



Companies going for 100% renewables in Europe

Sonia Dunlop, Senior Policy Adviser, SolarPower Europe/RE-Source Platform



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The RE-Source Platform

The European alliance for corporate renewable energy sourcing

SolarPower Europe: representing the PV value chain

Raw materials	   
Modules, wafers & cells	     
Building integrated PV	   
Inverters	   
BOS	   
Developers & EPCs	   
Storage	    
Utilities	   
Operations & maintenance	   
Financiers	   
Digitalisation	   
National associations	   

Wind Europe members

400+ members

Wind turbine manufacturers



Wind farm developers



Power utilities



Component manufacturers



Installation / logistics



Financial & legal services



Research institutes



and national wind associations



World Business Council on Sustainable Development

200 forward thinking businesses working together to accelerate the transition to a sustainable world.

World Business Council for Sustainable Development

Our mission is to accelerate the transition to a sustainable world by making more sustainable business more successful.

Our vision is to create a world where more than nine billion people are all living well and within the boundaries of our planet, by 2050.



GLOBAL



UNIQUE BUSINESS PLATFORM



CEOs



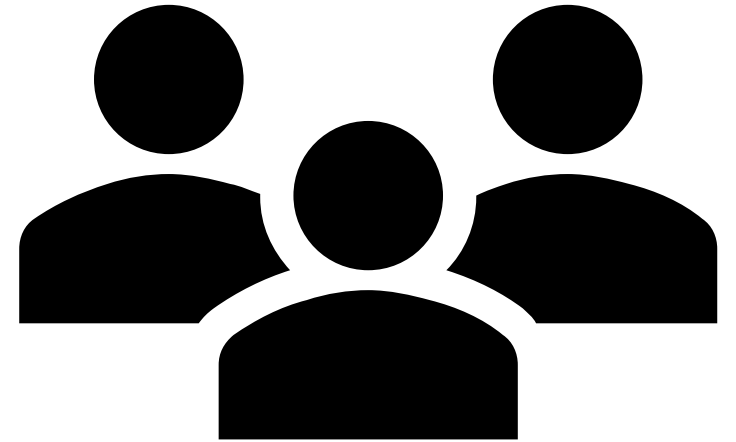
MARKET-DRIVEN



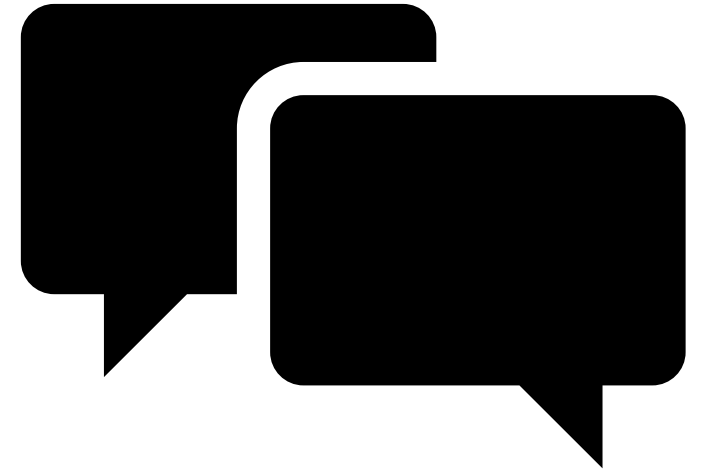
Steering Committee

RE-Source Platform objectives

1. Influence EU and national renewable energy and energy market legislation to advance corporate sourcing



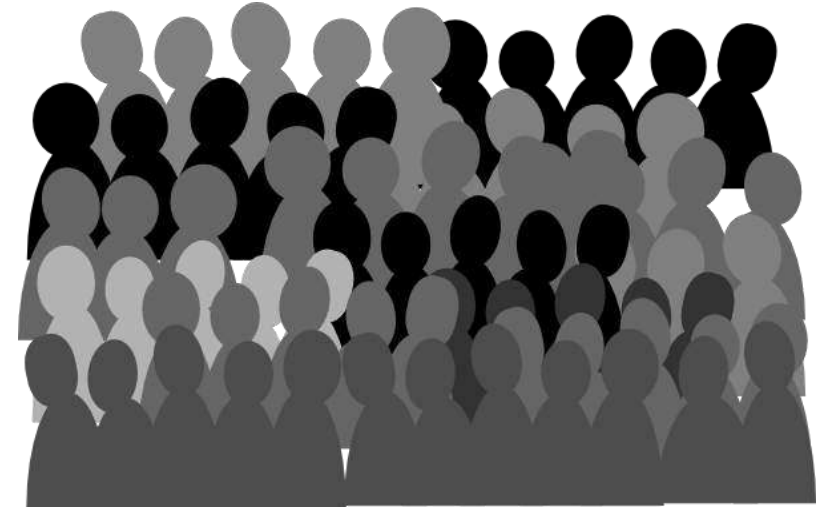
2. Raise awareness and educate all stakeholders on the advantages of corporate sourcing renewable energy.



3. **Provide business opportunities:** connecting corporate renewable energy buyers and sellers



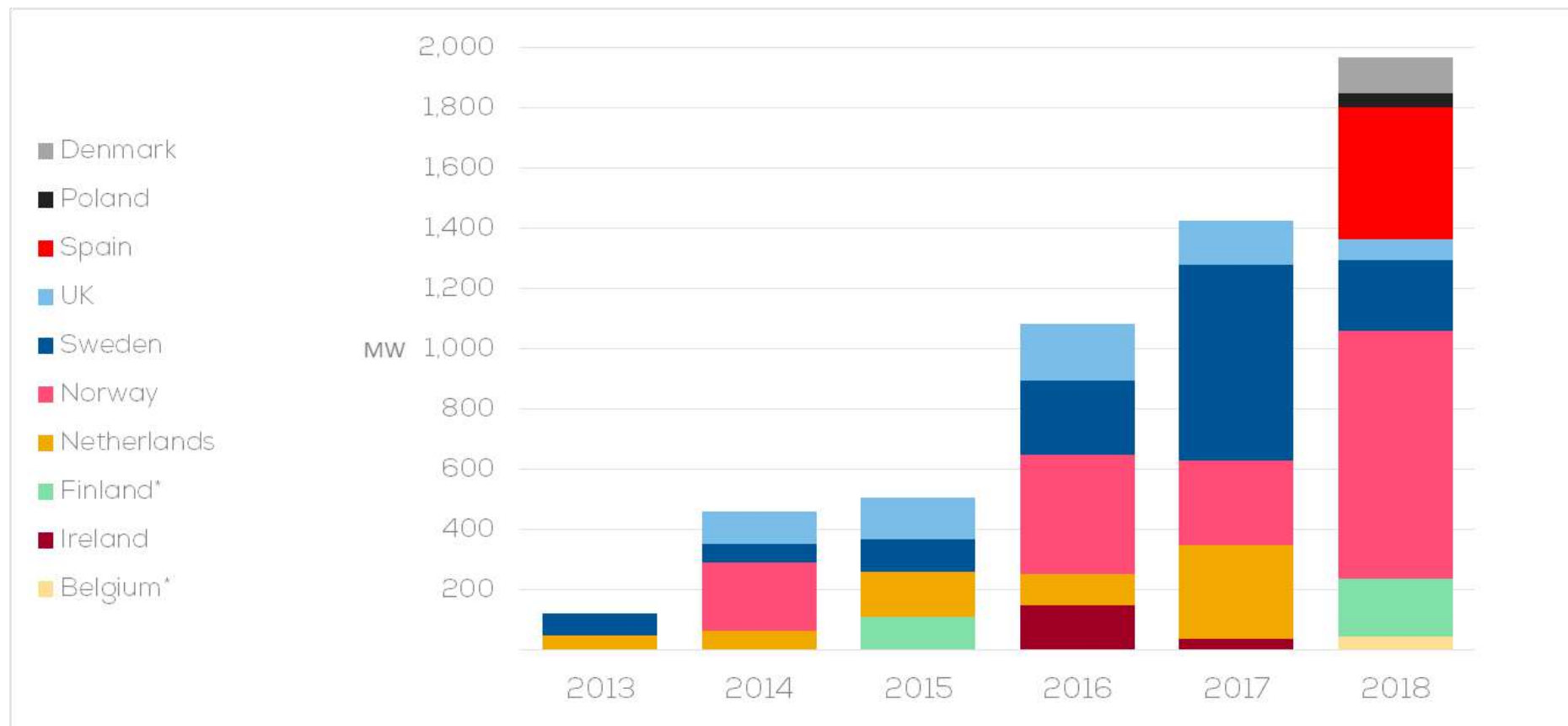
*“Move from 100
buyers to 100.000”*



Opportunity

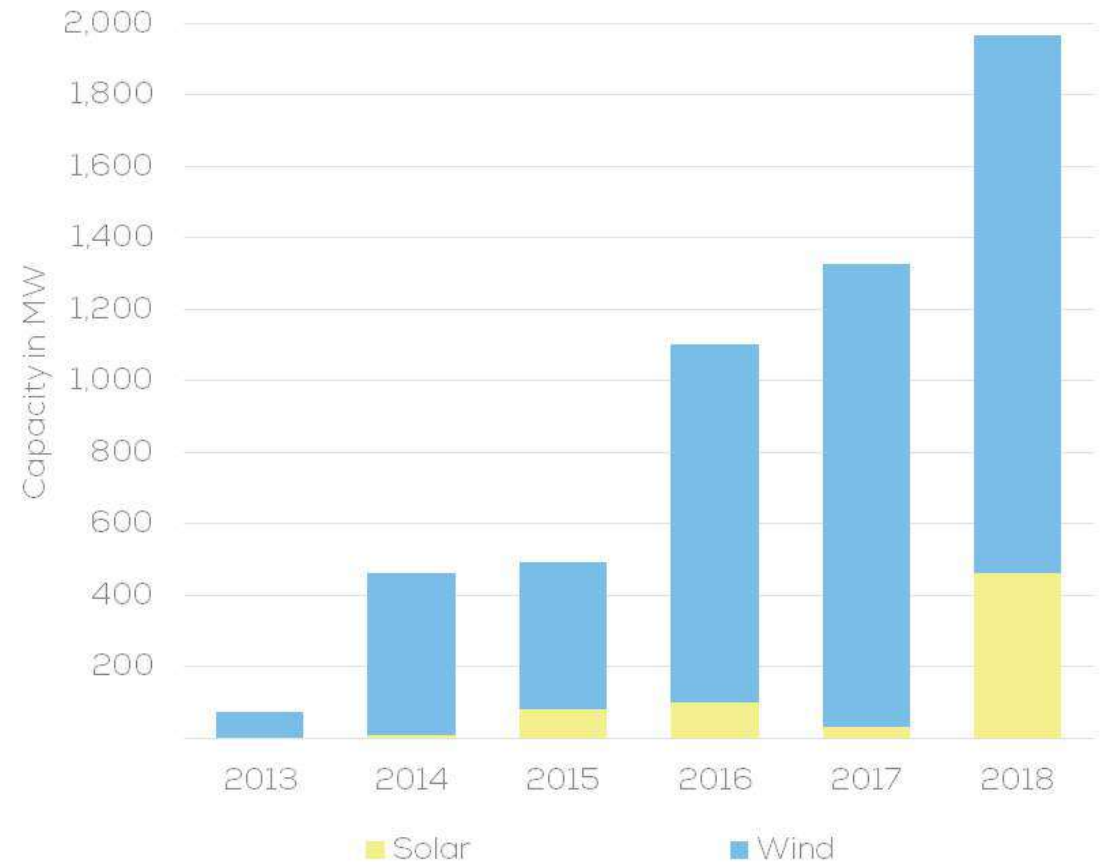


Corporate PPAs by year

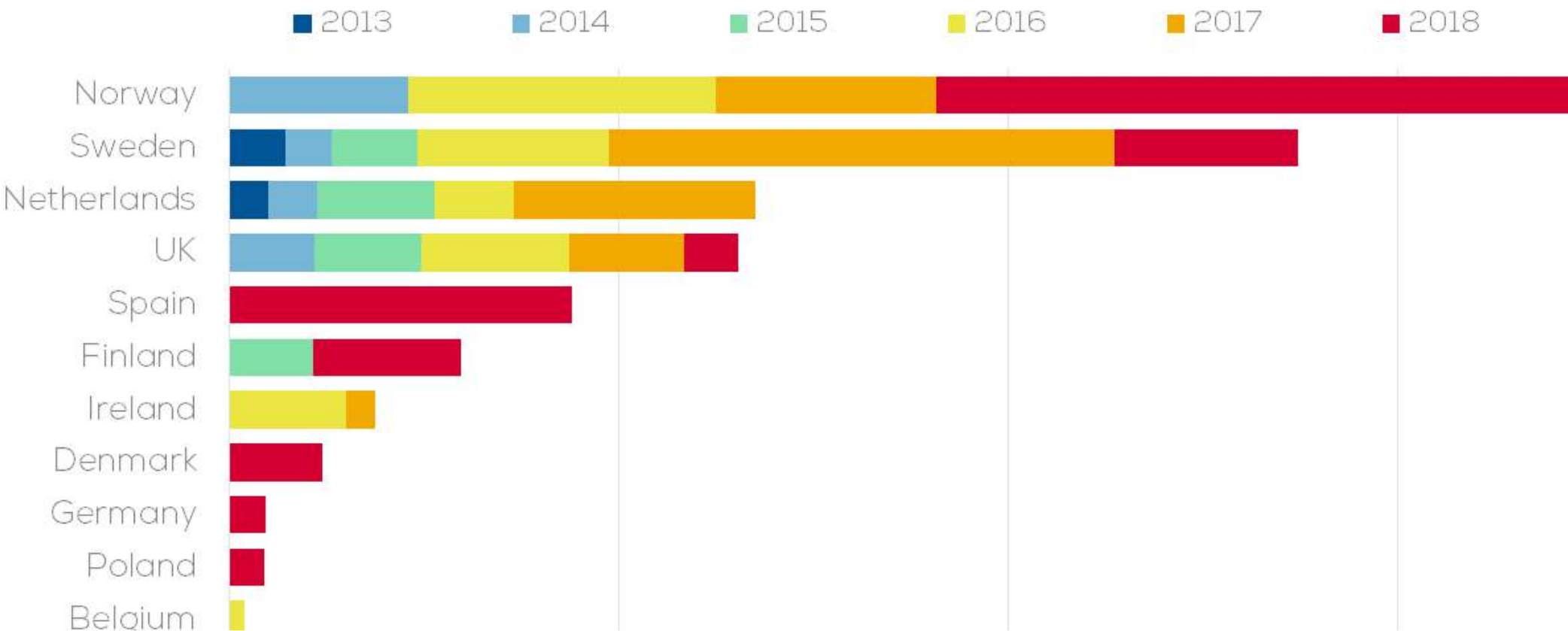


**1.9GW of renewable
corporate PPAs signed
in Europe in 2018**

Share of wind and solar

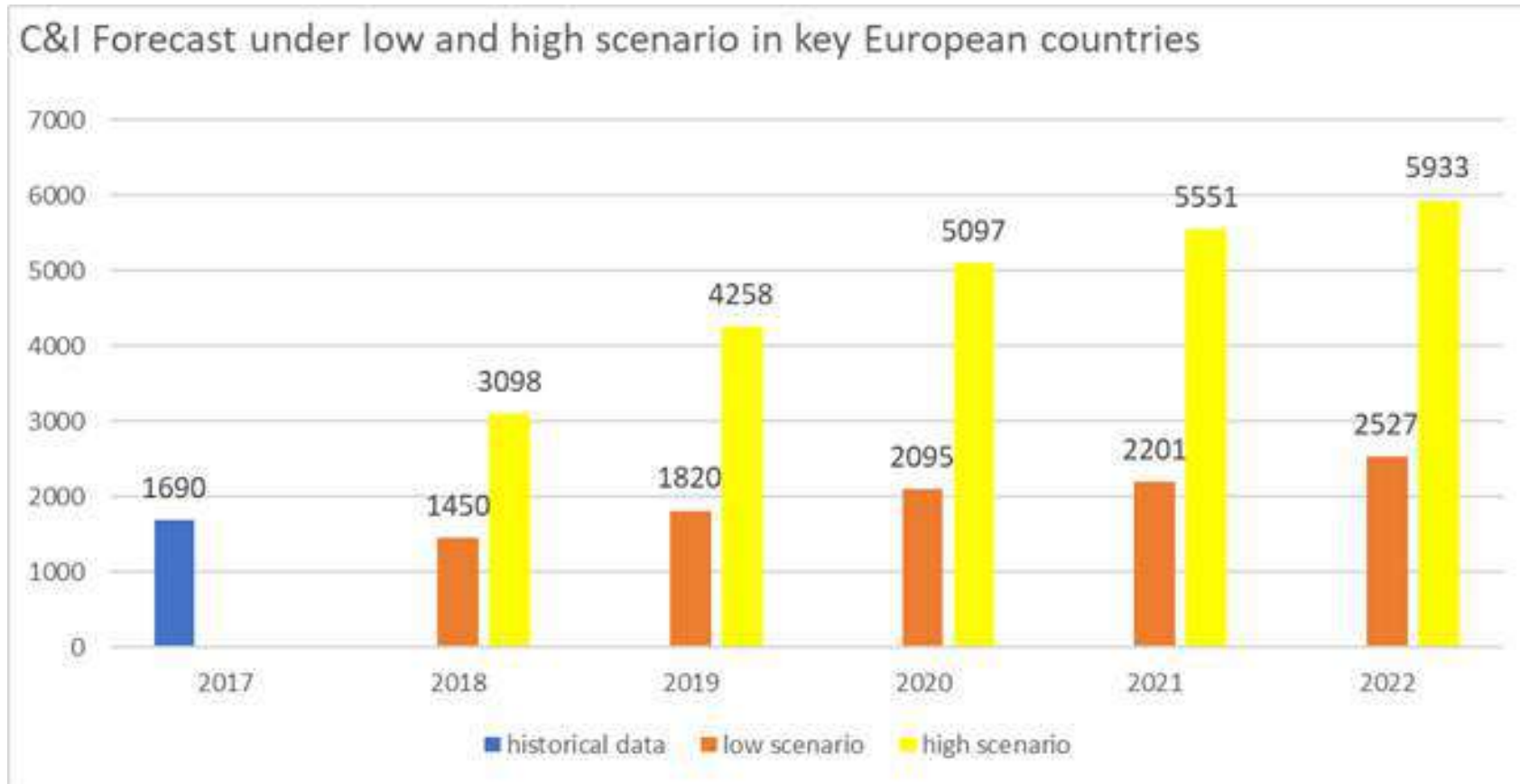


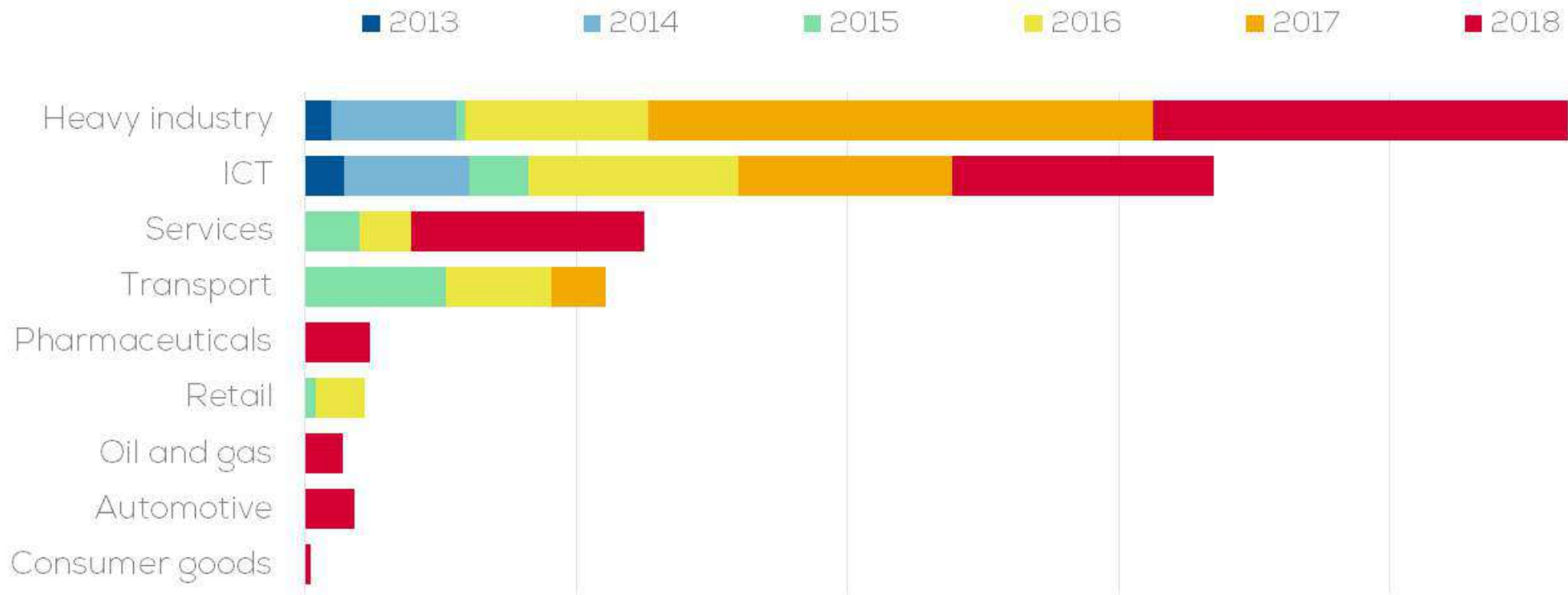
Wind energy
accounts for 85% of
corporate PPAs in
Europe to date



Corporate PPAs by country

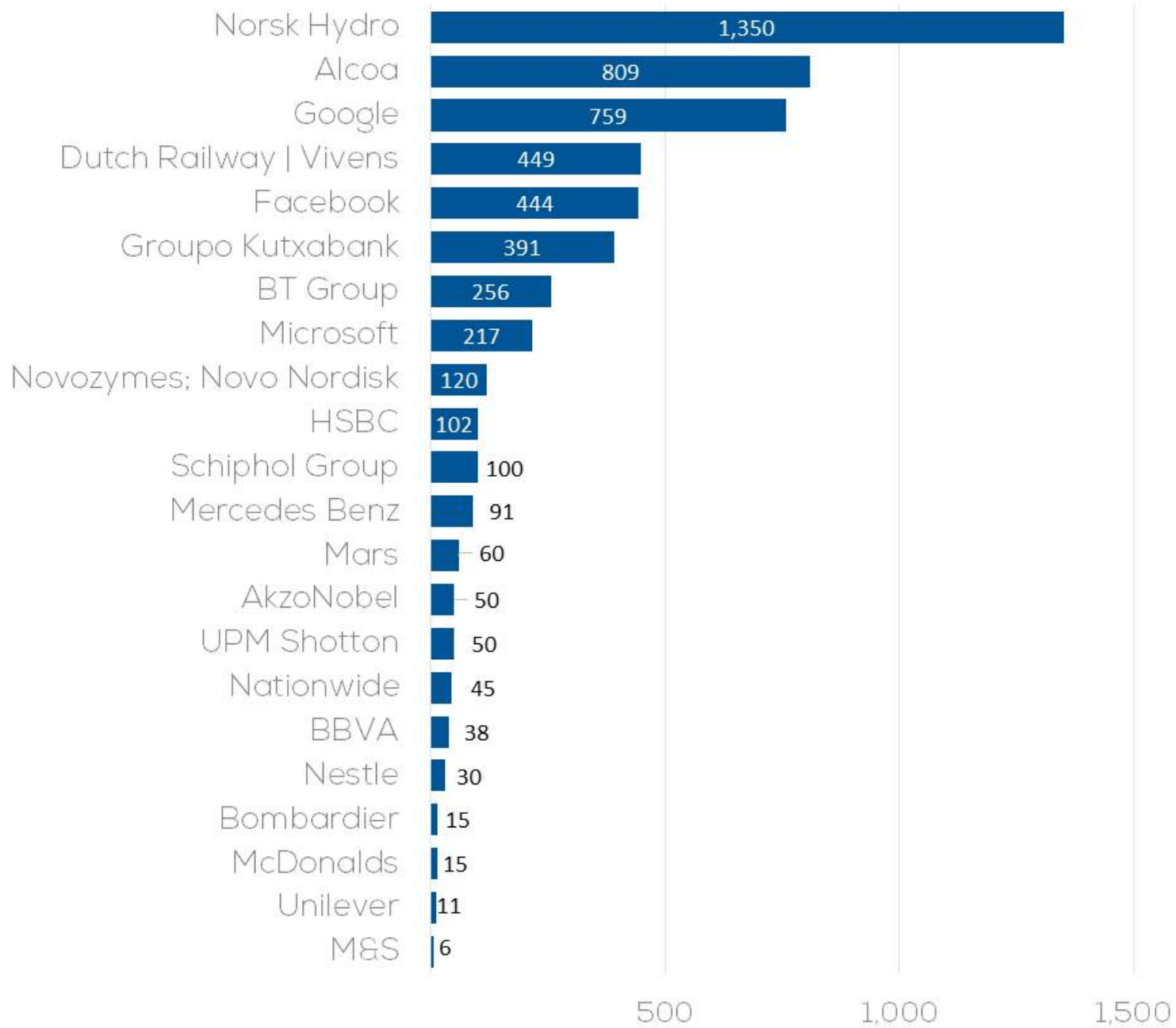
On-site solar corporate sourcing





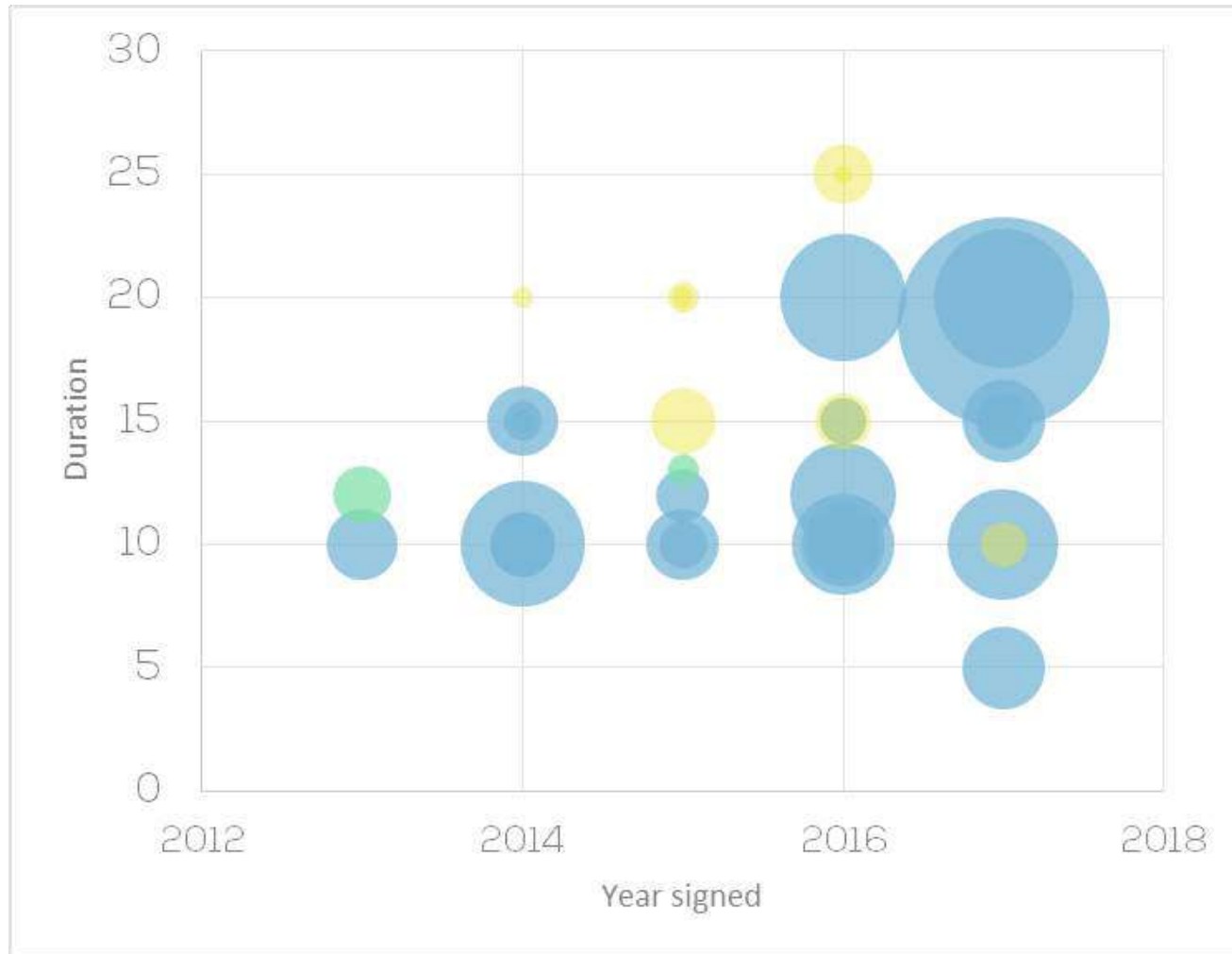
Corporate PPAs by industry

Majority of capacity signed to date by heavy industry and ICT



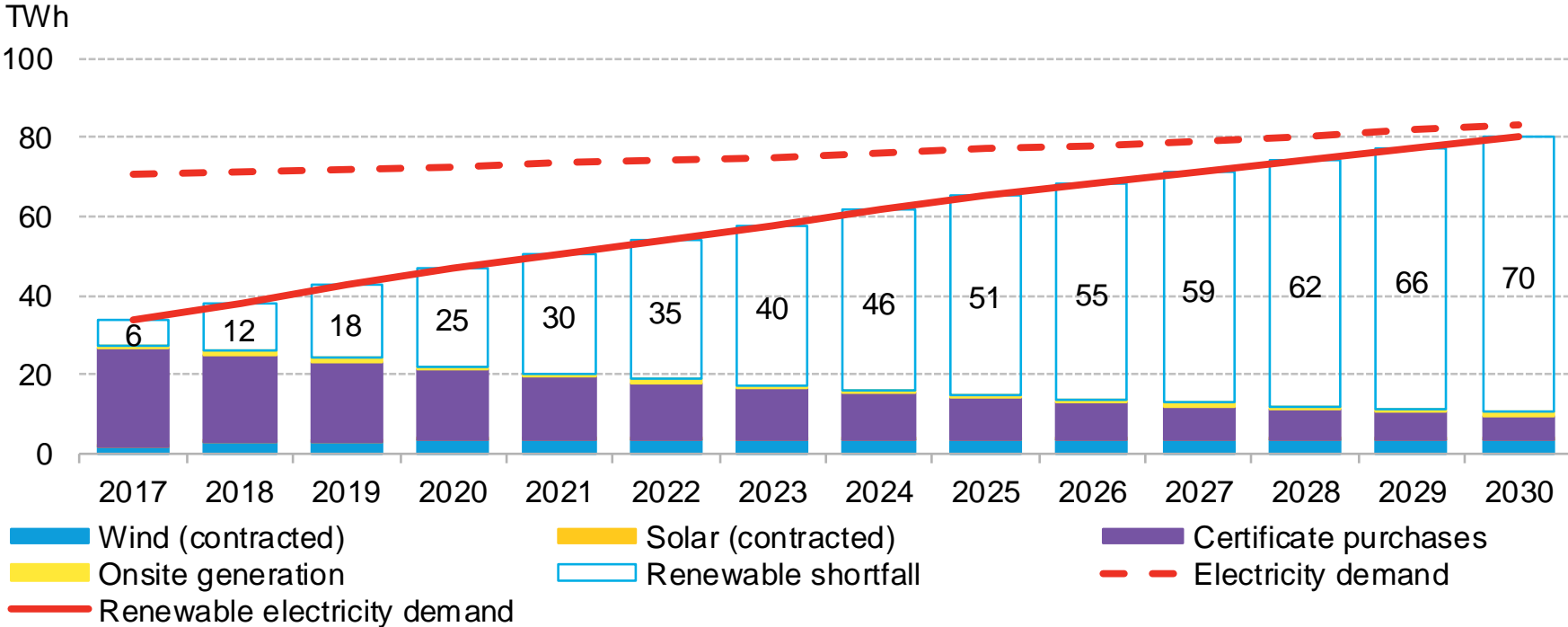
**Which
companies?**

Duration and capacity trends

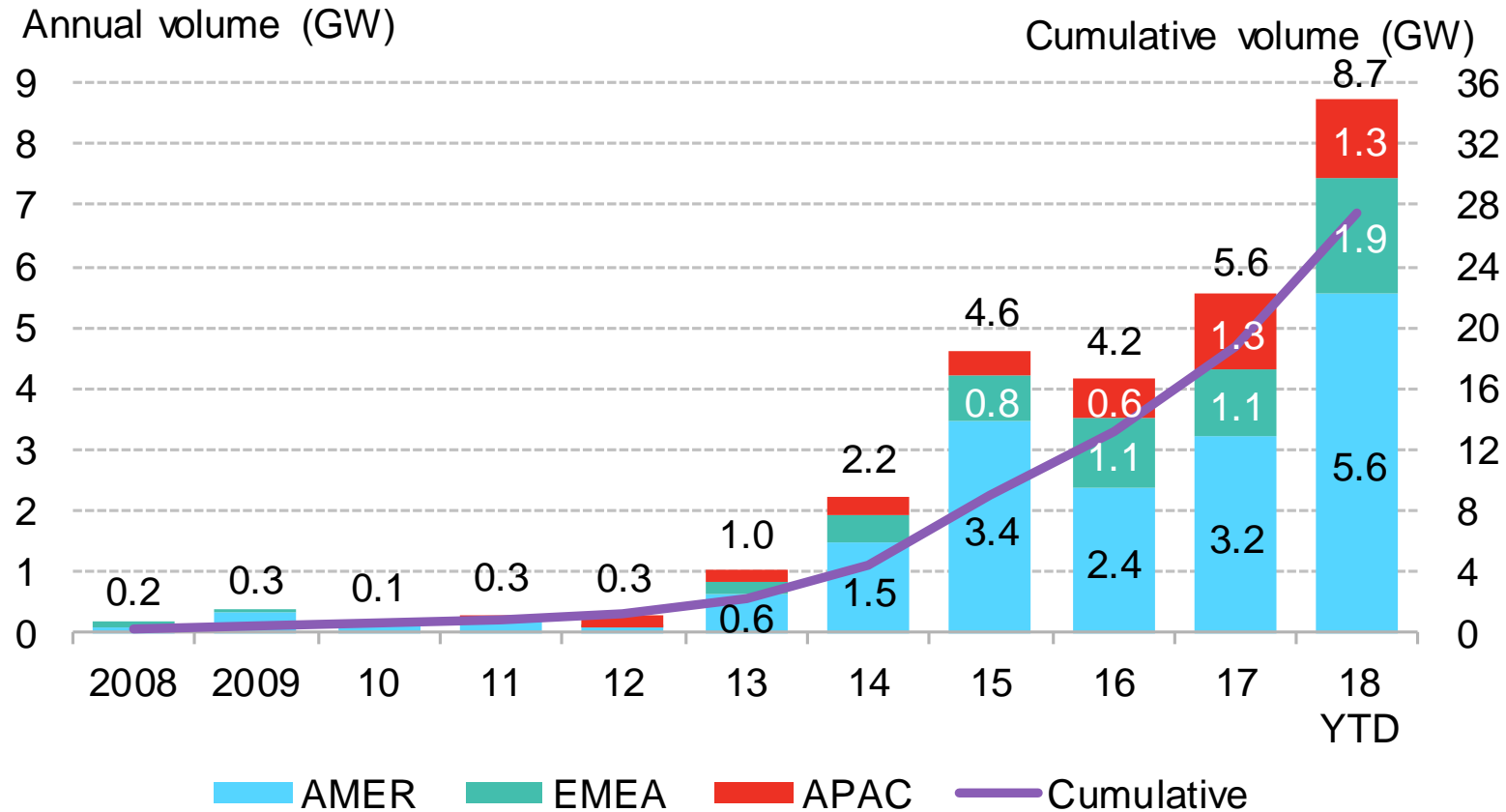


- Capacity and duration of PPA contracts increasing
- Recently seen a 29 year corporate PPA signed, the longest so far

Europe-domiciled RE100 supply-demand fundamentals



Global PPA market



Outreach to buyer groups



The business models



The 14
models...



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European platform for corporate
renewable energy sourcing

1

Self-owned
on-site



2

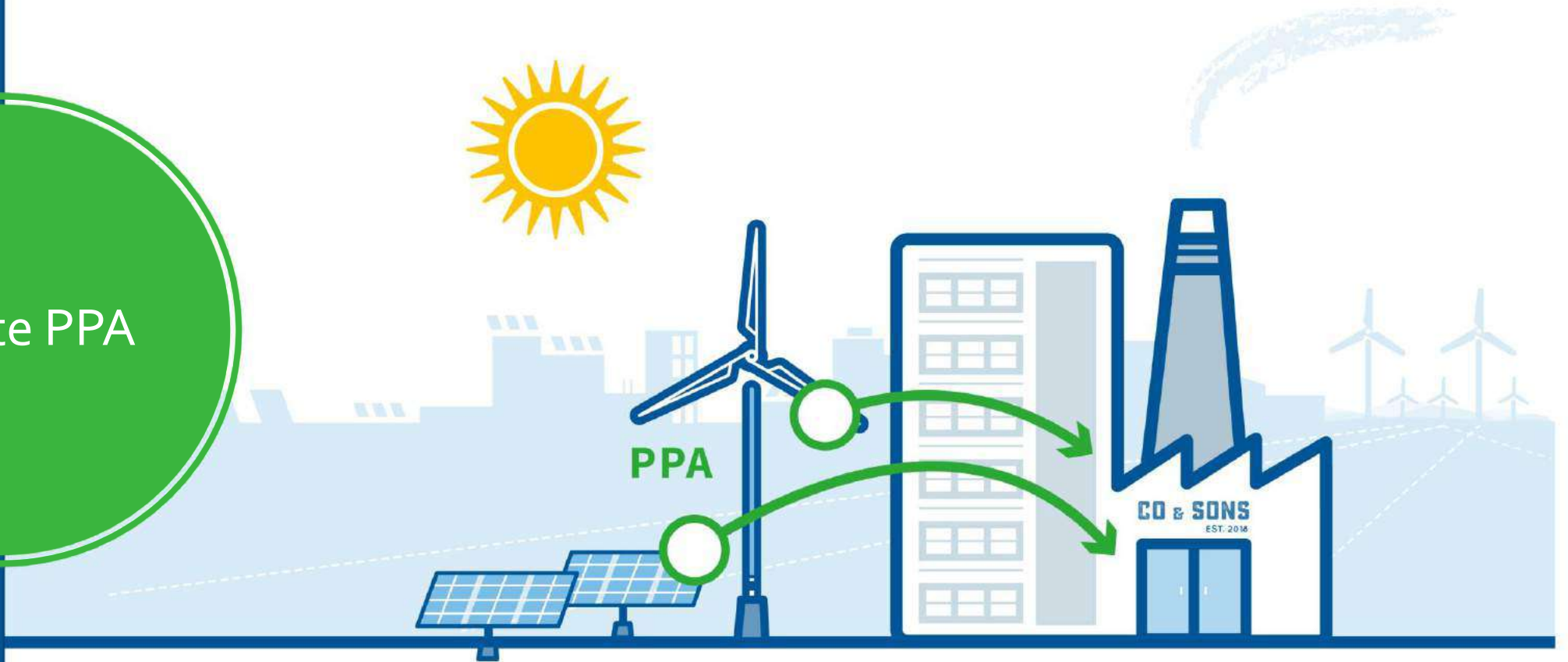
Leasing

LEASING



3

On-site PPA



4

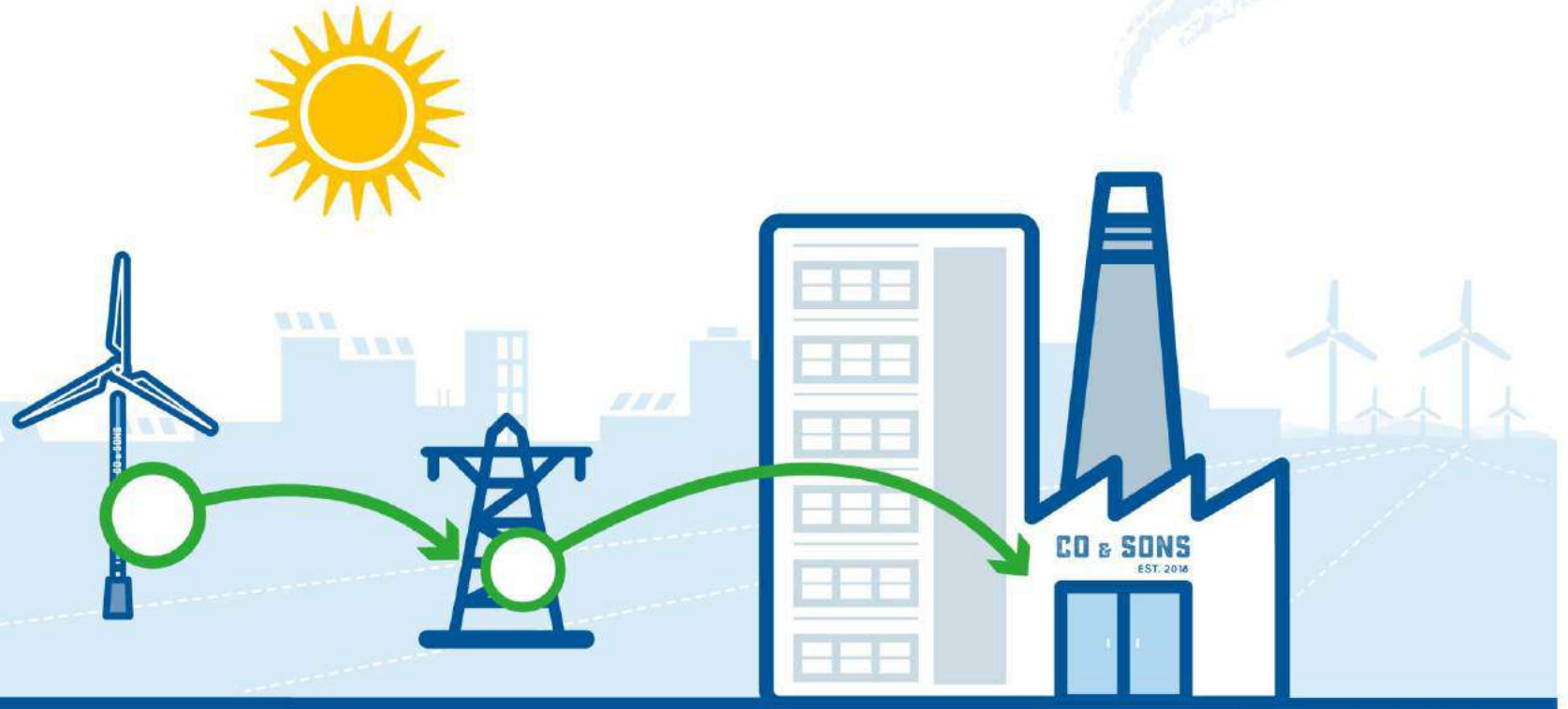
Private wire
PPA



PRIVATE DIRECT WIRE

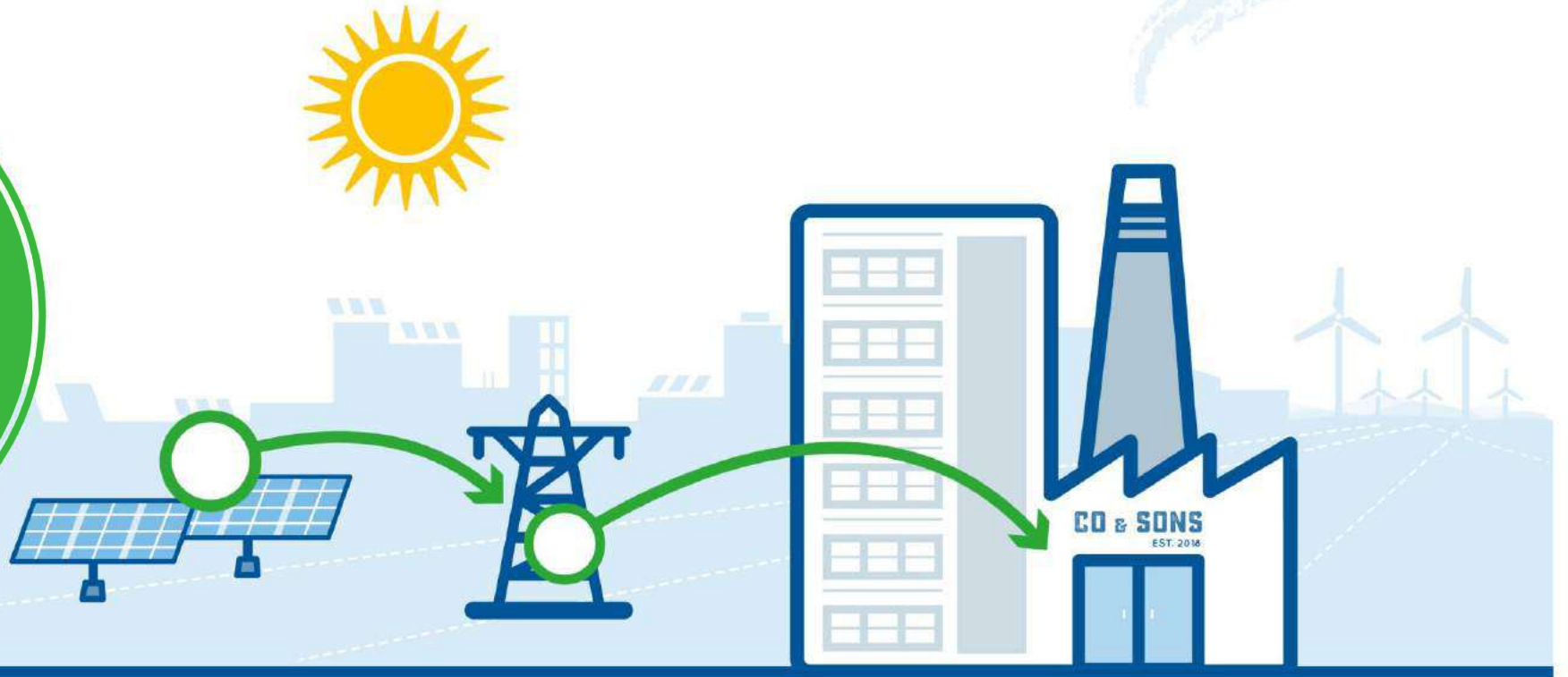
5

Self-owned
off-site



6

Sleeved PPA



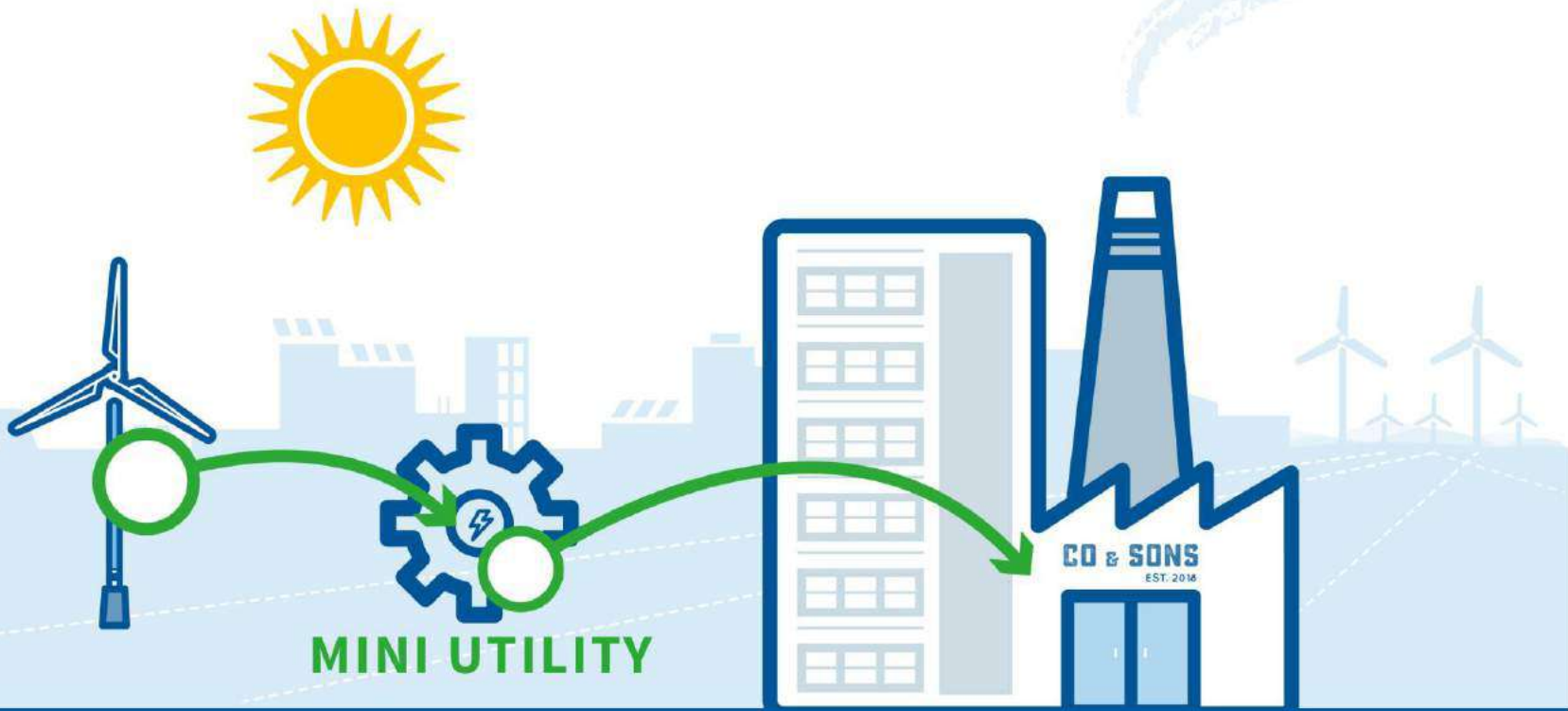
7

Virtual PPA



8

Mini-utility PPA



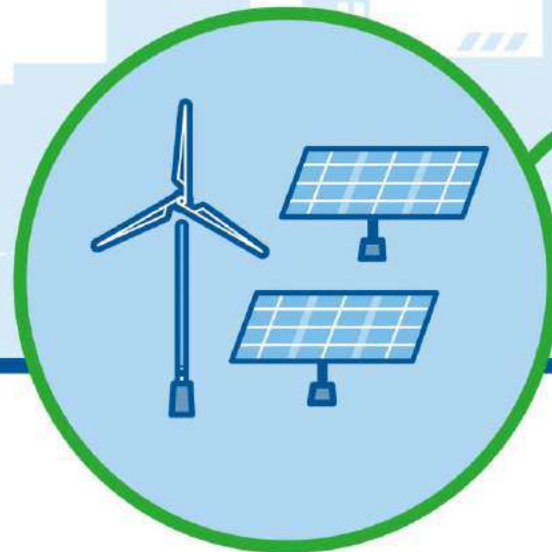
9

Multi-buyer
PPA



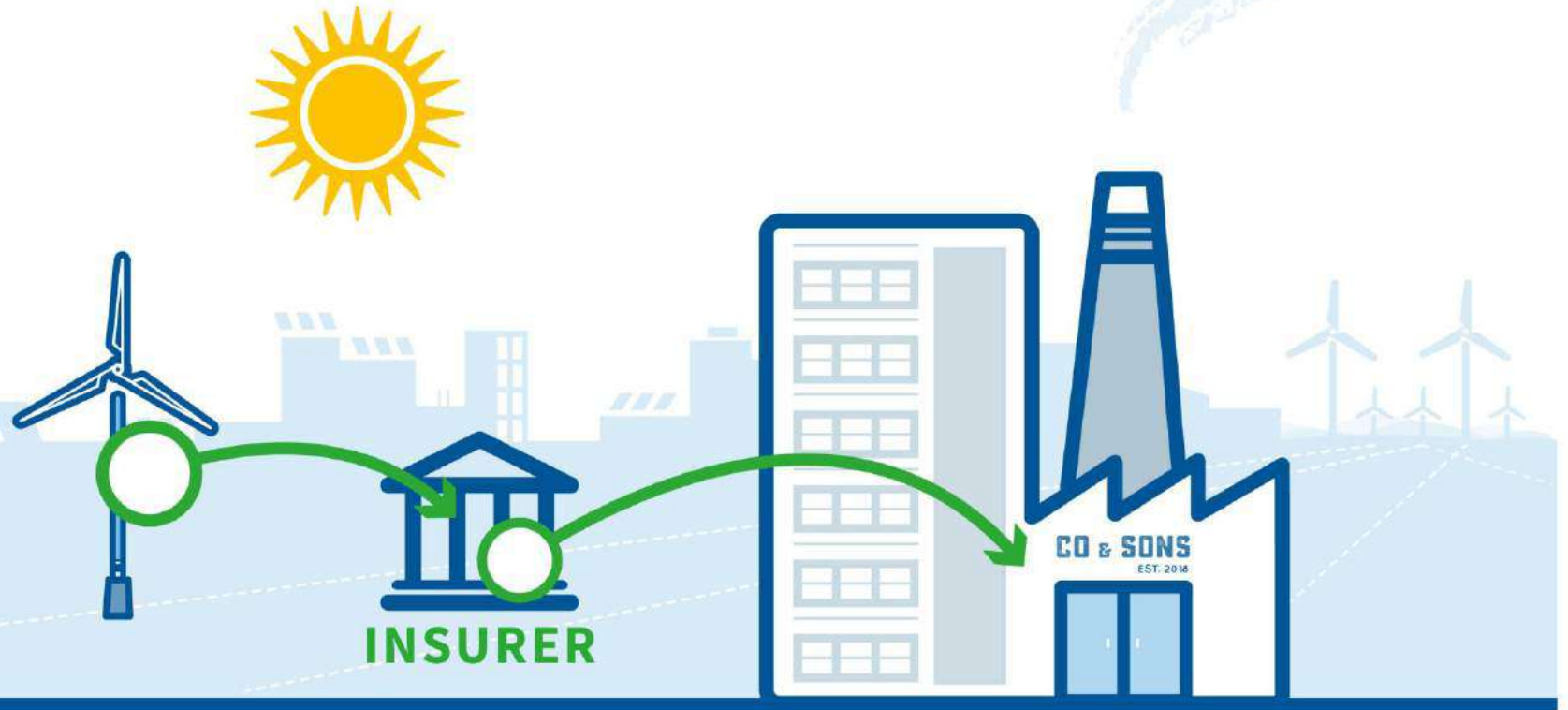
10

Aggregation PPA



11

Proxy
revenue
swap

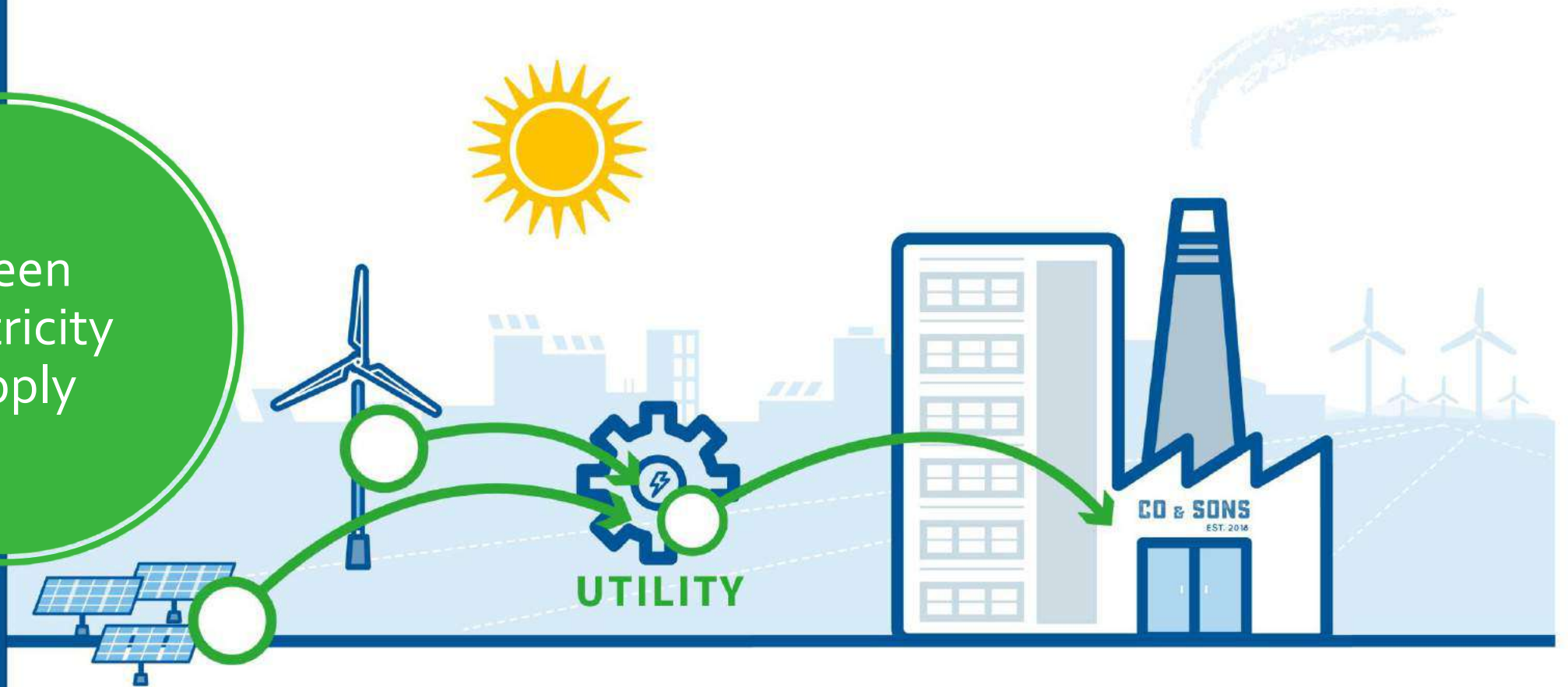


Cross-
border PPA

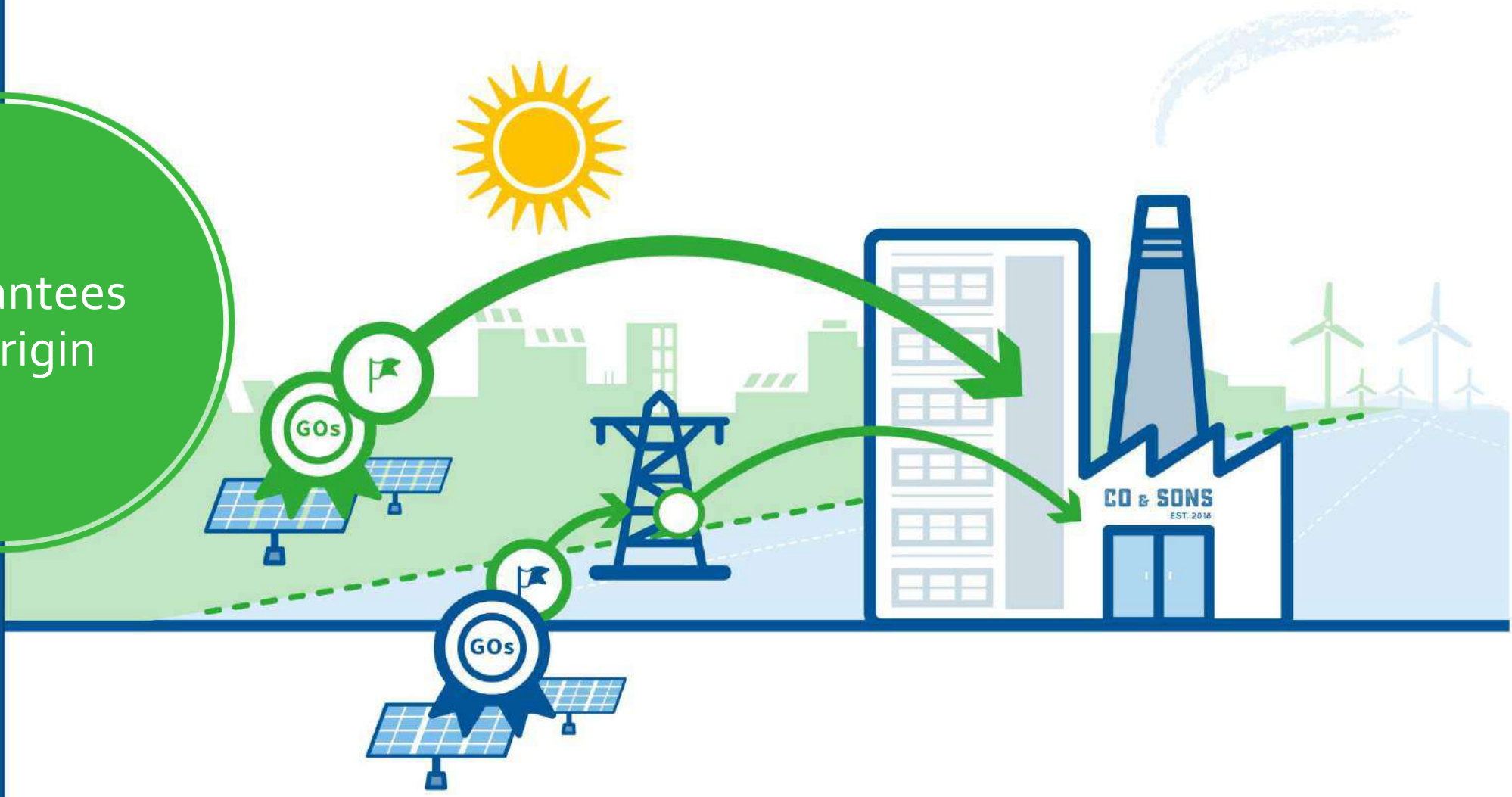


13

Green
electricity
supply



Guarantees of Origin



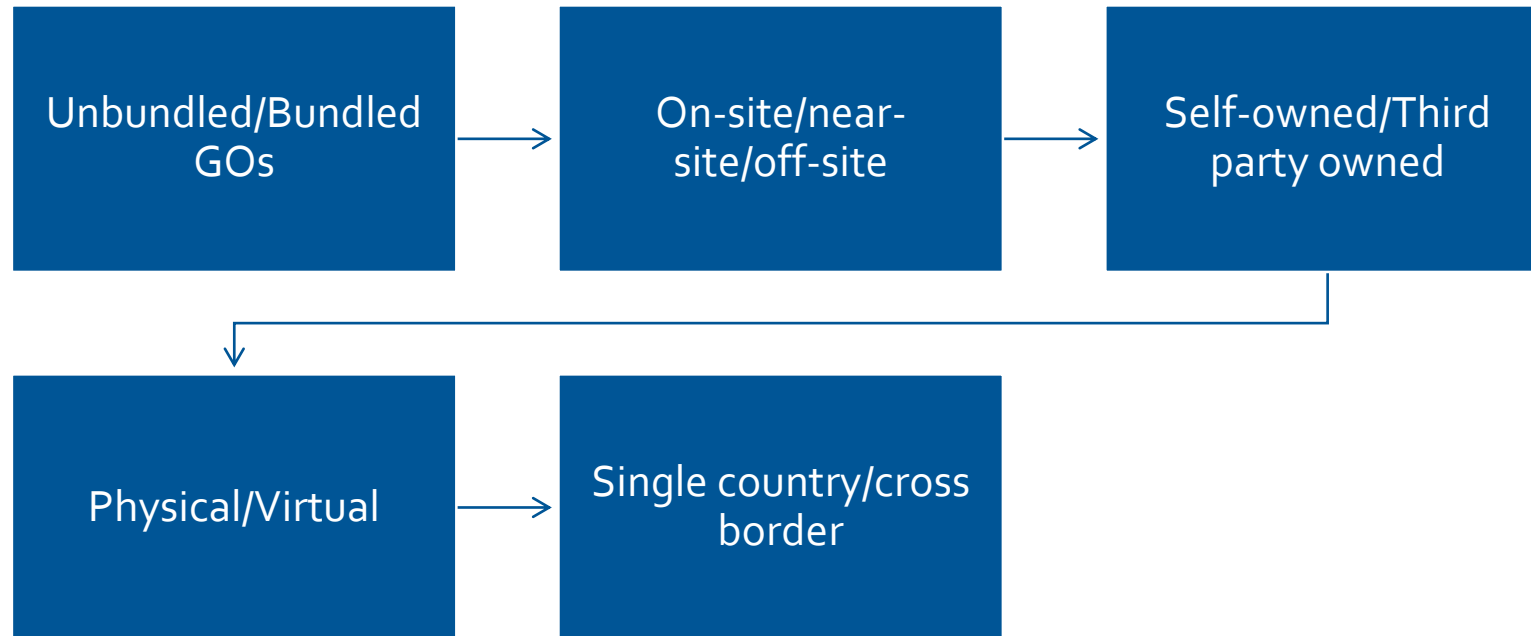
...take
your pick!



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European platform for corporate
renewable energy sourcing

Decision tree



**Report on 14
business models to
be published soon**



Template corporate PPA contract

EFET European Federation of Energy Traders

PART I (Commercial Terms) of the Individual Corporate Power Purchase Agreement

between:

having its registered office at _____

[renewable source electricity generator] ("Seller"); and

having its registered office at _____

[corporate buyer] ("Buyer")

(referred to jointly as the "**Parties**" and individually as a "**Party**")

on the date _____ ("Signature Date"), where the commercial terms of this corporate power purchase agreement are set forth below in this Part I (**Commercial Terms**), and the general provisions of which are set forth below in its Part II (**General Provisions**), and which incorporate by reference herein, and form a part hereof.

SECTION A: COMMERCIAL PROVISIONS

1. SETTLEMENT

Physical settlement of electricity ("**Physical Settlement**"), or
 Financial settlement of electricity ("**Financial Settlement**")

2. ELECTRICITY

2.1 In case of the Physical Settlement, the "**Contract Quantity**" of electricity shall be:

2.1(a) All Metered Output of the Facility for the Term, with the following Electricity Contract Price: fixed; variable; cap; or
 provisional monthly payments with reconciliation (select one appropriate option); or

2.1(b) per cent of the Metered Output of the Facility for the Term, with the following Electricity Contract Price: fixed; variable; capped; or provisional monthly payments with reconciliation (select one appropriate option); or

¹ DRAFTING NOTE: To discuss the scope of the capped price and provisional monthly payments with reconciliation.

Policy



RE-Source Declaration



RE-Source
European platform for corporate renewable energy sourcing

Corporations seek removal of barriers to renewable energy procurement in support of Europe's climate and energy goals.

As the next government takes office, accelerating climate change is an urgent global imperative and will require rapid decarbonisation of the electricity system. Corporate renewable energy purchasing can play a critical role in driving the energy transition.

Already, corporate renewable energy power purchase agreements (PPAs) have been a great for over 4 GW of new renewable resources in Europe, representing 60% of the total capacity and investment of just 14 GW of this capacity has been contracted in 2014 alone. More broadly, over 130 companies have committed source 100% of their electricity from renewable energy¹, which, in addition to reducing carbon emissions, is seen by companies as a way to boost customer competitiveness².

The growing realization and impact of corporations working to scale renewable energy is clear. We desire the progress made to date in late 2014/2014 to maximize Europe's opportunities for corporate investment in new sources of renewable energy and associated environmental and economic benefits.

RE-Source, Europe's platform for corporate renewable energy sourcing, aims to increase the number of active companies from 100 to 100,000. The massive potential can be realized by increasing awareness of the opportunity and removal of policy and market barriers that constrain the growth of renewables in many markets in Europe. Accordingly, RE-Source calls on policymakers to help realize the full potential of renewable electricity sourcing in Europe by:

1. Removing regulatory and administrative barriers to corporate renewable sourcing, as required by the recently enacted Renewable Energy Directive, in the early stages - mainly concentrated to date in the Nordic, the Netherlands and the UK - and to be implemented more broadly.

¹ <http://www.renewableenergy.eu/News/News>
² <http://www.renewableenergy.eu/News/News>
³ Add reference to relevant reports (IEA's Energy Region and European Commission survey).

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RE-Source
European platform for corporate renewable energy sourcing

2. Providing responses with clarity and certainty of long term ownership of Guarantees of Origin (GOs) from contracted supplies. Access to GOs is critical to the business case for corporate procurement.
3. Encouraging corporate renewable energy investments to maximize opportunities to deploy the most cost-effective renewable energy solutions. Barriers include implementing GO systems that ensure environmental integrity, transparency, harmonized treatment and prevent double-counting.
4. Developing a wide variety of procurement models and market products, from an end-off-site solutions to multi-corporate renewable power purchase agreements (RPPAs) to minimize risk and maximize participation.

We believe corporate electricity buyers, renewable energy suppliers and policymakers have a unique opportunity to work together to help Europe achieve its climate and energy objectives by creating new, competitive priced renewable energy resources at a scale not otherwise achievable. We are prepared to continue leading by example and accelerate the transition to a cleaner, more sustainable and more inclusive European energy system.



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Declaration

Declaration: key messages

We call on policy makers to:

- **Remove** barriers to corporate renewable sourcing across Europe.
- **Provide** clarity on long-term ownership of Guarantees of Origin.
- **Encourage** cross-border renewable energy transactions.
- **Enable** a wide variety of models and products.

We need to increase the number of active corporates from 100 to 100,000.

Guarantees of Origin

Final outcome:

- No central auctioning of GOs
- Exemption where it is presumed there is no overcompensation from combining GOs and national support mechanisms
- Flexibility for Member States on issuing GOs to green electricity that benefits from a national support mechanism

1. Direct lines and contracting with multiple suppliers – relevant to many different PPA models
2. Active customers – covers on-site corporate sourcing
3. Hedging products – could include synthetic PPAs
4. Interconnections – an enabler for cross-border PPAs

Market design policy issues

RE-Source Platform
The European platform for corporate renewable energy sourcing

Wind Power Europe RE 100 Club wbcscd

Brussels, December 2017

Dear Energy Minister,

We, the undersigned multinational companies and organisations, members of RE100, WBCSD, SolarPower Europe and WindEurope, in addition to non-member companies, are committed to supporting a clean energy future for Europe.

Ahead of the European Union Energy Council meeting of the 18th and 19th of December, our organisations would like to draw your attention to the key role corporate renewable power purchase agreements (PPAs) can play in building Europe's clean energy transition.

European industry and consumers benefit greatly from corporate renewable power purchase agreements (PPAs). Such mechanisms enable large energy consumers in the IT, chemicals, heavy industries and other sectors to secure a supply of clean electricity at a competitive price. They also provide financial certainty for renewable energy providers and are therefore increasingly relevant as renewables become exposed to market dynamics.

In the last two months alone, more than 1 GW of capacity was contracted, with corporate buyers capitalizing on ever more competitive renewable energy technologies. Corporate renewable PPAs therefore contribute to achieving national renewable energy ambitions, bringing forward billions of euros of investment, unlocking innovation and new business models.

The post-2020 Renewable Energy Directive has a key role to play in unlocking the potential of corporate renewable PPAs, which remains largely untapped in Europe.

First and foremost, a strong investment signal is key to further positioning industries with large investment potential in supporting Europe's clean energy goals.

Signatories of this declaration therefore urge Member States to support a renewable energy target of at least 35% by 2030.

We believe that the post-2020 Renewable Energy Directive can deliver this target by ensuring stable and predictable national decarbonisation policies and securing existing investments.

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RE-Source Platform
The European platform for corporate renewable energy sourcing

Wind Power Europe RE 100 Club wbcscd

The Directive should also ensure that Member States lift all regulatory barriers to the development of corporate renewable PPAs, whether they are direct or indirect prohibitions.

Notably, Guarantees of Origin are an integral part of corporate renewable PPAs, as leading companies engaging in such contracts must be able to credibly trace where their electricity comes from. By stripping green electricity producers of their Guarantees of Origin, the principle of central auctioning put forward in Article 19 significantly undermines the underlying business model.

The Directive should empower producers to market their green electricity directly thanks to an effective Guarantee of Origin system.

Corporate Renewable PPAs can play a decisive role in delivering Europe's Climate and Energy objectives.

We urge you to ensure that the Renewable Energy Directive empowers our organisations to continue developing the business models that will drive the energy transition to the next level.

Yours sincerely,

amazon BT Corbion
DSM DU PONT facebook
Google IKEA M&S Microsoft
novo nordisk PHILIPS Unilever WACKER

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Additional signatories include:

SMA Fronius Jinko Solar TCO ALECTRIS
ENcome actio STÄUBLI tecnalia HELIOS
calyxo BNRG Iris Hellas octopus
hoymiles VON ARDENNE RAISING POWER
Schweizer Greensolver KGAL REENERGY
BYD archelios suite PV BIM Software GRADCONT
Techlink REGALGRID SOLARIS niore masor
Messaritias inter solar SOLIBRO phoenix
UBK DNV-GL solar net GOLDBECK
GUNTER GARTECH GART EcoPower
Ines ITALIA ACORE BSW SOLAR TRADE
BCA APQA SBF SPENSK SOLAR ISEA

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Vestas edp ENERCON
IBERDROLA VATTENFALL
ENVISION enel centrica
BayWa re. renewable energy First Solar Orsted
Trinasolar GE SIEMENS
SIEMENS Gamesa acciona
Eneco Groep

resource-platform.eu



Country/model matrix

A	B	C	D	E	F	G	H	I
Country	Priority country	Market analysis - summary	General attractiveness	On-site generation	Off-site PPAs	Crossborder PPAs	Key players and active buyers/sellers	Lead
Belgium	Y	Market analysis - summary: framework is good, direct lines are extremely difficult and other models legally possible but have not yet been tested.	Yellow	Green	Yellow	Red	Solvay, SNCB, Brussels Airport, etc.	
Finland	Y	Sleeved PPA and Cross-border PPA framework is good.	Green	White	Yellow	Green	Google	
France	Y	Direct lines extremely difficult. Growing pipeline of sleeved PPAs. Virtual PPAs legally possible but yet to be tested.	Yellow	Yellow	Yellow	White	Michels, Decathlon	
Germany	Y	On-site framework good. Off-site models not economically viable. GO	Yellow	Green	Red	Green		
Ireland	Y	Mini-utility PPAs have been done. Regulatory uncertainty main	Green	White	Green	White	Facebook, Microsoft	

Policy barriers

Private wires

Rules on one company having
multiple electricity suppliers

Allocation of cross-border
transmission capacity over the
long-term



Advocacy



Case studies





15 year wind PPA:

Scottish wind farm - 100 GWh per year

One of four wind farms now powering BT operations

100% renewable in the UK since 2012

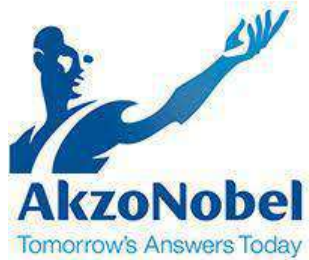




Five year solar PPA:

French utility selling power to
Austrian industrial company for their
Italian brick manufacturing plant





PHILIPS



Dutch wind consortium:

Aggregation of corporate renewables buyers

Two long-term wind PPAs – 102 MW and 34 MW





On-site generation:

Generates more energy than it consumes in Portugal

12,000 solar modules on the rooftops of four of the stores

50 MW wind farm

Globally in 2017: 73% of energy consumed was renewable = 400 wind turbines and 750,000 solar panels





Renewable targets allow us to improve efficiency, while we run our business in a sustainable way, maximizing returns to our shareholders that care about results, as much as how we achieve them. Furthermore, we expect savings of 6% on the energy bill in 2020 and up to 26% in 2030 thanks to our Renewable Energy Plan.”

– Laura Abasolo, Chief Finance and Control Officer, Telefónica



With a life expectancy of over 25 years, we know that our solar power plants will not only help us generate clean, sustainable power, but will also do so in a way that will save Swiss Re millions of dollars in the coming decades.”

- Lasse Wallquist, Senior Environmental Management Specialist,
Swiss Re

RE-Source event

The biggest corporate sourcing event in the world...

- Over 800 participants
- Over 220 B2B meetings
- Over 70 high level speakers
- Half a dozen side events
- Participants from 36 countries worldwide – a global marketplace



RE-Source

Connecting renewable energy
buyers and sellers

1-3 October 2019
Okura Hotel, Amsterdam

Target audience (over 700 participants expected):

- Multinational corporations
- Renewable energy developers
- Senior decision-makers
- Advisors, investors and service providers

Objectives:

- Raise awareness
- Exchange information
- Facilitate connections & business opportunities





Win – Win – Win



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More info at: resource-platform.eu

THANK YOU



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