

Webinar on Renewable Electricity

CO2REDUCE – DSM'S SUPPLIER ENGAGEMENT PROGRAM

Including presentation from:

Customer  First
Renewables

27th of May 2020

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Welcome to the DSM webinar on renewable electricity!



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Excellence & Sustainability



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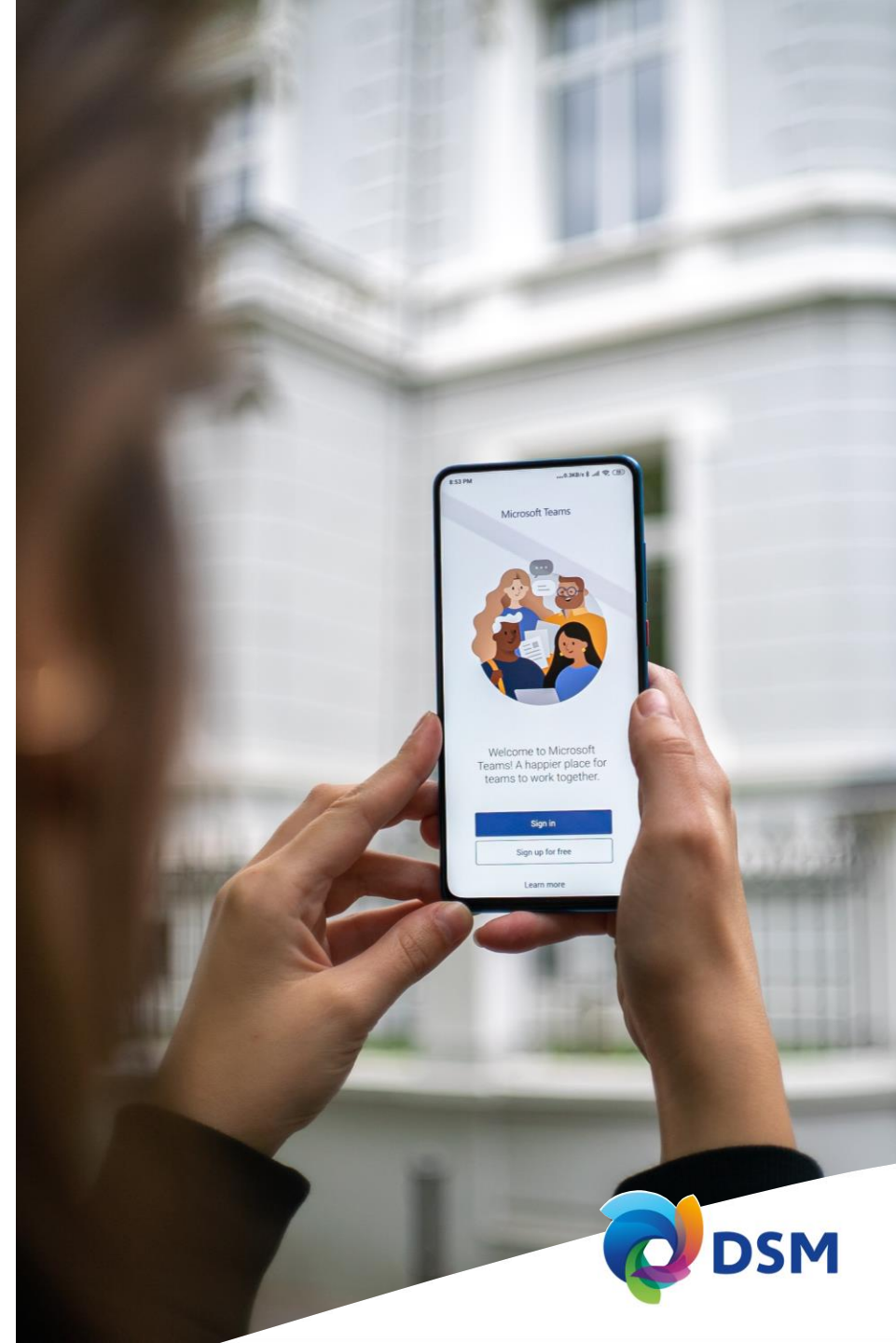
Renewable electricity at DSM and CustomerFirst Renewables

DSM

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

CustomerFirst Renewables

- Renewable Energy Options and Opportunities
- Jaafar Rizvi
- Charlie Barnett
- Question & Answer (Q&A)



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, deep 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



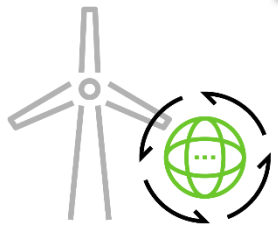
Majority scope 3 is from raw materials

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

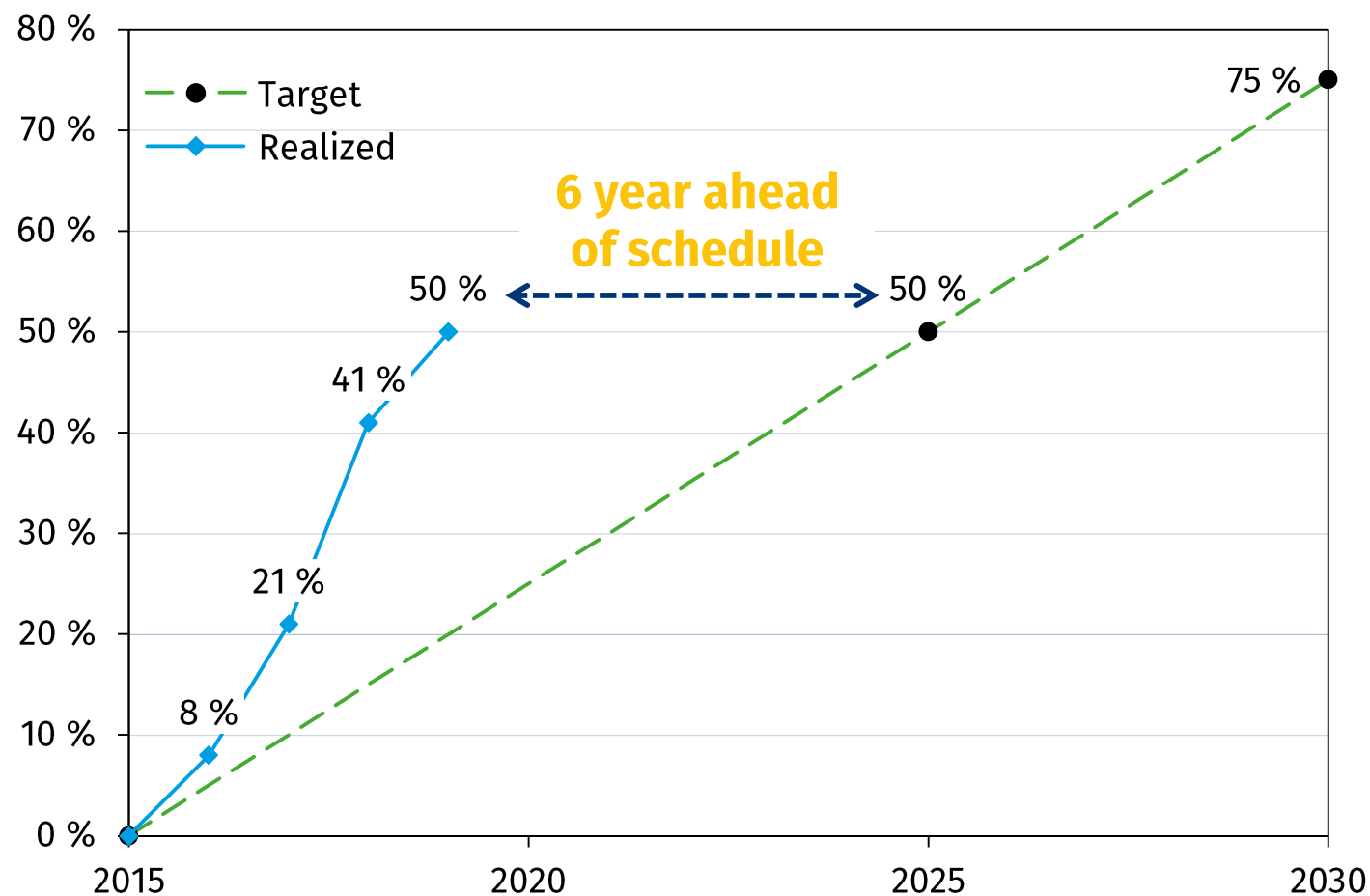
Different solutions for DSM locations around the world

- **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





Jaafar Rizvi
Director, Client Service

Renewable Energy Options and Opportunities



CFR – Who We Are

- > Specialized renewable energy advisor
- > Have worked with +50 global business & institution clients (incl. Fortune100) and enabled their transition from conventional power to renewable energy
- > Services include procurement mgt., analytics, complex financial modeling, risk mgt., due diligence, contracting and strategic guidance
- > Have worked with DSM since 2015



Selected Clients



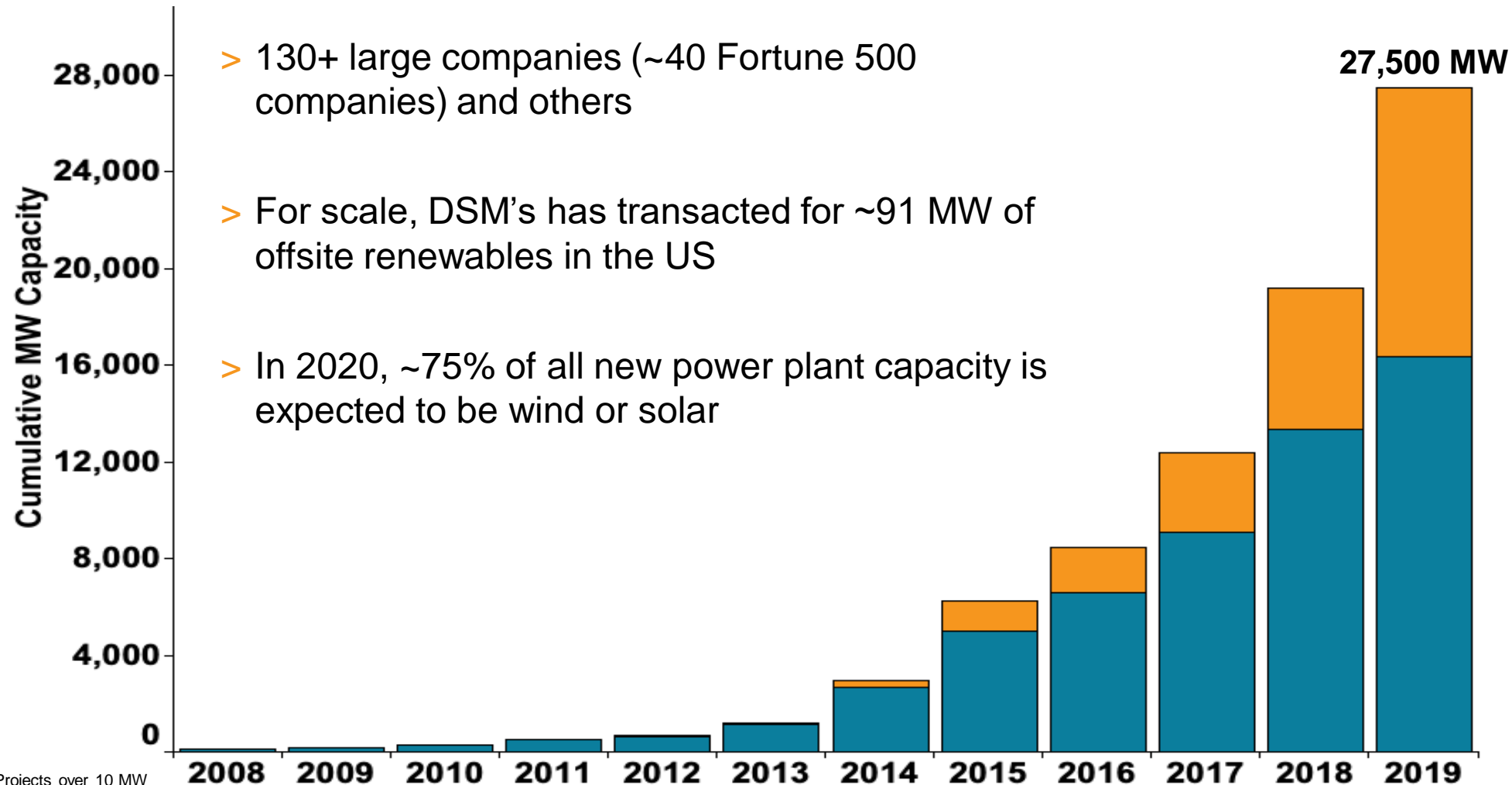
Renewable Energy Options and Opportunities

Today's conversation:

- > Discuss why companies procure renewable energy (RE)
- > Provide a 3-step approach to identify the right RE solution
- > Review key considerations for a Virtual Power Purchase Agreement (VPPA)
- > Map how to start a RE initiative

Corporate Renewable Energy is Rapidly Growing

Technology
■ Solar
■ Wind



* Projects over 10 MW

Source: Publicly available press announcements CFR analysis

Why Corporations Engage in Renewable Energy



Strengthen customer & investor relationships, demonstrate leadership, capture PR, and other strategic value



Achieve long-term savings by contracting for energy at a lower price than brown power



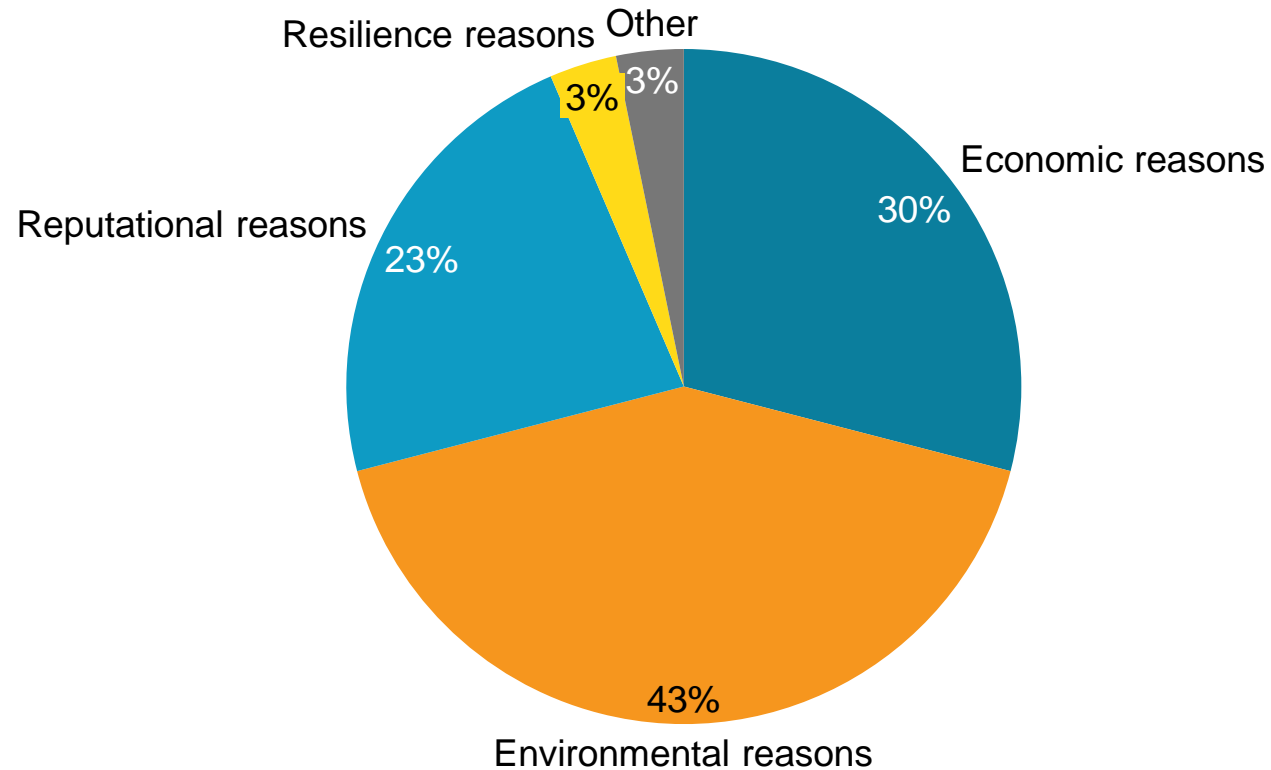
Manage exposure to changes in energy prices



Reduce harmful GHG emissions from electricity usage

Survey: main drivers to move to renewable electricity are environmental and economic reasons

> What are your company's main drivers to look into renewable electricity?



> What are the main obstacles your company faced, or you might face, when moving towards renewable electricity?

Economic challenges

"costs"
"Buying electricity significantly priced above the market."
"Low cost competition from outside EU"
"high level investment related to benefits"

Supply challenges

"Stability of power delivery. And balancing of imbalance towards to market"

Other challenges

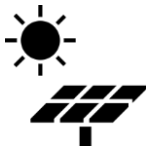
"knowledge and priorities"

Large Scale Renewables now Cost Less than Conventional Fuels

Since 2009:



52% cost reduction in wind energy

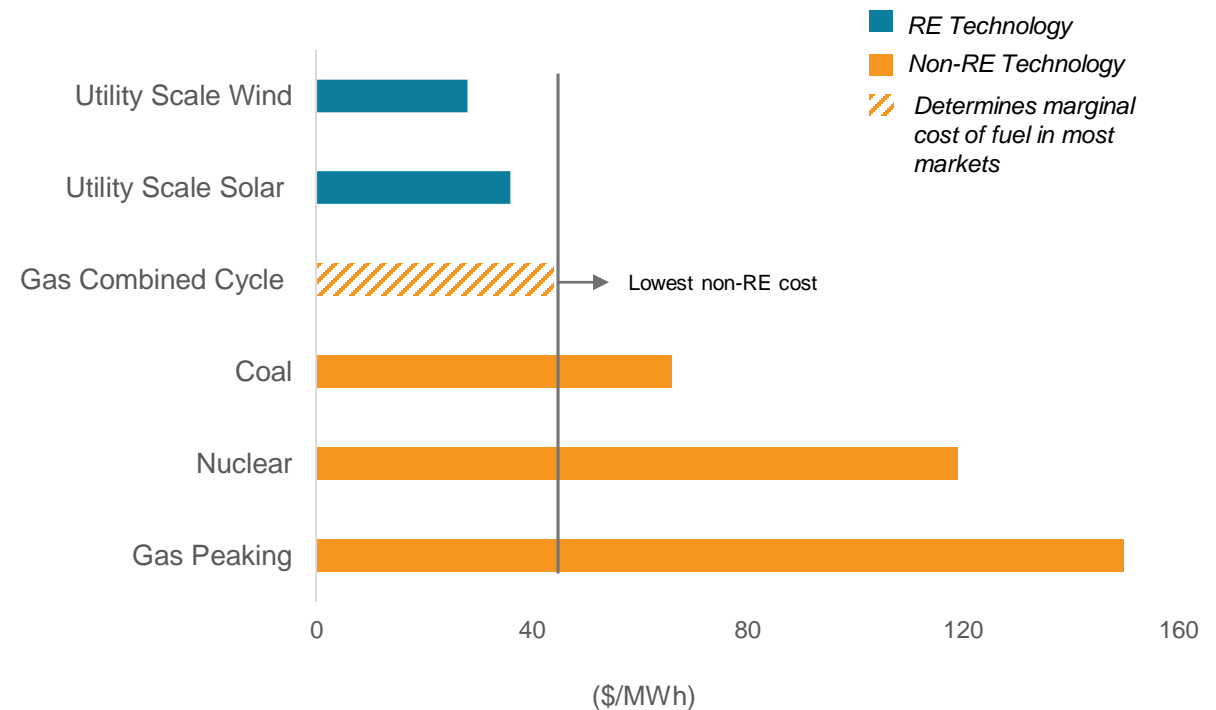


76% cost reduction in solar energy



New Large Scale RE capacity additions outpacing new fossil generation

2019 U.S. Cost of Energy (\$/MWh)



* Graph shows lowest estimate across varying technologies
Source: Lazard's Levelized Cost of Energy v12.0, Nov. 2019

Finding the Right Solution for Your Company

1 Outline your renewable energy goals



Key Value Drivers

Strengthen Relationships



Achieve Long-term Savings



Manage Exposure



Reduce GHG Emissions

2 Determine resources and constraints



Resources and Constraints

Geographic



Financial Accounting



Resources



Implementation

Finding the Right Solution for Your Company

3 Select the best solution

Solution Types	
Technology	<ul style="list-style-type: none"> • Solar • Wind • Hydro • Storage
Contract Structure	<ul style="list-style-type: none"> • PPA* • Onsite • Ownership • Retail delivery • Unbundled RECs** • Community solar • Utility bilateral • Virtual net metering



Technologies can be procured through a variety of contract structures

* Power Purchase Agreement

** Renewable Energy Certificates

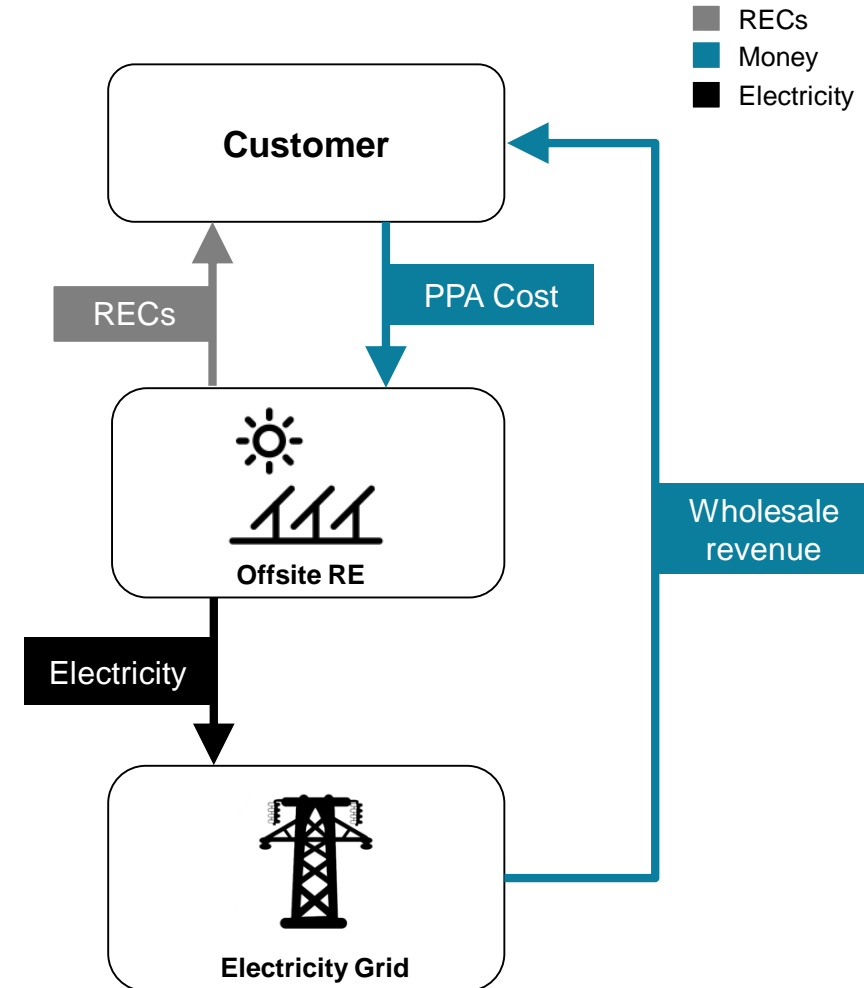
Image Source: CFR-led procurements



**Charlie Barnett,
Engagement Manager**

How do Virtual Power Purchase Agreements (VPPAs) work?

- > No upfront capital
- > Project developer owns and operates
- > Located offsite; does not connect to your facilities
- > Can be scaled to meet goals
- > Produces Renewable Energy Certificates (RECs), a market device that enables claims against carbon emissions



Key Considerations for VPPAs

1 Outline your renewable energy goals



Key Value Drivers

Strengthen Relationships



Meets stakeholder expectations



Achieve Long-term Savings



Top projects are expected to achieve savings



Manage Exposure



Can be customized to maintain acceptable risk profile







Reduce GHG Emissions



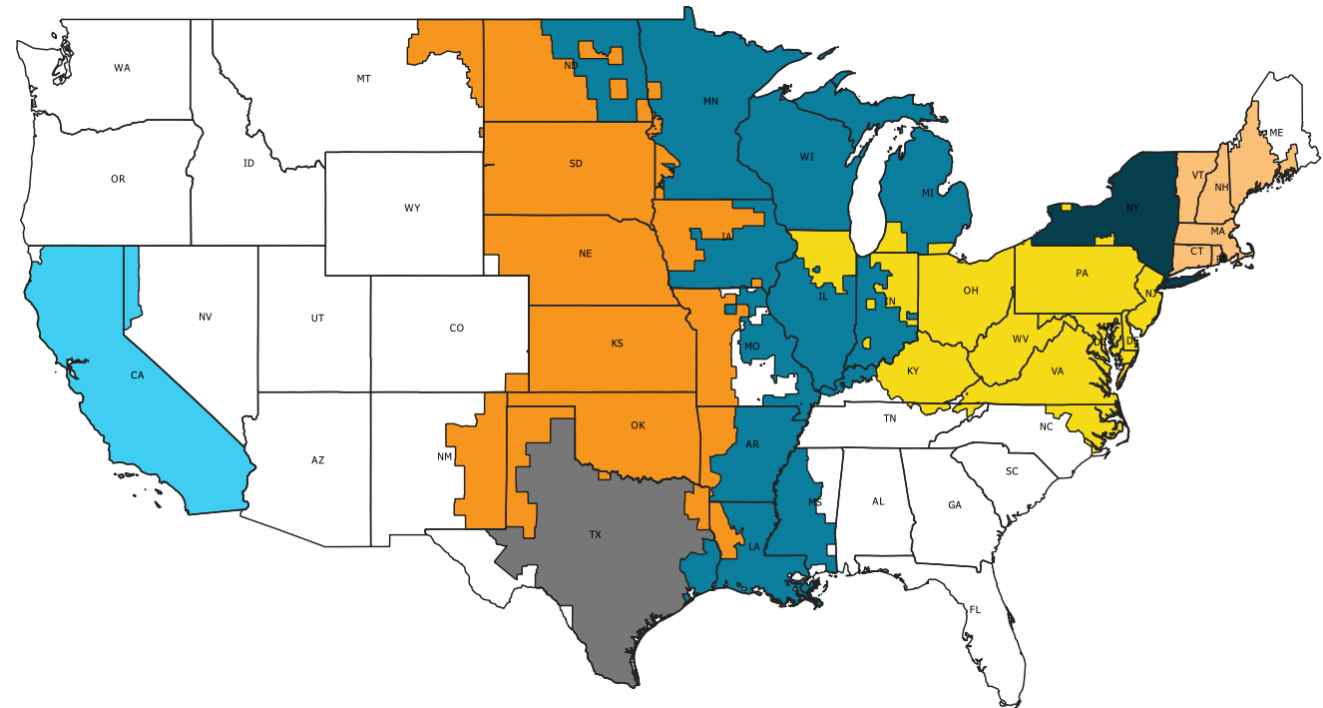
Large-scale solution

Key Considerations for VPPAs

2 Determine Resources and Constraints





Resources and Constraints	
	Geographic
	Financial Accounting
	Resources
	Implementation

- > Can transact regardless of company location
- > Projects available only in certain markets (colored areas indicated below)



Key Considerations for VPPAs





2 Determine Resources and Constraints

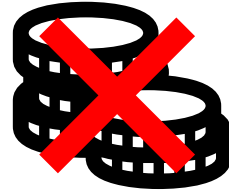
Resources and Constraints	
	Geographic
	Financial Accounting
	Resources
	Implementation

- > Corporates must determine how VPPAs will be included on financial statements
- > In some instances, the contract can be customized to meet desired accounting outcomes, but there are key differences between GAAP and IFRS

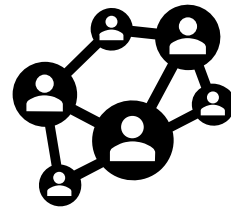
Key Considerations for VPPAs

2 Determine Resources and Constraints

	Resources and Constraints
	Geographic
	Financial Accounting
	Resources
	Implementation







No upfront capital, but some transaction costs (e.g. advisors and legal support)



Requires a strong project leader plus ad hoc support e.g. accounting, finance, procurement, legal

Key Considerations for VPPAs

2 Determine Resources and Constraints

Resources and Constraints	
	Geographic
	Financial Accounting
	Resources
	Implementation

- > Typically 6-12 months from RFP development to contract execution
- > Achieving goals and weighing tradeoffs requires expert advice throughout project evaluation and contract negotiations

There are Many Ways to Reduce Risks for VPPAs

- 1 Select the best project
- 2 Shift risk to developer
- 3 Add a 3rd party risk mitigation product
- 4 Adjust retail electricity purchases to reduce overall risk



Image Source: CFR-led procurement

How to get Started

1 Outline your renewable energy goals

- > Determine your priorities
- > Identify which stakeholders must be
- > Socialize RE opportunities with key stakeholders
- > Define organizational goals

2 Determine resources and constraints

- > Identify available resources
- > Identify constraints
- > Engage an outside advisor, if necessary
- > Analyze electric load
- > Research landscape of solutions

3 Select the best solution

- > Understand trade-offs in potential solutions
- > Align around recommendation
- > Create implementation plan
- > Engage senior leadership

CFR is Ready to Support You

- > You can meet your organizational goals through renewable energy
- > CFR can help you with renewable energy strategy and execution
 - Contact CFR (cbarnett@customerfirstrenewables.com) to discuss relevant options for you



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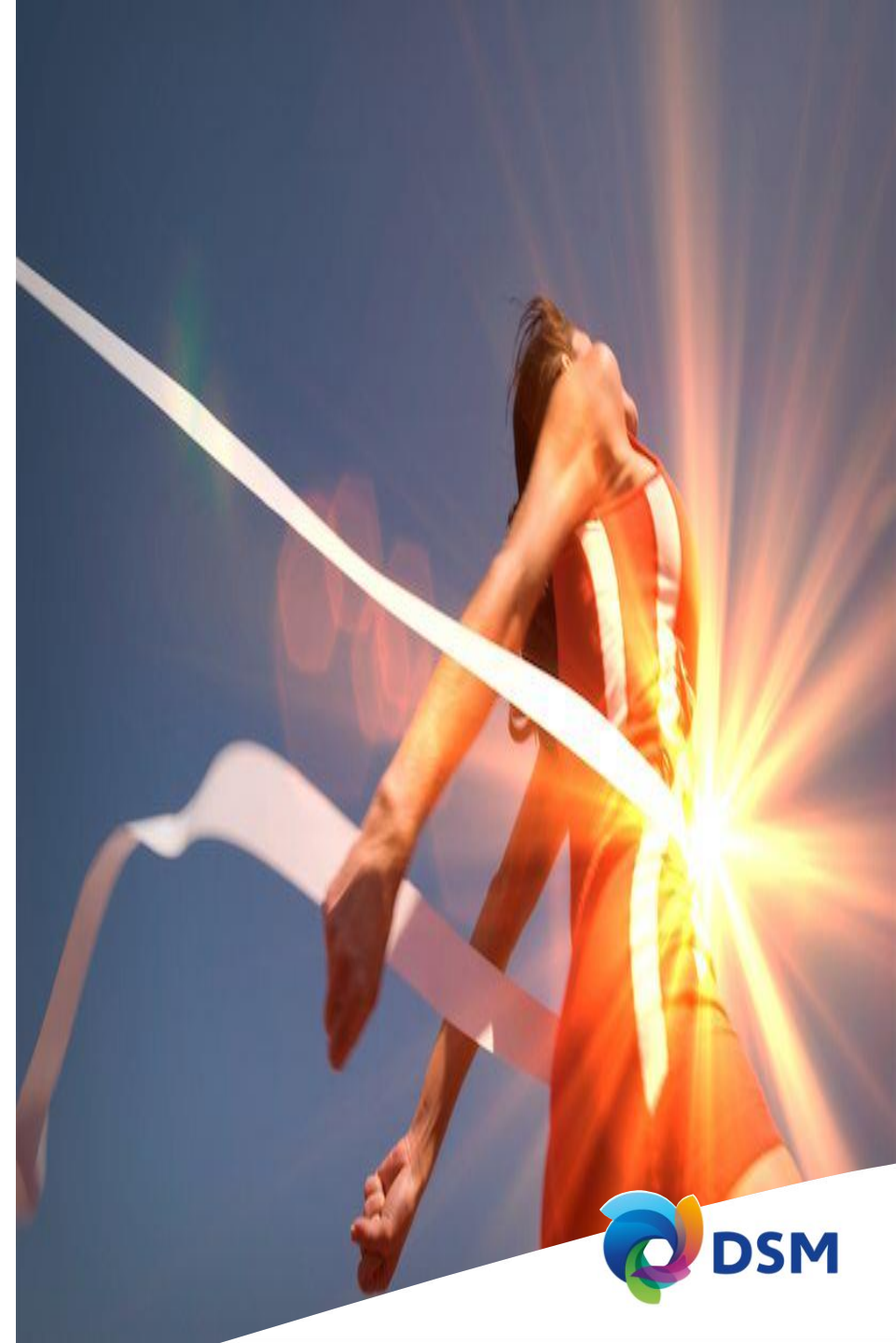
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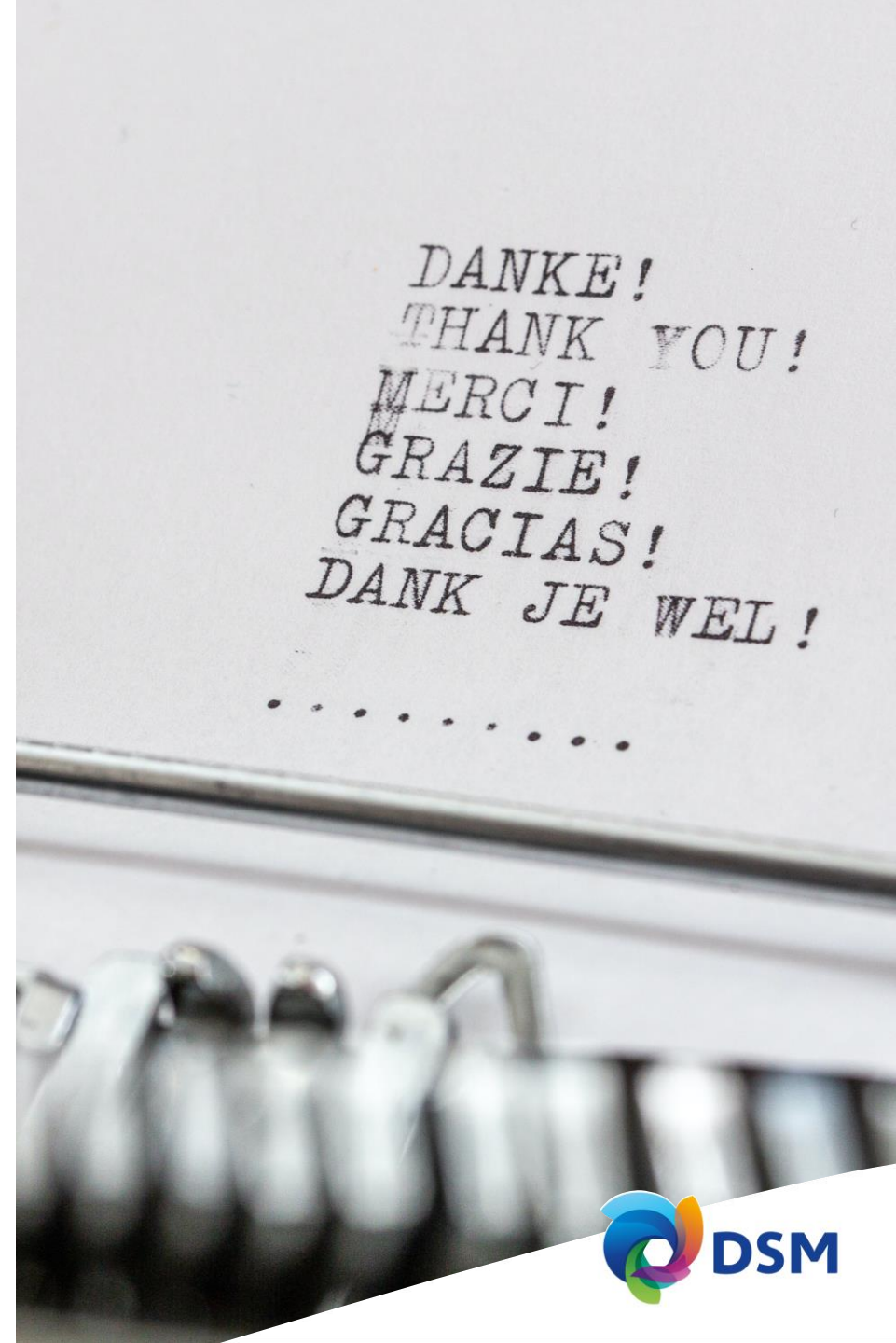
Key elements from this webinar

- 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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