
Strategic Sales
Manager Energy
Efficiency



Schneider Electric Energy & Sustainability Services (ESS)

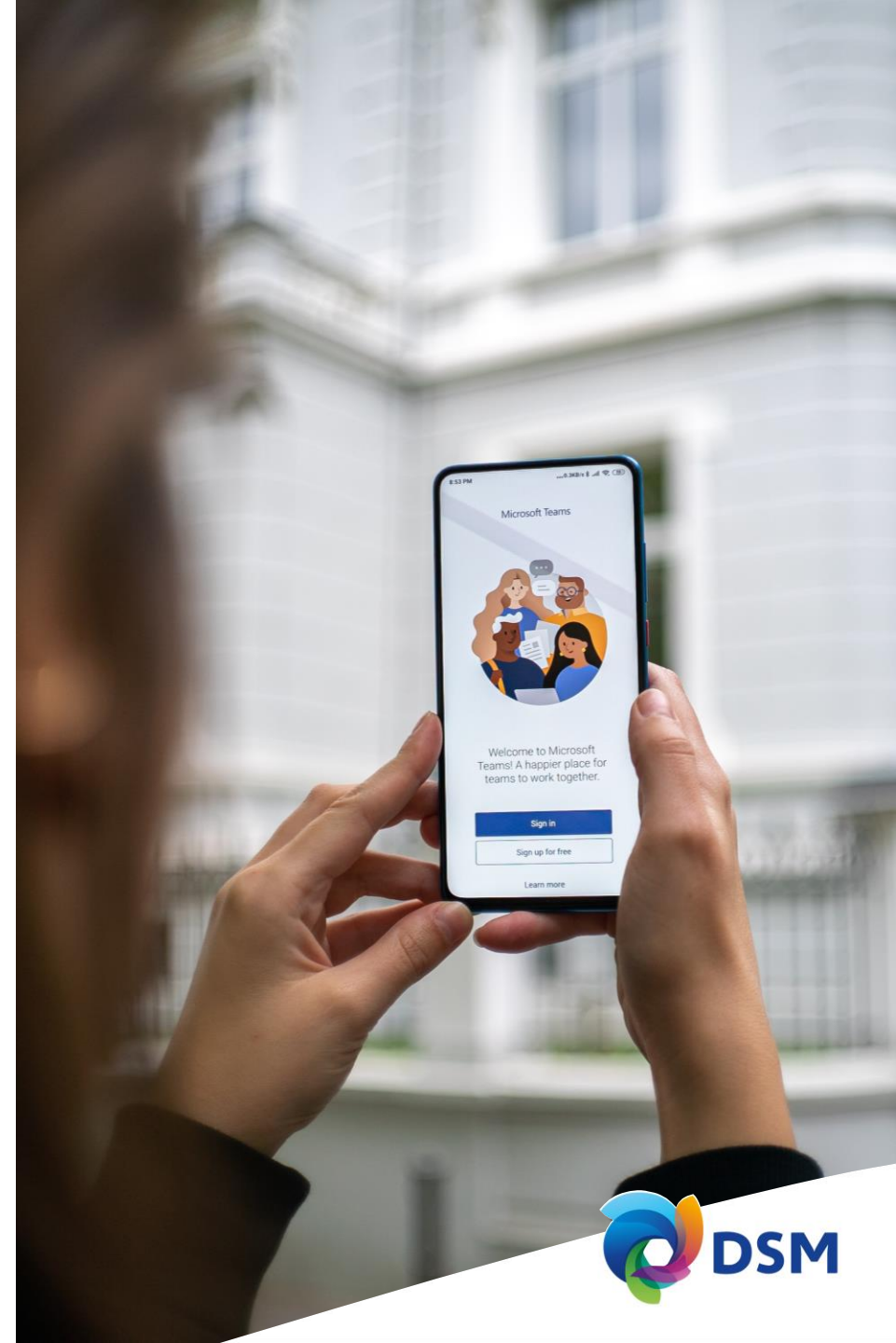
Renewable electricity at DSM and solutions by Schneider Electric

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

Schneider Electric (SE)

- Corporate Renewable Energy Leadership
 - Corporate Efficiency Leadership
 - Question & Answer (Q&A)
- Gary Café
 - Alexander Quarles,
 - Michael Krausnick



A close-up portrait of 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 dark blue.

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



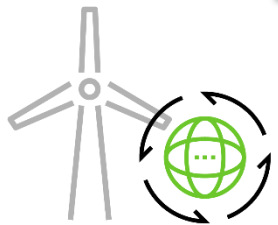
Majority scope 3 is from raw materials

Reducing emissions upstream in 3 steps

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

Understand mutual
status and ambitions

Define common
starting point for
reduction



Define and implement a
reduction plan



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

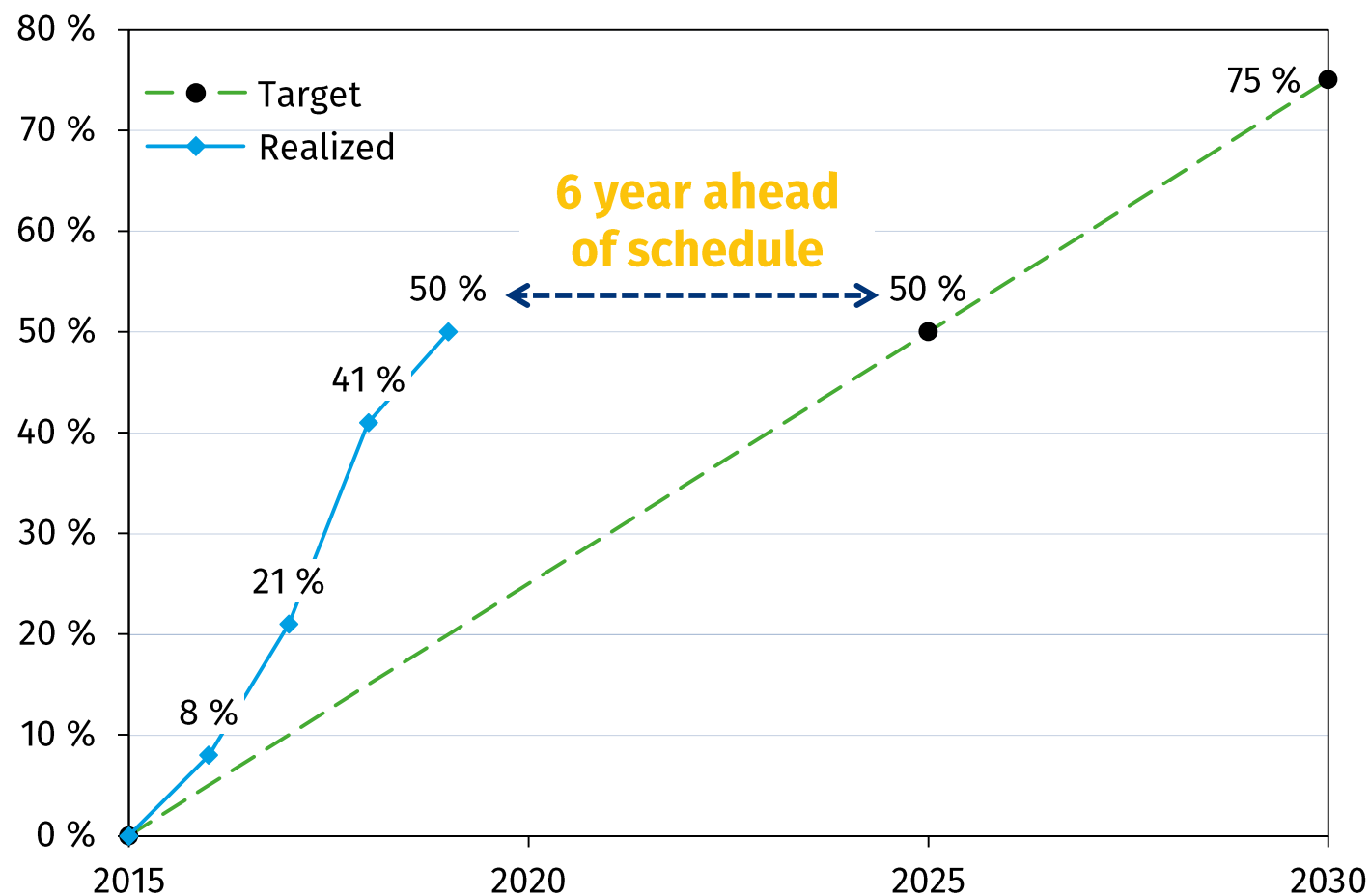
Different solutions for DSM locations around the world

- **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



A portrait of Gary Cafe, a man with short brown hair and a light beard, smiling slightly. He is wearing a dark suit jacket over a light-colored shirt. The background is a blurred green, suggesting foliage.

Gary Cafe Consultancy Manager - Sustainability
Schneider Electric Energy & Sustainability Services (ESS)



Corporate Renewable Energy Leadership

- Why renewable energy is becoming the New Normal
- Four key drivers to transform your efficiency journey

Gary Cafe, Alexander Quarles van Ufford, Michael Krausnick
Schneider Electric Energy & Sustainability Services (ESS)

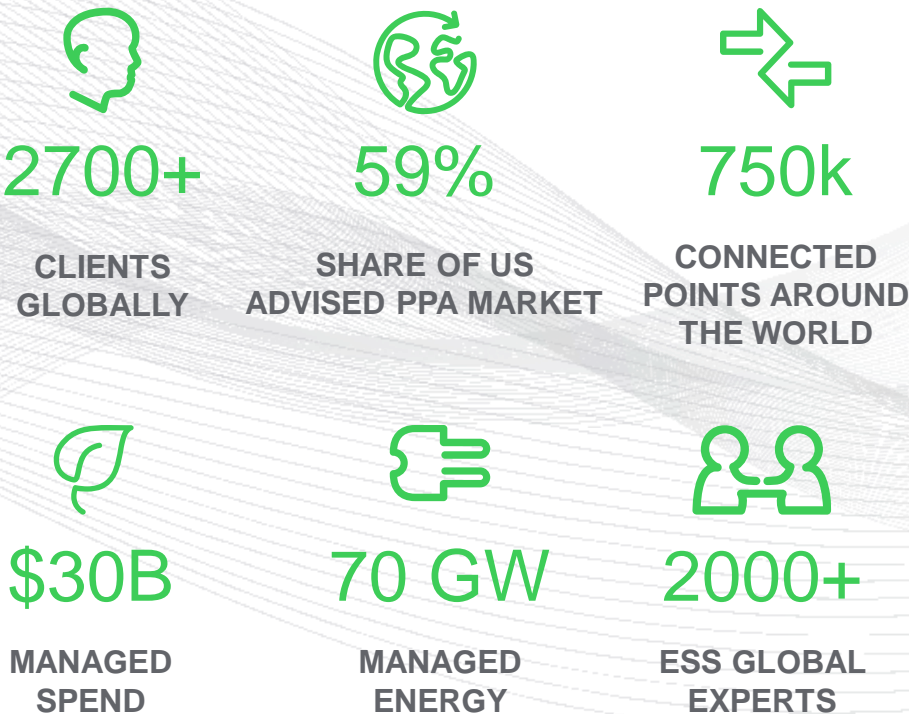
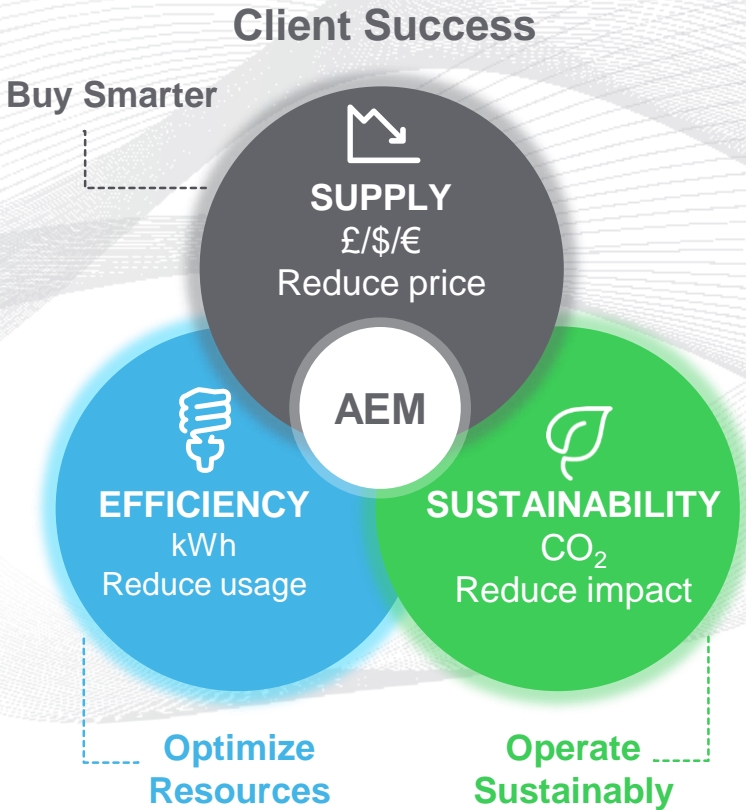
15 May 2020

Schneider Electric Energy & Sustainability Services

Accelerating your energy & sustainability journey

Active Energy Management

Buying energy smarter. Using energy efficiently. Operating sustainably. When done in silos, companies miss significant opportunities and leave returns on the table. Active Energy Management (AEM) is a holistic view of the strategies, data and resources needed to reduce consumption, drive innovation and maximize savings.



Energy Ecosystem Evolution - Climate

Voluntary commitments, net-zero targets, carbon neutrality and cleantech dominate sustainability headlines

Leadership By Governments

+19

Countries and Europe have set binding net zero targets = **49% GDP**



Leadership By Private Sector

+1,800

companies have committed to net-zero targets by 2050
876 SBTi aligned



Momentum is ongoing for RE100, EV100, EP100, circularity and cleantech solutions

Leadership By Investors

631

institutional investors managing more than \$37 trillion in assets urge governments by signed letter to step up ambition to tackle global climate crisis



(Global Investor Statement to Governments on Climate Change)

Schneider Electric's Roadmap to Net Zero

Global production | 14,000 vehicles | total supply chain | ALL emission free

2018
-'20

Design New
*Principles of
Responsibility*

SCHNEIDER
SUSTAINABILITY
IMPACT

FRENCH BUSINESS CLIMATE PLEDGE
LES ENTREPRISES FRANÇAISES S'ENGAGENT POUR LE CLIMAT !

act4nature

BUSINESS
AMBITION FOR **1.5°C**  OUR ONLY
FUTURE

2025



SCIENCE
BASED
TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

- **Carbon neutrality**
- Phase out SF₆
- Invest €10bn in R&D
- Train 1m people
- Energy access 50m people
- Support 10,000 entrepreneurs

2030

SUSTAINABLE
DEVELOPMENT GOALS

- **Sc 1+2 – Net-zero**
- **Sc 3 – -35%**
- **100%** renewable electricity
- **2 x** energy productivity (vs 2005)
- **100%** EV

RE 100

EP 100

EV 100

by THE CLIMATE GROUP

2050



**Net-zero supply
chain**

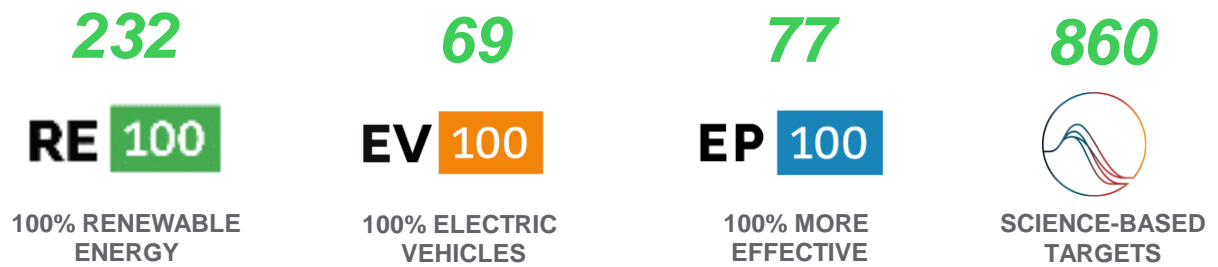
A structured and strategic approach to future-proofing your business



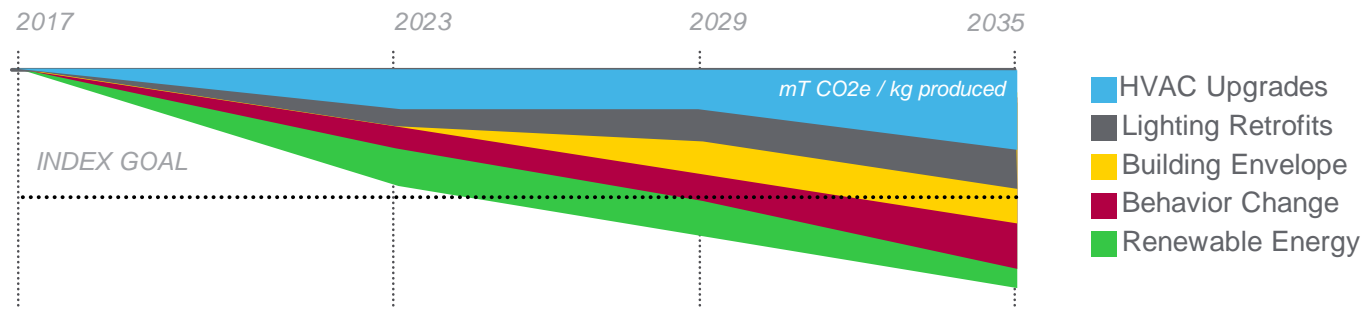
Target & Roadmap Setting

Establishing public, robust, and achievable targets

Target & Goal Setting



Project Roadmap



Goals & Project
Planning

A portrait of Alexander Quarles van Ufford, a middle-aged man with short, dark hair, wearing a white shirt and a green tie. He is looking directly at the camera with a slight smile. The background is dark and out of focus, showing a person in a blue shirt working on a green structure.

Alexander Quarles van Ufford, Director Renewables & Cleantech
Schneider Electric Energy & Sustainability Services (ESS)

Life Is On





100% RE: The New Normal

Redefining Good Corporate Citizenship

- 230 RE100 members, with new members joining every week
- No longer constrained to sustainability front runners
- All sectors, all markets
- Competition among buyers
- Includes energy intensive players



Foundations for a compelling Renewable Energy business case

Economics

Make/save money while achieving environmental goals, tax advantages of incentives & subsidies

Environmental

Reduce impact & climate risk, stated environmental goals gain brand leadership, claims & reporting

Manage Power Prices

Hedge existing short position, secure fixed price at a discount, mitigate risk of future electricity cost increases

Reputational

Increasing stakeholder pressures: customers, investors, value chain partners, employees, competitors, etc.

Resilience

Back-up power, islanding, protect against extreme weather and events

Three Ways to Procure Renewable Energy

Guarantees of Origin

- The way clean energy use is tracked and traded
- Needed to make environmental claims
- Unbundled vs. bundled
- **Short-term Green Tariffs & Retail Options**

Onsite/Distributed Generation

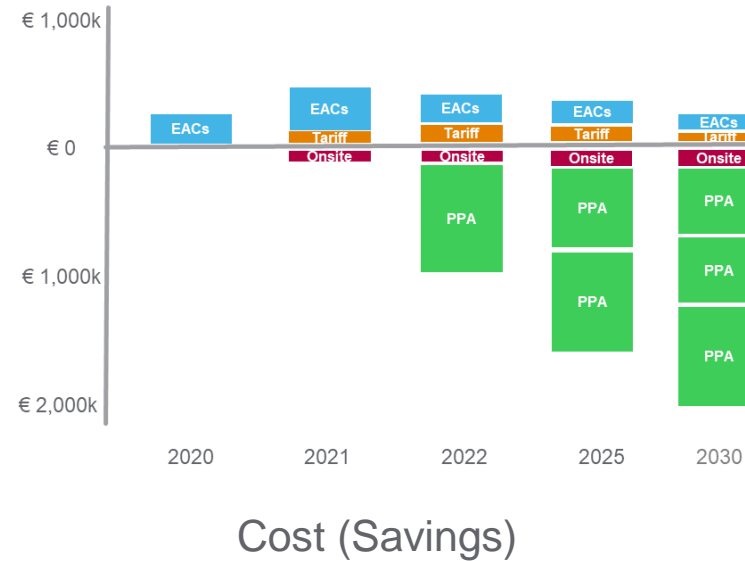
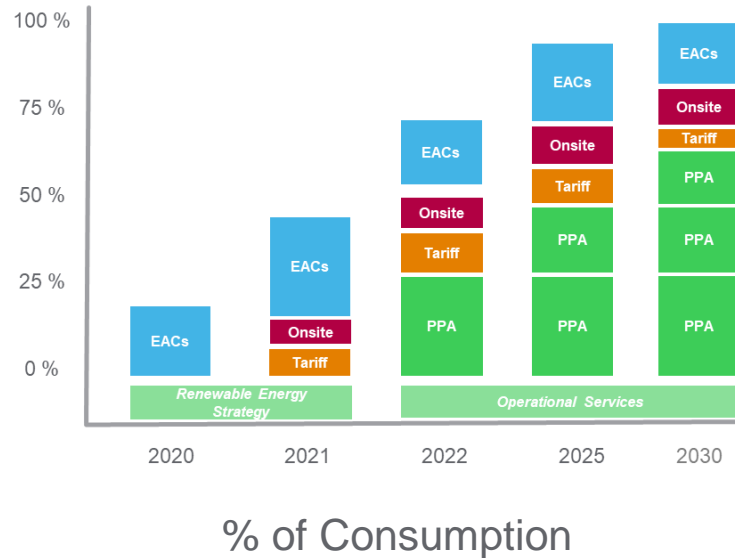
- Direct reduction of energy
- High visual appeal
- Hard to achieve scale
- Fixed to real estate portfolio
- Virtual Net Metering possible in certain markets
- Ownership, lease, or PPA

Offsite Generation

- Typically large scale purchases of utility-scale projects
- **Power Purchase Agreements** (Virtual, Direct, Retail)
- **Tax Equity Investments**
- Achieves additionality and scale
- Usually includes Guarantees of Origin
- **Long-term Green Tariffs & Retail Options**

Choosing the best path to your Renewable Energy goal

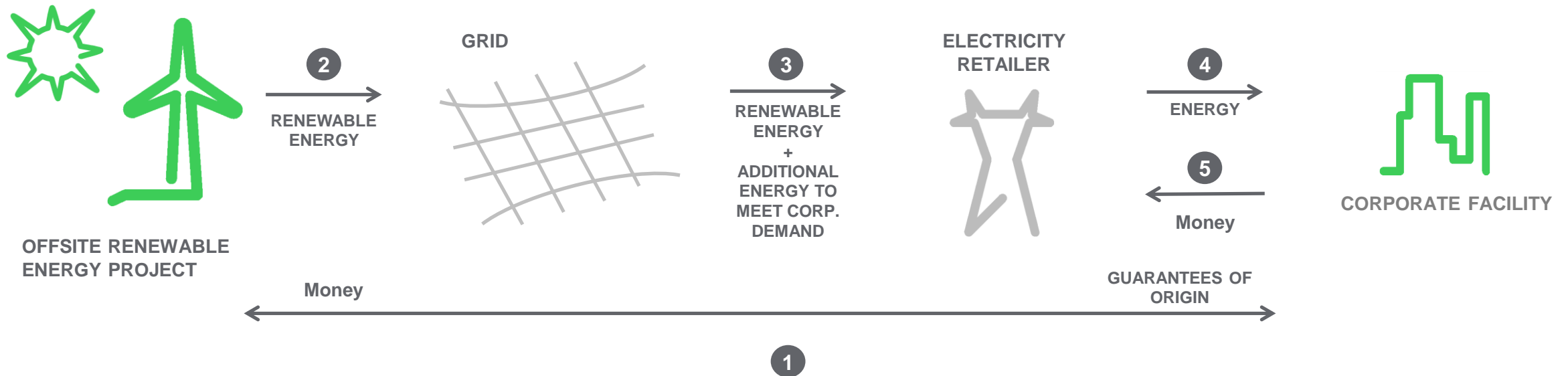
Offsite PPAs or EACs are necessary to hit GHG emissions reduction goal



Portfolio Approach

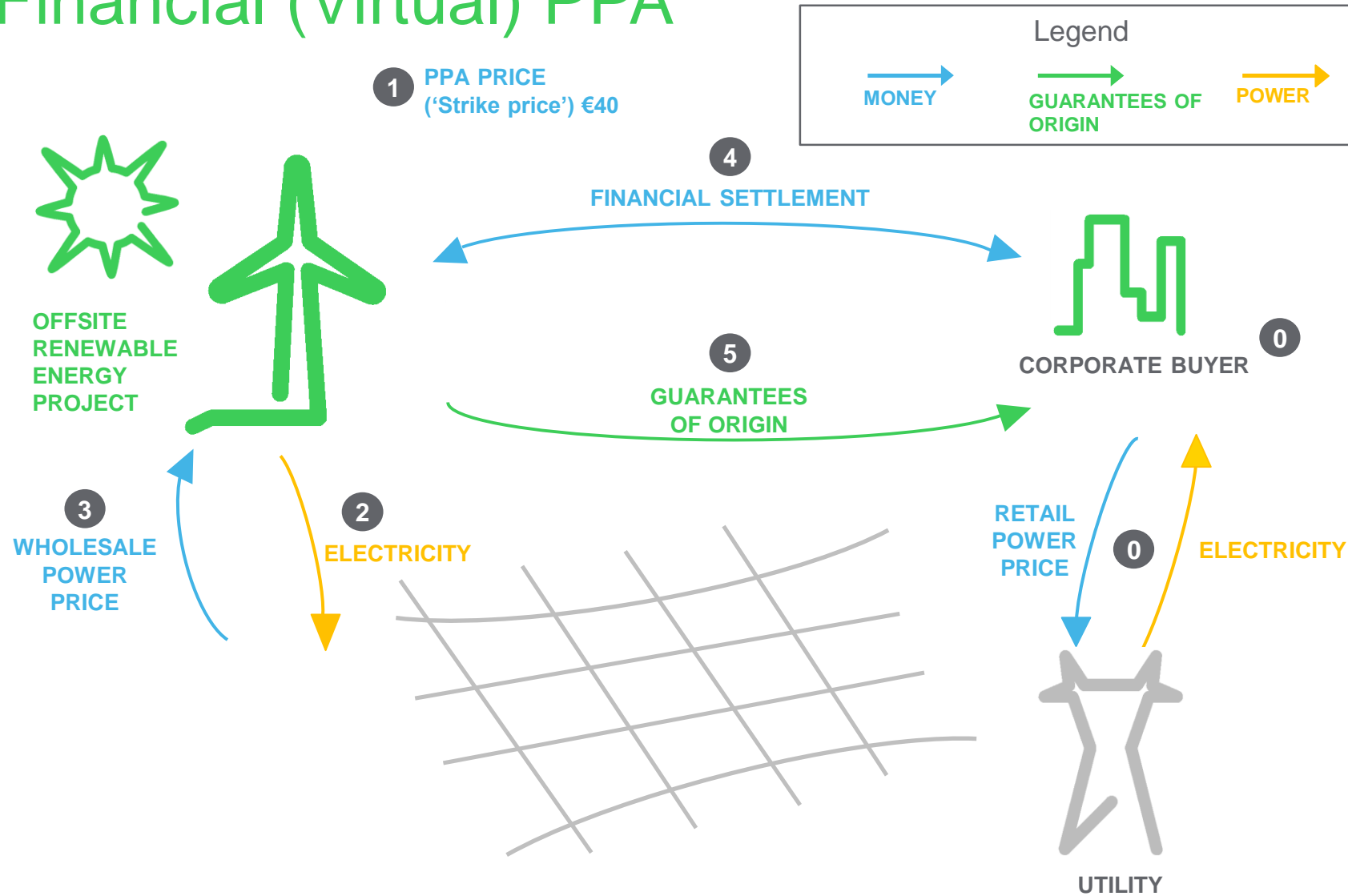
- Setting a strategy based on deep market insight assures maximized savings
- Maximize onsite generation
- Pursue offsite power purchase agreements (PPAs)
- Purchase energy attribute certificates (EACs, such as RECs, LGCs, or GOs) for the balance
- Explore green tariff availability

Retail (Direct) PPA



- 1 Corporate pays developer for renewable energy in PPA and receives Guarantees of Origin
- 2 Renewable energy delivered to grid
- 3 Electricity retailer receives PPA renewable energy and supplements with additional grid energy to meet corporate demand
- 4 Electricity retailer delivers all needed electricity to corporate facility
- 5 Corporate pays electricity retailer service fee for delivery of renewable energy, plus costs of additional grid energy

Financial (Virtual) PPA

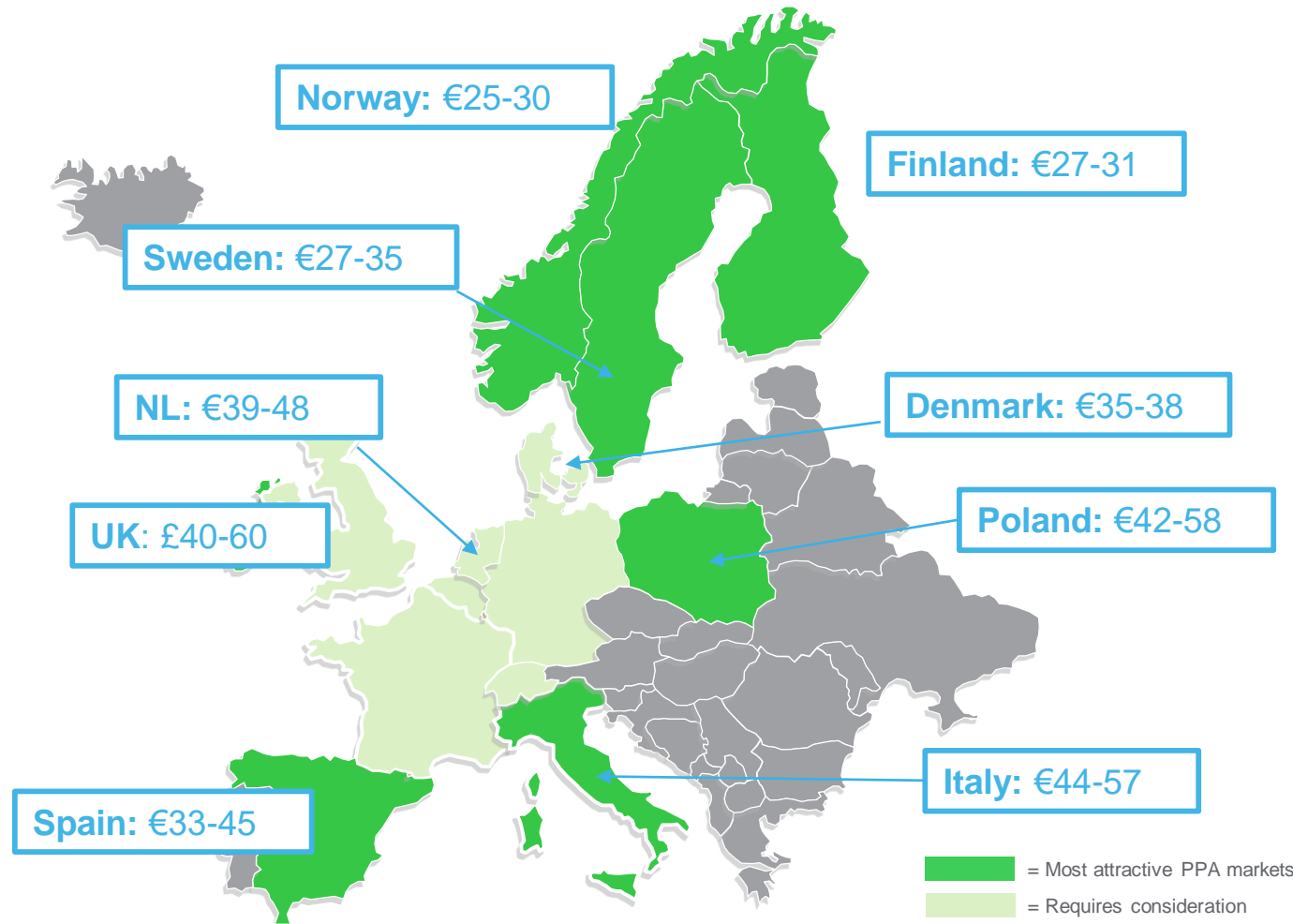


- 0 Corporate buyer continues to purchase power from utility or deregulated retail supplier.
- 1 Corporate buyer guarantees fixed price for energy & Guarantees of Origin.
- 2 Project owner delivers power to grid operator.
- 3 Grid operator pays project owner wholesale market price for power.
- 4 Project owner and corporate buyer financially settle difference between fixed power price and wholesale market price.
- 5 Guarantees of Origin are delivered to Corporate buyer.

Past performance is not indicative of future results. Hypothetical performance results have many inherent limitations. No representation is being made that any program will or is likely to achieve profits or losses similar to those shown. Swaps, futures and options trading involve significant risk of loss and may not be suitable for everyone. Therefore, carefully consider whether such trading is suitable for you in light of your financial condition.

Market Insights and Considerations

Select key markets and indicative economics (PPA price ranges per MWh)



Criteria to consider:

- **Project size and PPA portfolio risk:** e.g. one very large project in Finland, or several across geographies?
- **COD:** e.g. lowest price may come with later COD and greater execution risk (we are seeing CODs from 2020-2024)
- **Market Factors:** e.g. renewables penetration and market saturation risk in markets with high activity, such as Spain
- **Risk Appetite:** different pricing structures to meet Risk profile
- **Political Risk:** e.g. current Government in Poland
- **Market Correlation:** for a VPPA, how do the markets correlate and what, if any, hedge value is provided?

Past performance is not indicative of future results. Hypothetical performance results have many inherent limitations. No representation is being made that any program will or is likely to achieve profits or losses similar to those shown. Swaps, futures and options trading involve significant risk of loss and may not be suitable for everyone. Therefore, carefully consider whether such trading is suitable for you in light of your financial condition.



To accelerate your renewable energy journey, you may want to join DSM and >280 other corporate buyers as a member of the **New Energy Opportunities (NEO) Network**, a complimentary *community* of organizations advancing reliable and *cost-effective renewable energy* and cleantech solutions around the world.

NEO Network is a key strategic network services platform within the Energy & Sustainability Services division of **Schneider Electric**, the largest independent energy management and procurement services firm in the world.

Schneider Electric considerations

- Procuring renewable energy makes business sense
- Renewable Energy purchasing is rapidly becoming the new normal
- Setting targets and formulating a strategy is likely to accelerate adoption of renewable electricity
- A portfolio approach is recommended


Recommendations

For any questions, please feel free to connect with the Schneider team

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Please visit the [Cleantech section](#) of our website.

A portrait of Michael Krausnick, a man with short brown hair and a light beard, wearing a grey patterned blazer over a dark blue shirt. He is looking directly at the camera with a slight smile. The background is a plain, light grey wall.

Michael Krausnick, Strategic Sales Manager Energy Efficiency
Schneider Electric Energy & Sustainability Services (ESS)

Life Is On



EFFICIENT

Corporate Efficiency Leadership

Why Efficiency Implementation requires new enablement strategies

Michael Krausnick, Albert Priori

Sales Manager – Energy Management Program

Schneider Electric Energy & Sustainability Services (ESS)

What's standing between you and your efficiency plan?



Energy Management Program approach

Four key drivers to transform your efficiency journey

CENTRALIZE GOVERNANCE

- Integrate systems, processes and metrics **consistently from corporate to site** level
- Set Targets and achieve consistent cost/carbon reductions year-over-year

JUMP-START ROI

- **Prioritize** projects to achieve savings faster and profitably
- **Leverage operational efficiency measures** to bring longer payback projects within internal hurdle rate requirements
- Overcome financial constraints and secure ROIs with **funding strategies** to scale program outcomes



BOOST SKILLS

- **Empower** champions to impact change across the company
- Leverage **internal and external expertise** to turn plans into action

SUSTAIN IMPROVEMENTS

- Maintain efficiency as a business **accelerator** while funding long-term initiatives
- drive continuous improvements over time, and empower corporate/sites with **dashboards, data analysis and market intel.**

Chemical Manufacturer Delivers on Sustainability Targets

Purpose

- Reduce carbon intensity per unit of output by 25%
- Achieve zero waste to landfill
- Reduce environmental impact of all products manufactured

Path

- Conducted an energy audit to identify efficiency opportunities
- Delivered efficiency program for one pilot site with a 3-year energy performance contract with guaranteed cost savings

Solution

- Develop a cohesive strategy to pilot and then roll-out efficiency programs
- Implement the efficiency program with a turn-key approach

Results

- Exceeded 13.9% cost savings guarantee by 33%
- Payback time reduced from 5.1 years to 3.7 years
- £90,000+ immediate maintenance cost savings from single project

>14%

cost savings
guaranteed through
Energy as a Service

Life Is On

Schneider
Electric

Schneider Electric considerations

- Status Quo is not enough to scale efficiency achievements across a global portfolio.
- The Energy Management Program Approach overcomes typical challenges encountered by companies in their efficiency plan
- Governance centralization is key in driving efficiency initiatives and maximizing outcomes

What's the next step of your programmatic Energy Management journey?

Recommendations

For any questions, please feel free to connect with the Schneider team

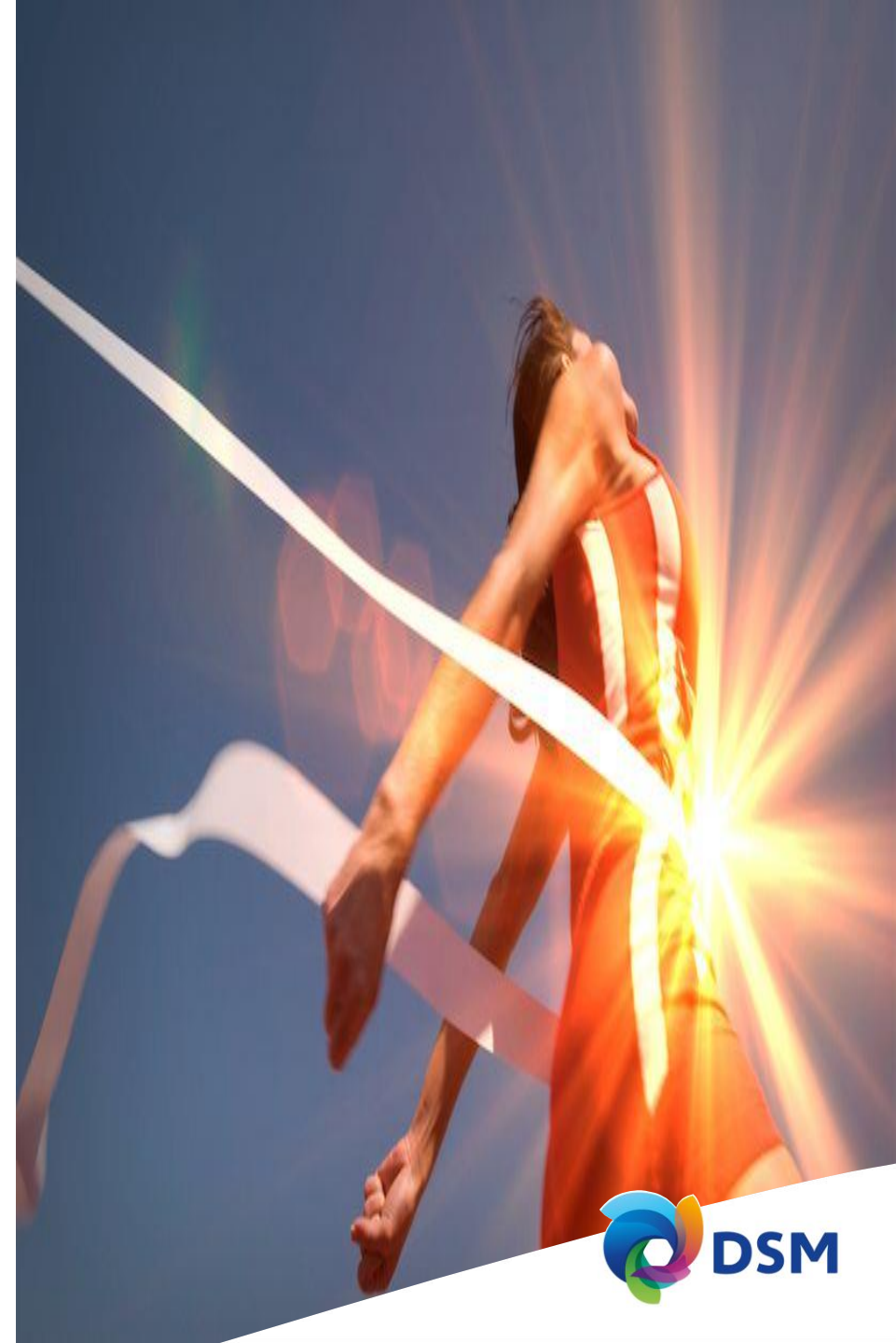
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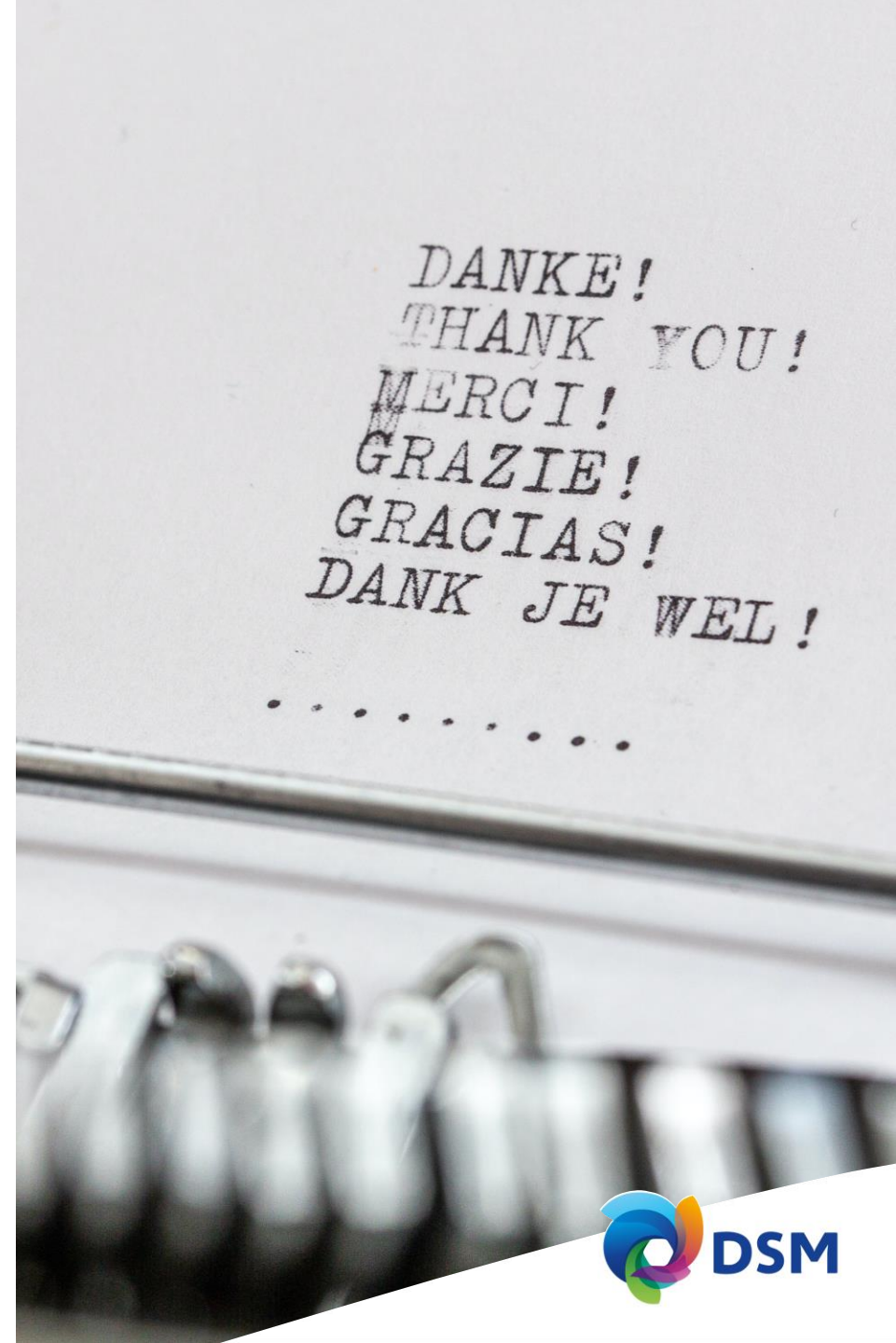
Key elements from this webinar

- 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



Many thanks for your attention

- Follow up conversations to run through regular channels in the next months
- Slides and a summary of the main questions and answers will be sent by DSM to the email address used for registration
- Your support is asked for a short webinar evaluation survey (5 questions) that will be sent to you shortly
- In case of questions or comments, please connect via info.scope3@dsm.com



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