

The Rise of Renewable Energy in the ICT Sector

Moderated by:
Fatou Samateh
Product Manager
South Pole Group

The Rise of Renewable Energy in the ICT Sector

Today's Speakers

Junio Valerio Palomba

Senior Key Account Manager, Sustainable ICT
South Pole Group



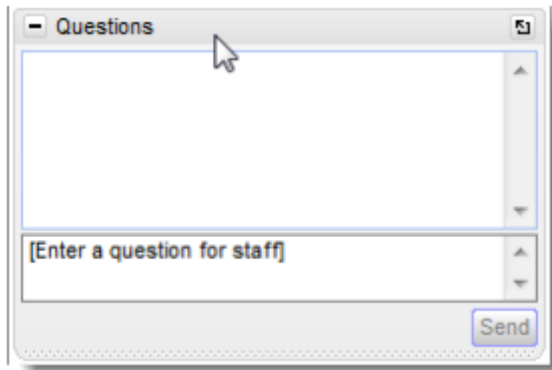
Natalia Gorina

Sales Director Carbon & Renewables
South Pole Group



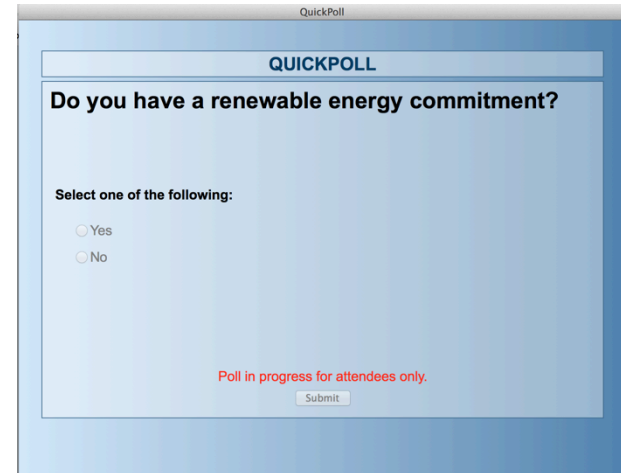
Get involved

Questions

A screenshot of a web interface titled "Questions". It features a large text input area with a placeholder "[Enter a question for staff]". Below the input area is a "Send" button. A mouse cursor is pointing at the top right corner of the input area.

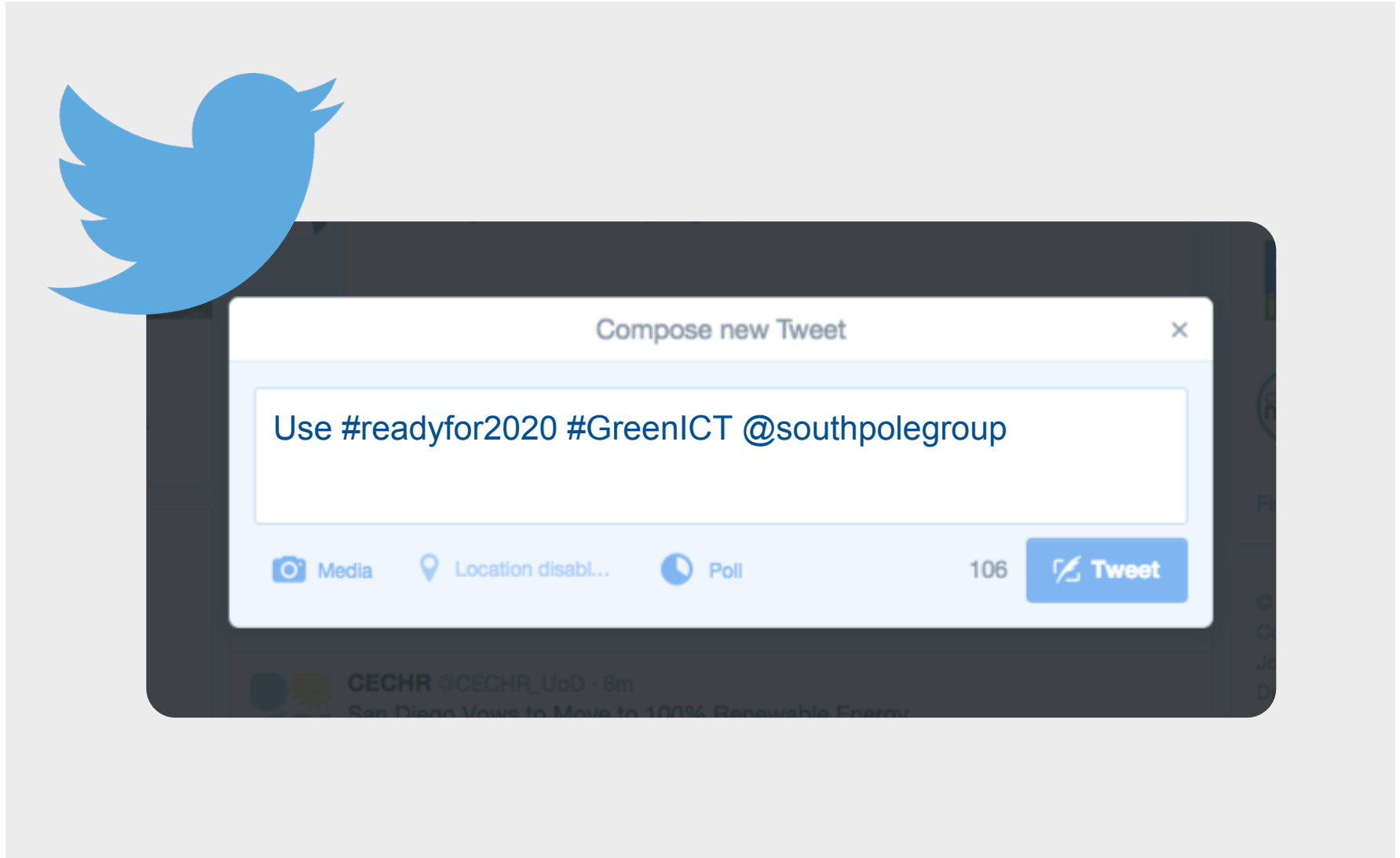
- If you have any questions during the webinar, you can enter your questions into the **Questions panel**.
- Type your question into the **Questions panel** and click **Send**.
- A selection of questions will be answered in the **Q&A section**.

Polls

A screenshot of a web interface titled "QUICKPOLL". It displays a poll question: "Do you have a renewable energy commitment?". Below the question, it says "Select one of the following:" and provides two radio button options: "Yes" and "No". At the bottom, there is a "Submit" button and a red text message: "Poll in progress for attendees only."

- We encourage you to participate in our **anonymous** poll. The data will be summarised in an article that we will share with you after the webinar.
- Participation in the polls is **voluntary**.

Follow the conversation on Twitter



Agenda

About South Pole Group	06
The Rise of Renewable Energy in the ICT Industry	12
Renewable Energy Procurement	21
Renewable Energy Certificates	27
Next Steps	37
Q&A	42

About us



Developing solutions worldwide



Impacts

Created
400+ projects



Enabled 35,000 GWh
of renewable energy



Measured USD 1.3 trillion
of investments



Impacts



Saved 50+ million
tonnes of CO₂



Created over
20,000 jobs



Saved 55,000+
hectares of forest

Notable Renewable Energy Clients

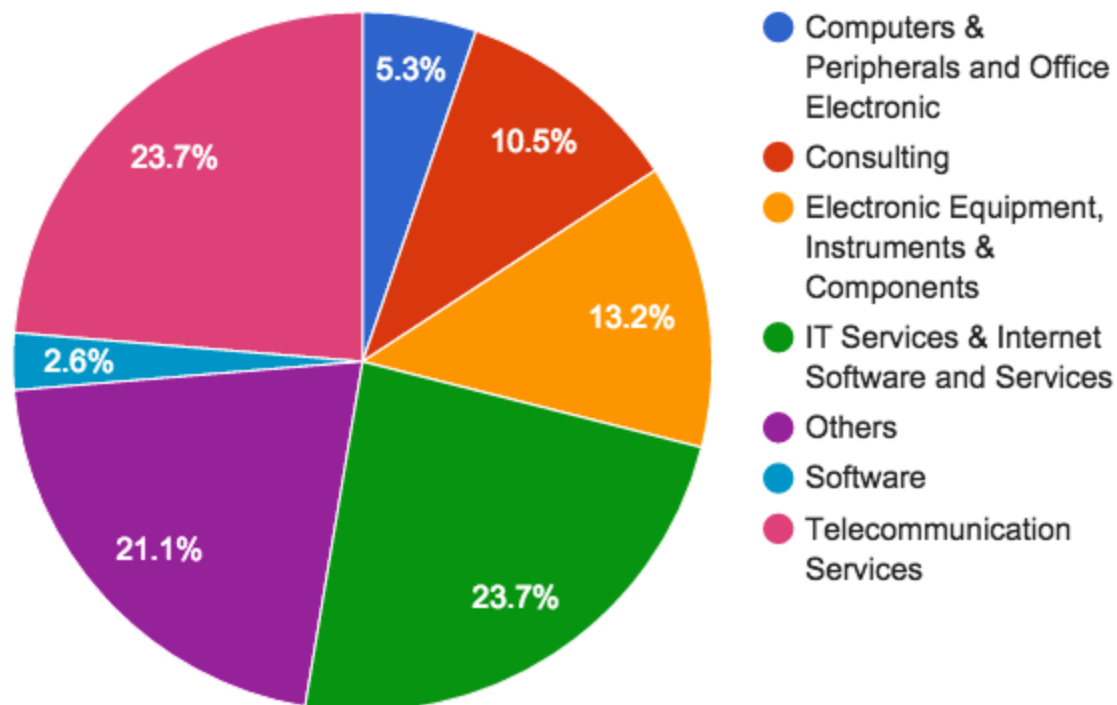


BAKER & MCKENZIE

Givaudan[®]

Today's participants

Industry segments represented among participants (%)



The Rise of Renewable Energy: The Business Case for Corporates in the ICT Sector

The world's first global climate agreement



Source: <http://www.carbonbrief.org/>

Key Takeaways for Companies

Paris Agreement is a **strong signal** that investment in **low-carbon assets will pay off**.

The goal is to stay "well below 2°C", preferably 1.5°C:

- *companies should commit to 2°C / 1.5°C goal by defining long-term science based emission reduction goals, potentially include internal prices on carbon*

The recognition of "non-party" initiatives highlights the importance of private sector engagement: "reduce at home, finance abroad":

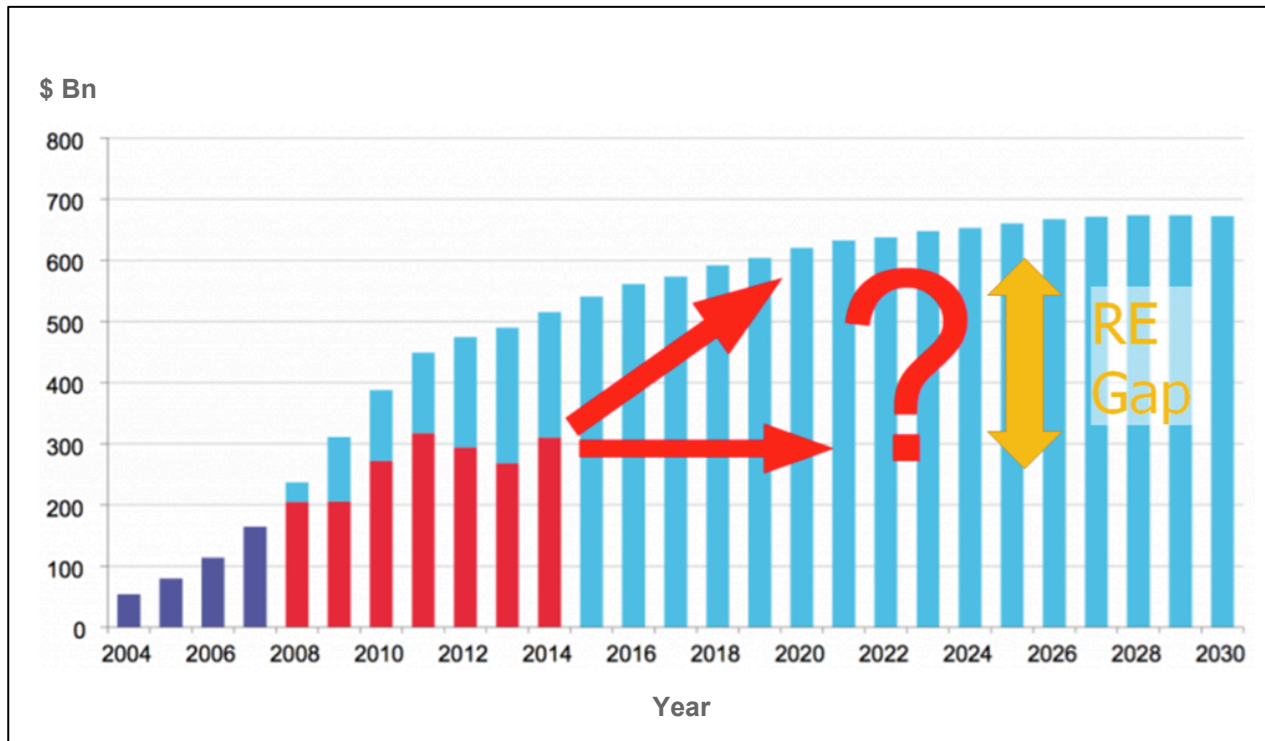
- *e.g. reduce electricity-related carbon emissions at home and finance the development of renewable energy abroad by purchasing renewable energy certificates*

**„Paris“ is
a great system...**



**... now we need
voluntary action!**

The rate of renewable investment required to stay within the 2°C limit



Source: Bloomberg New Energy Finance

The current RE investment is well below the 2°C compliant level.

Corporate support for renewable energy can play a **critical role** in closing this renewable energy gap.

Legend

Blue lines: Renewable energy investments that are needed to stay within the 2°C limit

Red lines: Actual investments in renewable energy





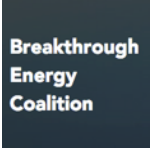


















The ICT industry is leading way



Renewable electricity use by sector with EPA's GPP in the U.S. in 2014

Source: Miller et al. (2015) Renewable Electricity Use by the U.S. Information and Communication Technology (ICT) Industry. National Renewable Energy Laboratory.

Corporate commitments that are driving change

Initiative	Commitment	Signatories
RE100 	100% renewable electricity by 2020	  
Breakthrough Energy Coalition 	Cooperating with countries who are significantly increasing their public research pipeline for RE	    
Future of Internet Power Initiative 	Increase the use of renewable energy to power data centres	  
Corporate Renewable Buyer's Principle  	Facilitate the purchase of renewable energy for corporates	  
Rocky Mountain Institute's Business Renewable Center 	Streamline and accelerate the corporate procurement of wind and utility-scale solar energy	  

Your peers are getting involved



MICROSOFT JOINS RE100

DATE 30 NOVEMBER 2015

PARIS: US multinational giant **Microsoft** is the first in a wave of ICT companies to join RE100 this week, partnering with like-minded businesses from around the world to take action against climate change.

Microsoft has been **100% powered by renewable electricity since 2014**, by purchasing renewable energy credits (RECs) and investing in renewable electricity generation projects such as wind turbines and onsite solar panels at its data centers.



Google looks to triple renewable capacity through RE100

Google has upped its already ambitious green energy procurement programme, adding 842MW of renewable energy capacity and joining the RE100 initiative with a new target to triple its purchase of renewable energy by 2025.



Apple: First Company to Use 100% Renewable Energy in Singapore

November 17, 2015 By [Carl Weinschenk](#)



Apple and Sunseap Group have entered a clean energy agreement. The arrangement will make Apple the first company in Singapore to be completely powered by renewable energy, according to Sunseap.

The energy will come from the more than 800 buildings in Singapore that accommodate Sunseap's solar systems. The power purchase agreement between the two companies calls for delivery of 1.1MWp and as much as 40 GWh.



Case study: SAP's renewable energy commitment



SAP powers its operations worldwide with 100% renewable energy since 2014

- 130 countries (Americas, Europe, Asia Pacific and Africa/Middle East)

RE100 signatory

“Our investment in renewable energy plays a critical role in reducing our environmental impact. Our shift to 100% renewable energy in all of our data centers and facilities is one of our most significant actions to date to make our operations more sustainable and better serve our customers.”

Marcus Wagner

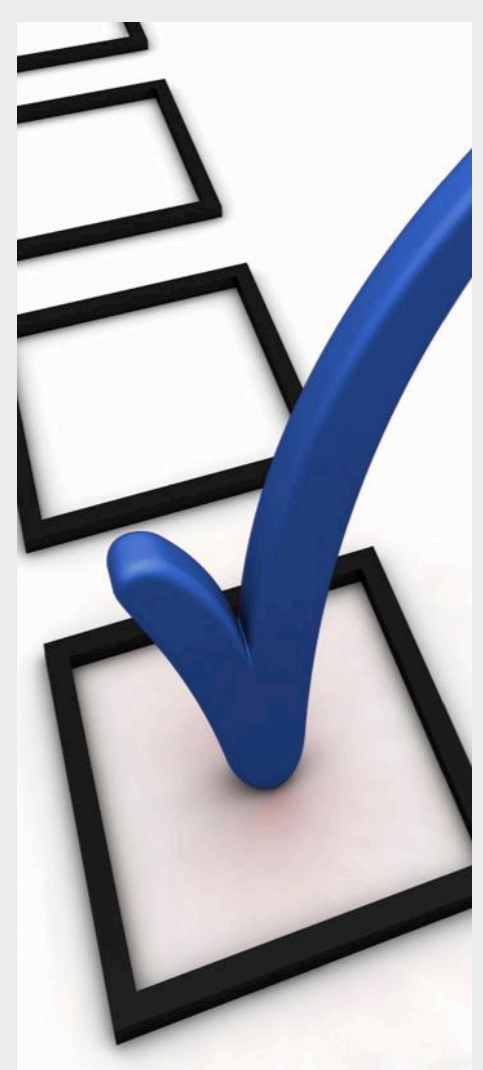
Director Environmental Sustainability, SAP SE



Poll

Questions:

1. **Do you have a renewable energy commitment?**
 - Yes
 - No
2. **When is the deadline of your commitment?**
 - Before or in 2020
 - Before or in 2030
 - Before or in 2050
3. **Have you joined any of the following initiatives? (Multiple answers are possible).**
 - RE100
 - Future of Internet Power Initiative
 - Corporate Renewable Buyer's Principle
 - Rocky Mountain Institute's Business Renewable Center
 - Breakthrough Energy Coalition
4. **What are the key drivers behind your renewable energy commitment? (Select up to three options).**
 - Mandatory commitments, e.g. National / regional legislation
 - Voluntary initiatives, e.g. RE100
 - Peer pressure
 - Pressure from shareholders



Renewable Energy Procurement

Case study: British Telecom



- In March 2013, BT announced an ad hoc agreement with energy supplier npower for the sourcing of 100% renewable energy in the United Kingdom.
- npower provides 'A' rated Renewable Energy Guarantee of Origin Certificates equal to the amount of electricity consumed by BT.
- What about electricity consumption in other key emerging markets for BT, e.g. Brazil, Hong Kong?

Solution for corporate renewable energy integration

01 RECs Procurement

REC is bought separately from Power, e.g. TetraPak

02 Green Power Tariff

Clients purchase bundled electricity and RECs from Utility e.g. RBS

03 Power Purchase Agreement

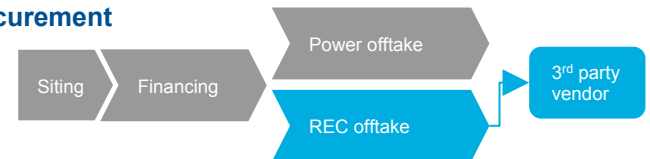
A project specific offtake contract for electricity and RECs e.g. Deutsche Bank, Infosys

04 Direct Project Investment

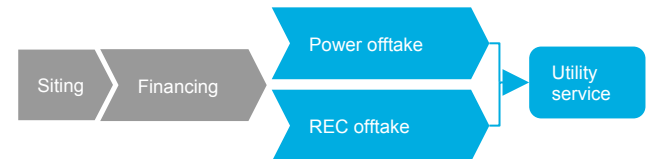
e.g. Google, IKEA, BMW, etc.

Model

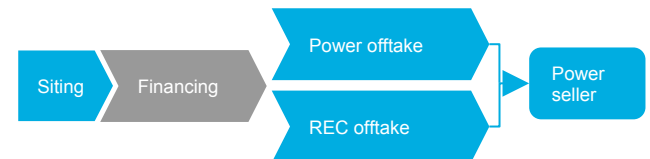
Renewable energy certificate (REC) procurement



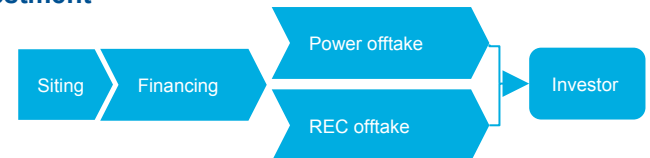
Green power tariff



Power purchase agreement (PPA)



Direct investment



■ Responsibility of the buyer.
Source: Bloomberg New Energy Finance

Challenges of sourcing renewable energy

Location

- Limited or no access to green electricity offered by local utilities in certain parts of the world.

Strategy alignment:

- Is the renewable energy strategy short term or long term?
- Which solution fits the company's objectives?
 - RECs?
 - PPAs? Virtual PPAs?
 - Green Tariffs?
 - Direct Investments?

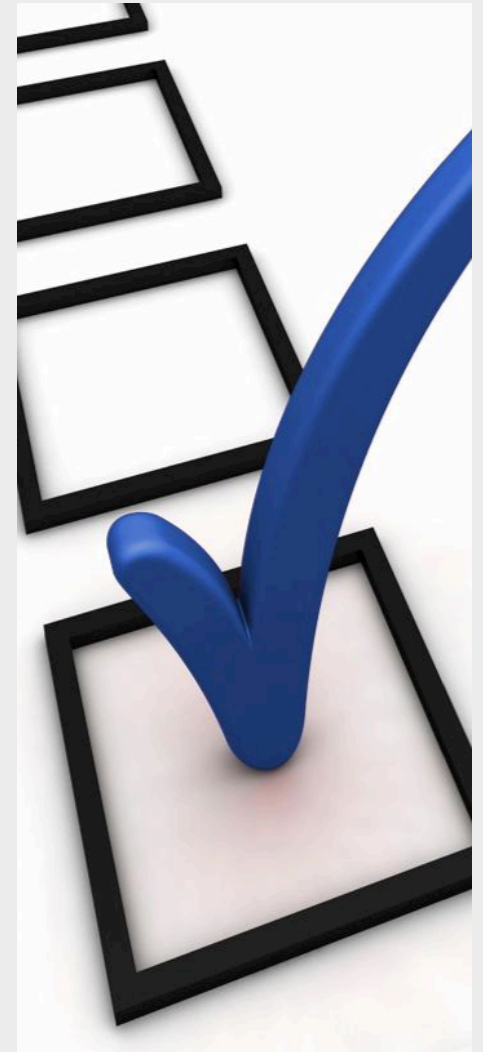
Comparison of different renewable energy purchase options

	High availability?	Additionality important?	No desire to switch power supplier	No desire to site and find project	Potential ROI
High quality REC GoOs and RECs with eco-labels, GoldPower, etc.	✓	✓	✓	✓	✗
Normal RECs non labeled GoOs	✓	✗	✓	✓	✗
Green power purchase	✓	✗	✗	✓	✗
Power Purchase Agreement	✗	✓	✗	✓	✓
Direct Investment	✗	✓	✗	✗	✓

Poll

5. Which kind of renewable energy solution(s) are you currently pursuing? (Multiple answers are possible).

- RECs
- Green Power Procurement
- Power Purchase Agreement
- Direct Project Investment
- None of the above



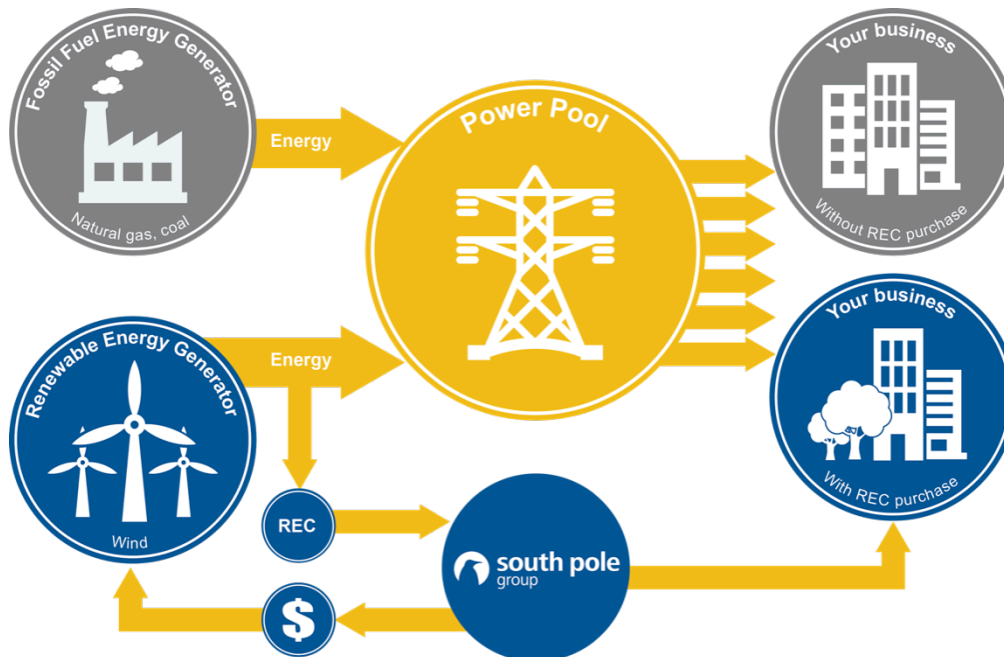
Renewable Energy Certificates



Renewable energy certificates

Best in class certificates from a reliable source

1. Achieve goal of 100% renewable energy
2. Improve your CDP ranking by reducing Scope 2 emissions
3. Obtain points for LEED certification



In a nutshell

- Based on grid-connected renewable electricity projects in a variety of countries
- Tradable and non-tangible commodities
- Sold separately from the underlying electricity source
- Match your electricity consumption with the same amount of RECs → 1 MWh = 1 REC

Our RECs offering

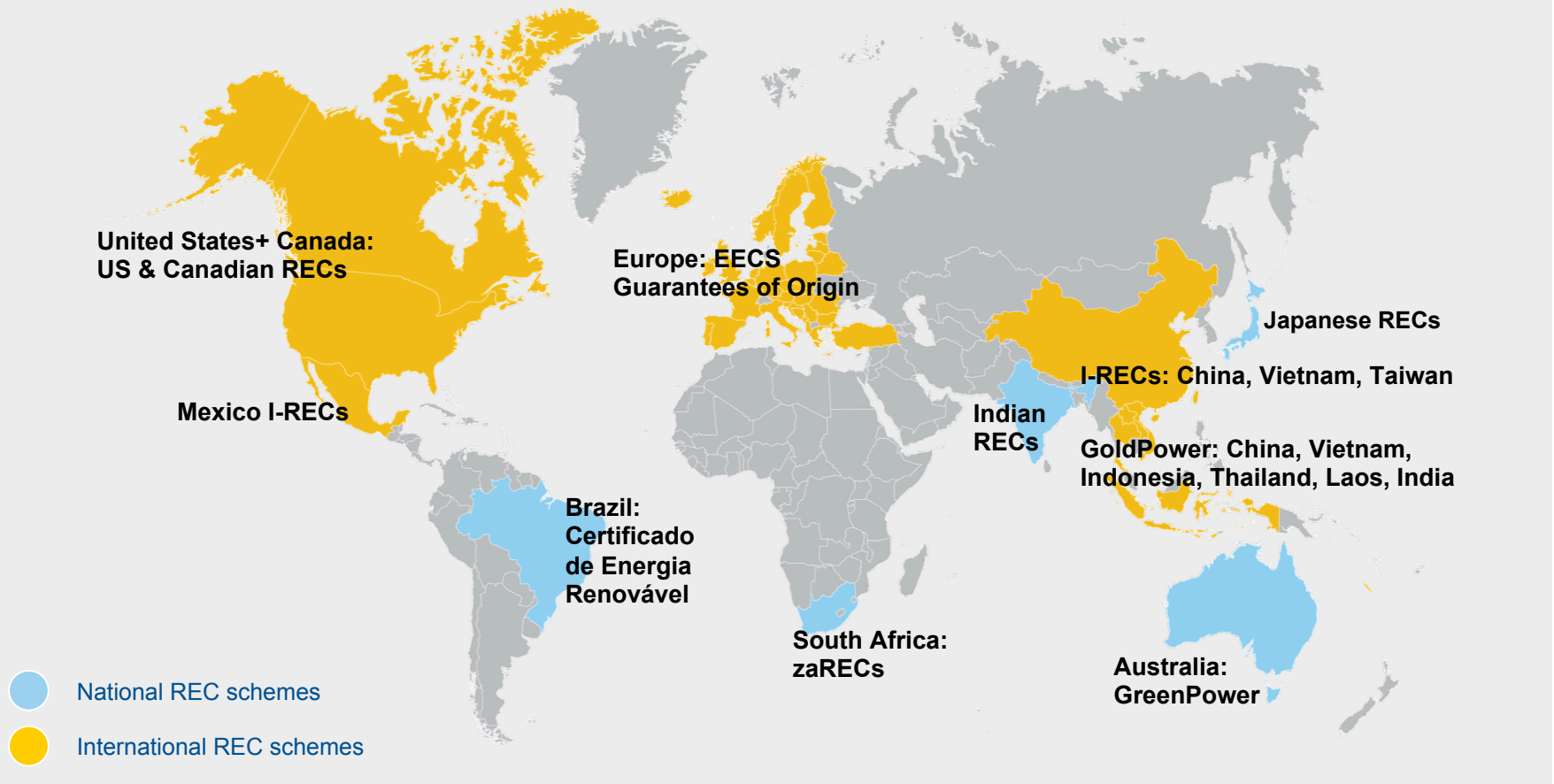
- I-RECs
- GoldPower
- North American RECs without or with Green-e Energy label
- European Guarantees of Origin without or with:
 - Naturemade basic/star labels
 - OK Power label
 - TÜV Süd EE01 label
 - EKOEnergy label
- Australian GreenPower
- Japanese RECs
- ZaRECs in South Africa
- Brazilian RECs
- Indian RECs



Global yet local

Did you know...

...that you can match your regional electricity consumption with certificates generated by power facilities in the same region?



Criteria for selecting high quality renewable energy certificates



- Geographical location
- Age of the plant
- Additionality
- Vintage year
- Timing of REC retirement
- Renewable energy technology
- Co-benefits



I-REC example: Solar power in Mexico: Aura Solar I



Household Savings & Livelihoods

New jobs created for local population

250



Local Economy & Infrastructure

Number of Mexican residents benefitting from clean electricity per year

164,000



I-REC
STANDARD

3 rd party verified	Transparency	Annual MWh generation	Commercial Operation Date
By Bureau Veritas SAS	Provided by the I-REC Registry	45,000 MWh	September 2013

GoldPower example: Bachu biomass to energy, China



Environmental
Amount invested
in tree planting
(USD)
450

Environmental
Trees planted
50

Climate
GHG emissions
reduced/sequestered
per year (tCO₂e)
46,000

Upskilling
Number of trainings
set up for local
people
90

Infrastructure health & education
Number of students
benefiting from
sponsorships
40

Infrastructure health & education
People benefiting
from clean electricity
14,000



Supporting local economy
People employed
by the project
120

Supporting local economy
Total income
provided to
employees/year
(USD)
720,000

Supporting local economy
People benefitting
from increased
income from sale
of waste biomass
2,500

Supporting local economy
Income for
peasants from
the sale of their
biomass (USD)
4.5M

Infrastructure health & education
Clean electricity
generated per year
(MWh/y)
59,000

Infrastructure health & education
Amount spent
in social/education
initiatives (USD)
4,000



Reportability



Reach Your RE100 target

Use RECs, Guarantees of Origins or I-RECs that match your electricity consumption



GREENHOUSE
GAS PROTOCOL

New Scope 2 Guidance Facilitates Green Energy Procurement

Under the market-based method, companies can include a number of contractual instruments to reduce their Scope 2 emissions, such as RECs and Gos.



Are You on the A-List?

Reduce Scope 2 emissions and obtain higher scores in the CDP Carbon Performance Leadership Index.

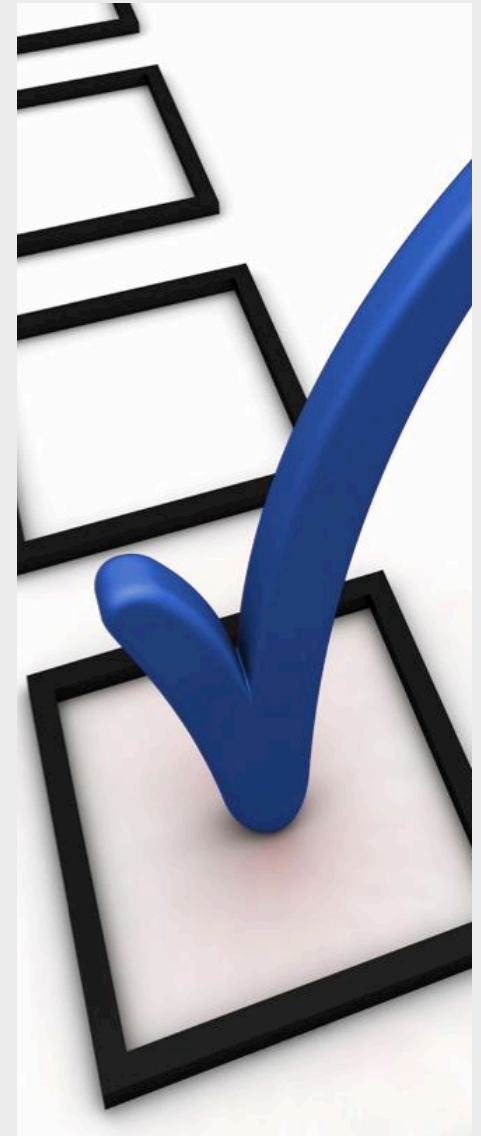
Poll

6. Which type of RECs are you the most familiar with? (Multiple answers are possible).

- I-RECs
- North American RECs with Green-e Energy label
- European Guarantees of Origin
- GoldPower
- National RECs

7. Which of the following is the most important to you when purchasing RECs? (Select up to three options).

- Price
- Location
- Alignment with strategic business objectives
- Additionality
- Reportability



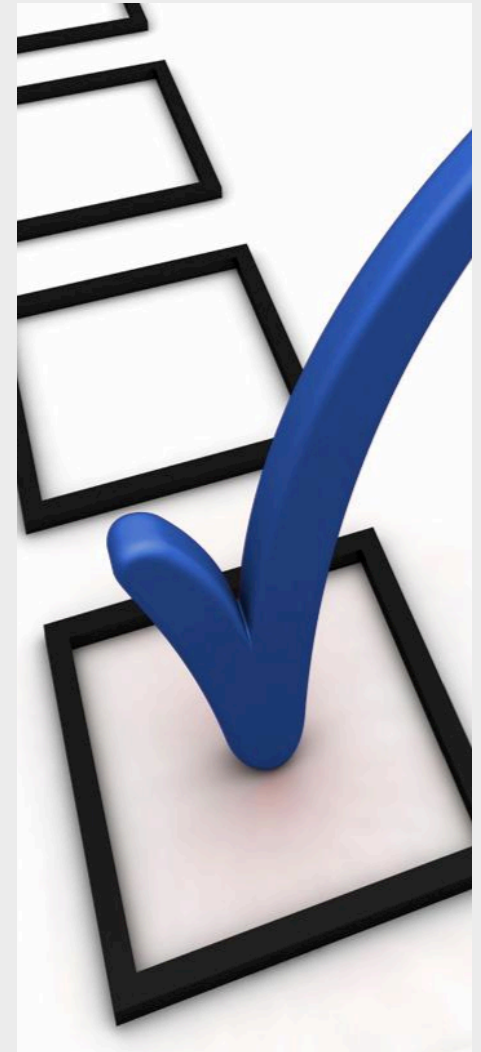
Poll

8. Which regions are the most interesting for you in terms of sourcing RECs? (Multiple answers are possible).

- North America/South America
- Africa
- Australia
- Asia
- Europe

9. What are the key constraints / issues affecting your renewable energy sourcing strategy? (Select up to three options).

- Lack of data
- Unawareness of available products and services
- Price & budgetary reasons
- Other CSR priorities / commitments
- None of the above



Next Steps

Next steps I: Devising a renewable energy procurement strategy



The SPG advantage

*We can help you make a **cost-effective** transition to 100% renewable energy by devising a procurement strategy that fits seamlessly into your **core business objectives**.*

Rely on us to:

- **Identify** your potential for emission reductions and RE sourcing
- **Choose** products and services that will maximise your investments
- **Implement** successful strategies to reduce your dependency on fossil fuels

Next steps II: RECs purchasing process



Communicate with impact

Walk the talk and let your clients know...

....that you're now part of the solution to climate change!



Summary

The world's first global climate agreement is a strong signal that low-carbon investments will pay off.

Renewable energy is on the rise but corporate support for renewable energy is critical for ensuring future supply.

The ICT industry is leading the way as a majority of leading companies are committed to sourcing 100% renewable energy.

The challenge is to find the right solutions that save money and fit seamlessly into the core business strategy.

RECs are cost-effective, low-risk instruments that enable companies to lower their carbon footprint and simultaneously contribute to the growth of renewable energy globally.

Communication is key as stakeholders are increasingly putting a premium on companies that demonstrate corporate responsibility.

Q&A

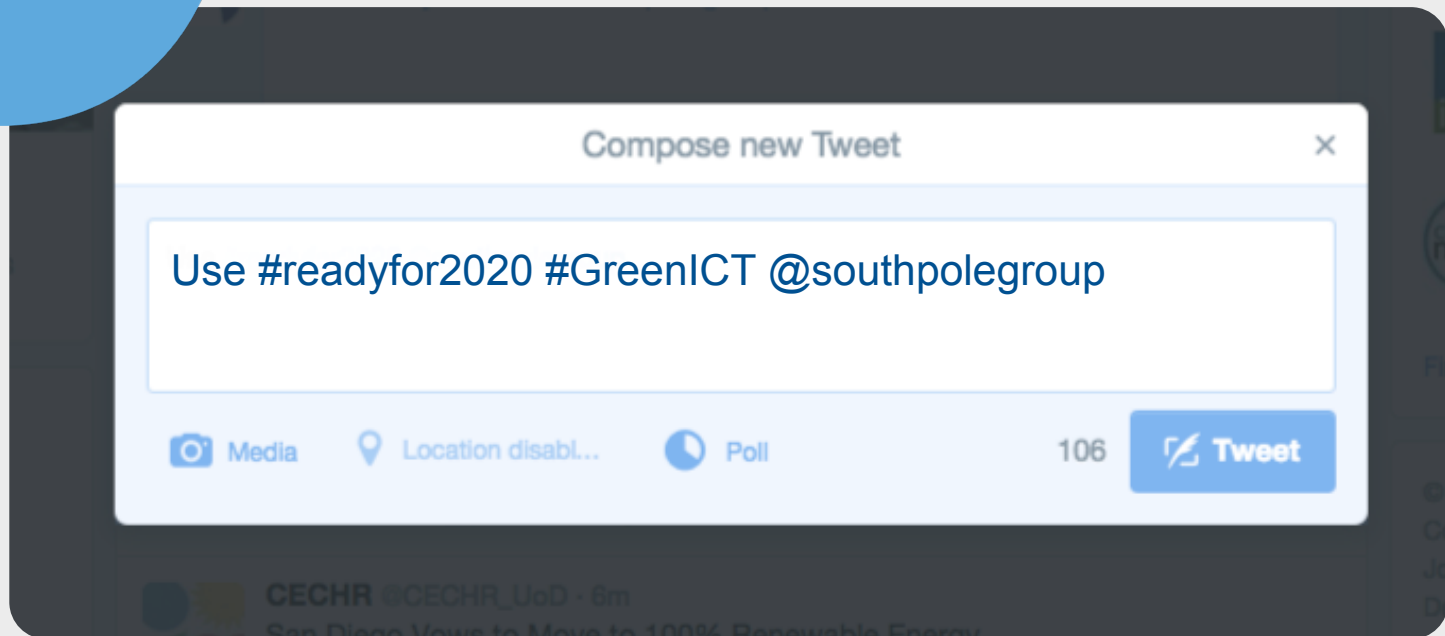
The background of the slide features a repeating pattern of 3D question marks in various shades of blue and white. The question marks are rendered with soft shadows, giving them a three-dimensional appearance as if they are floating or standing on a reflective surface. The text "Any questions?" is centered over this pattern in a bold, blue, sans-serif font.

Any questions?

Your feedback is appreciated



Keep the conversation going on Twitter



We'd love to hear from you

Junio Valerio Palomba

Senior Key Account Manager, Sustainable ICT
South Pole Group

Email: j.palomba@thesouthpolegroup.com

Mobile Phone: +44 75 805 804 65



Natalia Gorina

Sales Director Carbon & Renewables
South Pole Group

Email: n.gorina@thesouthpolegroup.com

Mobile Phone: +41 787 477 410



Thank you for joining us!

