From Paris to Marrakech – COP21 to COP22: Any implications for renewables and the geothermal sector?

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Supported by:

The IGA is one of the five REN Alliance partners
COP21 achievements & ‘new’ facts:

Outline:

- Representatives of 196 countries attended the COP21
- **Energy Day**: Monday 7 Dec. 2015 was dedicated to renewable energy technologies. Various events took place.
- **Ratification**: The Paris Agreement is open for signature and ratification by all parties at the UN headquarters in New York from 22 April 2016 – 21 April 2017

Achievements of COP21:

- Awareness reached that **RE costs** decreased dramatically over the last 5 years and are cheaper than fossil fuels in the long run.
- Technical, financial and other barriers can be overcome – **POLITICS** is the driving force in decarbonizing economies and stop climate change.
- **Intended Nationally Determined Contribution** (INDC): 189 countries representing over 90% of the global economy submitted pledges (INDCs) to reduce emissions. 147 countries mentioned RE.
- **Paris Agreement outlines framework for**:
  Recording INDCs at UNFCCC, mobilizing climate finance, ensuring developing countries’ support, transparency framework, capacity building.
PARIS AGREEMENT

Article 2

This Agreement, in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and to pursue efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

Article 4

In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty.

Each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve. Parties shall pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions.

Limit temp. increase to below 2°C

Regular communication & updating of INDCs
### COP21 achievements: Paris-Package

| Targets Based upon INDCs | Paris Agreement | Decisions of Paris | Initiatives and Alliances as forerunners
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<td>Minimum country targets</td>
<td>Enters into force in 2020 for all countries</td>
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<td>Lima-Paris-Action platform</td>
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### Nationally set targets

90% of global emissions are covered by INDCs

**But:** Too weak. The world would still emit 1/3 too much for 2°C target

### Long term goals and binding architecture

- **5-year reporting**
- **Support for affected countries:** Adaptation target & cycle, handling of damages
- **Climate financing:** regular roundtables

### Climate protection prior to 2020 and implementation of the agreement

- More climate protection prior to 2020
- Increase of climate financing to 100 billion dollars by 2020
- Work programs on certain aspects of the agreement

### Initiatives and Alliances as forerunners

- *i.e.* Global Alliance for Buildings & Construction (60 groups, 16 countries)
- *i.e.* African Renewable Energy Initiative (300 GW by 2030 target)
- *i.e.* Int. Solar Alliance
- *i.e.* Climate-friendly cities
- *i.e.* Divest for Paris: 500 institutions moving away from investing in fossil fuels
More than **155 countries** have committed to sign the Paris Agreement at the UN Headquarters in New York

After the final conference at the COP21, the United Nations conference on climate change, Paris, Saturday, Dec.12, 2015. (AP Photo/Francois Mori).

The agreement was approved by the 196 Parties to the United Nations Framework Convention of Climate Change (UNFCCC) at the COP21 in Paris on 12 Dec. 2015.

Earth Day:
April 22, 2016

Oscar winner and environmental campaigner Leonardo DiCaprio: ‘The world is now watching. You will either be lauded by future generations or vilified by them.’
Of 197 parties 92 parties ratified the Convention. On 5 October 2016, the threshold for entry into force of the Paris Agreement was achieved.

The Paris Agreement will enter into force on 4 November 2016, 30 days after the date on which at least 55 Parties to the Convention accounting in total for at least 55% of the total global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary.

The first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA1) will take place in Marrakech in conjunction with COP22 and CMP12.
FIGURE 4. GLOBAL NEW INVESTMENT IN RENEWABLE ENERGY: DEVELOPED V DEVELOPING COUNTRIES, 2004-2015, $BN

New investment volume adjusts for re-invested equity. Total values include estimates for undisclosed deals. Developed volumes are based on OECD countries excluding Mexico, Chile, and Turkey.

Source: UNEP, Bloomberg New Energy Finance
Figure 2.2: Cumulative global solar photovoltaic deployment and solar photovoltaic module prices, 2000 to 2014

Sources: IRENA and pvXchange, 2014.
Geothermal at the COP21:

What is the Global Geothermal Alliance (GGA)?

- Coalition of >40 countries & > 20 development & industry partners
- Initiative led by the International Renewable Energy Agency

Aims:
- Address policy and investment challenges and help create conditions for a rapid expansion of geothermal resource use.
- Overcome existing barriers & significantly increase geothermal resource use.
- Overcome knowledge gaps and create practical people’s networks across continents.

Other geothermal events led by countries/regions:
- i.e. Indonesia or Nordic Pavilion with presentations on the NDF, Geothermal direct use in Iceland, Geothermal district heating in European cities and towns
- Elements in ‘Re-Energising the Future’ organised by REN21
What does the IGA do at COPs?

Ren Alliance side event & booth & press release

What is the REN Alliance?:

- Partnership of organisations representing the solar, wind, geothermal, hydropower and bioenergy sectors
- Established in 2004 to bridge the gap between policy and practice by building on the collective experience and knowledge of its partner organisations aiming to advance policy and info on RE
- Session topics: Case studies showing cities, countries and regions where RE technologies are working together

Conclusion: Technology solutions for a 100% renewable energy future are in place, finance options are available and scalable & RE resources are plentiful

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IGA case studies in ‘Symphony of Renewables’

Geothermal and Solar PV Hybrid: Stillwater

26 MW Solar PV installation at Stillwater Geothermal Plant in Churchill County, Nevada for peak addition to the 33 MW binary geothermal plant

Owner: Enel Green Power

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Stillwater Geothermal – Solar PV Hybrid

- The plant is operational since 2009, incorporating the 26-MW solar plant and a 33-MW geothermal plant. 45,000 local homes are powered.

- Tax support of $40 million through the American Recovery and Reinvestment Act of 2009

- The facility uses a medium enthalpy binary system because of the moderate temp. of the nearby geothermal reservoir. The plant’s binary system uses two fluids: hot water from underground wells heats isobutane and causes it to flash into vapor, which then turns the turbines to generate electricity.

Renewables working together: rural, city, national, regional and island approaches

Monday 14 November
16:45–18:15 | COP22 UNFCCC
Observer Room 5 (300)

Side event outline:
https://seors.unfccc.int/seors/reports/events_list.html?session_id=COP22/

COP22 in Marrakesh:
7 – 18 November 2016
Why are COPs important for the geothermal sector?

- COPs are catalysts for transformation & create a political momentum
- COPs are huge media events with a broad outreach & inform on RE
- COPs provide opportunities to raise awareness on geothermal
- COPs stimulate discussions on national level (bottom-up) to assess which RE is best in the national energy mix
- COPs contribute to the global energy transition (‘Energiewende’)

Source: http://www.theroadthroughparis.org/
IGA’s role at COPs:

1. **Advocacy**: The IGA represents the interest of its members and the geothermal sector in international debates and discussions.

2. **Partnerships**: The IGA establishes & maintains partnerships with major organizations such as IRENA, the UN, the IEA, multi-lateral banks, etc., both through the REN-Alliance and directly, by representing our technologies in key discussions on climate change, poverty alleviation, and energy security.

3. **Projects**: Collaborations evolve during meetings. Various projects were drafted with stakeholders during international events.

4. **Networking platform**: The IGA provides opportunities to engage with businesses, professionals, and decision makers through int./regional conferences, ongoing policy and educational programs.