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# 4 years of Green Bond reporting: What have we learnt?

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# EDF HAS ISSUED 5 GREEN BOND TRANCHES SINCE 2013, FOR THE EQUIVALENT OF AROUND €4.5 BILLION

November 2013

## Inaugural EDF Green Bond issuance

- €1.4bn, 7.5 year maturity
- First benchmark corporate Green Bond

October 2015

## 2<sup>nd</sup> Green Bond issuance

- \$1.25bn, 10 year maturity

October 2016

## 3<sup>rd</sup> Green Bond issuance

- €1.75bn, 10 year maturity

January 2017

## 4<sup>th</sup> Green Bond issuance (2 tranches)

- €19.6bn, 12 yr + ¥6.4bn, 15yr

Construction of new wind and PV projects

Construction of new wind and PV projects



Modernisation and upgrade of existing hydropower plants in France

## Benefits for EDF

- ≡ Diversify investor base
- ≡ Highlight EDF's existing footprint and development strategy in renewable energies
- ≡ Further streamline EDF's approach to Corporate Responsibility

# EDF GREEN BOND FRAMEWORK FOLLOWING BEST MARKET PRACTICES AND GREEN BOND PRINCIPLES

<p><b>1</b> Use of Proceeds</p> <p>Investment in <b>EDF EN</b> and <b>EDF's Hydro Division</b> power generation assets from renewable energy sources:</p> <ul style="list-style-type: none"> <li>• Development of new renewables generation capacity</li> <li>• Renovation and modernisation of existing hydropower generation facilities with a view to increasing efficiency, flexibility and ability to contribute to meeting needs of changing electricity systems as the share of intermittent capacity grows</li> <li>• Adaptation of existing hydropower assets to changing climate patterns</li> </ul> <p>Investment activities to comply with <b>specific Environmental and Social criteria</b></p>	<p><b>2</b> Project selection process</p> <p>Dedicated internal organisation to assess and ensure that only Eligible Projects as defined in Use of Proceeds may benefit from Green Bond financing</p> <p><b>3</b> Management of Proceeds</p> <p>Net proceeds <b>allocated to a sub portfolio, managed and tracked separately</b> until their allocation to Eligible Projects</p> <p><b>4</b> Reporting</p> <p><b>Quarterly updates</b> : Fund allocation  <b>Annual disclosures</b>: Green Bond-funded projects and aggregated impacts (at the level of each Bond issuance)</p>
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<p> <b>External Review</b></p> <p><b>Ex-ante Second Opinion</b> – Vigeo Eiris' level of assurance on the sustainability of the Green Bond Framework is “reasonable”</p> <ul style="list-style-type: none"> <li>• Confirms bonds to be issued are Green Bonds and alignment with the GBPs</li> <li>• Considers EDF ESG performance and the new Green Bond Framework as “robust”</li> <li>• Considers reporting commitments showing an overall consistent level of transparency</li> </ul>	<p></p> <p><b>Ex-post attestation report</b> – Deloitte to issue an annual assurance report on fund allocations and EDF Green Bonds compliance with EDF Green Bond Framework and the Green Bond Principles</p>
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# FUND ALLOCATION REPORTING AT END-2016

Issue date <sup>(1)</sup>	Maturity (in years)	Nominal amount (millions of currency units)	Currency	Eligible investments in the use of proceeds		Allocated funds as of 31/12/16
				Construction of new renewable capacity by EDF EN	Renovation and modernization of existing hydroelectric facilities in metropolitan France	
11/2013	7.5	1,400	EUR	✓		100%
10/2015	10	1,250	USD	✓		97.6%
10/2016	10	1,750	EUR	✓	✓	-
01/2017	12	19,600	JPY	✓	✓	-
01/2017	15	6,400	JPY	✓	✓	-

(1) Date of funds reception

# PROJECT-LEVEL REPORTING AT END-2016

Project	Technology and capacity	Location	Projected year of commissioning	Funding GB1/GB2
CID Solar	Solar PV, 27MWp	USA (California)	Commissioned	GB1
Cottonwood	Solar PV, 33MWp	USA (California)	Commissioned	GB1
Ensemble éolien catalan	Onshore wind, 96MW	France (Pyrénées-Orientales)	Commissioned	GB1
Great Western	Onshore wind, 225MW	USA (Oklahoma)	Commissioned	GB2
Heartland	Biomethane, 20MW	USA (Colorado)	Commissioned	GB1
Hereford	Onshore wind, 200MW	USA (Texas)	Commissioned	GB1
Kelly Creek	Onshore wind, 184MW	USA (Illinois)	Commissioned	GB2
La Mitis	Onshore wind, 25MW	Canada (Quebec)	Commissioned	GB1
Le Granit	Onshore wind, 25MW	Canada (Quebec)	Commissioned	GB1
Longhorn North	Onshore wind, 200MW	USA (Texas)	Commissioned	GB1
Pilot Hill	Onshore wind, 175MW	USA (Illinois)	Commissioned	GB1
Rivière du Moulin	Onshore wind, 350MW	Canada (Quebec)	Commissioned	GB1
Roosevelt	Onshore wind, 250MW	USA (New Mexico)	Commissioned	GB1 and GB2
Salt Fork	Onshore wind, 174MW	USA (Texas)	Commissioned	GB2
Slate Creek	Onshore wind, 150MW	USA (Texas)	Commissioned	GB2
Spinning Spur 2	Onshore wind, 161MW	USA (Texas)	Commissioned	GB1
Spinning Spur 3	Onshore wind, 194MW	USA (Texas)	Commissioned	GB1
Tyler Bluff	Onshore wind, 126MW	USA (Texas)	Commissioned	GB2

# IMPACT REPORTING AT END-2016: RENEWABLE CAPACITY, RENEWABLE OUTPUT, AVOIDED CO<sub>2</sub>

	Funds raised	Funds allocated	Projects having received GB funding	Share funded by the GB	Gross total capacity of GB funded projects (in MW)		Expected output (in TWh/year)		Expected avoided CO <sub>2</sub> emissions (in Mt/year)	
					Gross <sup>(1)</sup>	Net <sup>(2)</sup>	Gross <sup>(1)</sup>	Net <sup>(2)</sup>	Gross <sup>(1)</sup>	Net <sup>(2)</sup>
<b>GB 1</b> Nov. 2013	€1.4bn	<b>€1.4bn</b>	13 projects <sup>(3)</sup>	57%	1,755	<b>976</b>	7.0	<b>4.1</b>	3.3	<b>1.8</b>
<b>GB 2</b> Oct. 2015	\$1.25bn	<b>\$1.22bn</b>	3 projects <sup>(3)</sup>	74%	1,109	<b>814</b>	4.3	<b>3.1</b>	3.0	<b>2.1</b>

## ≡ Share of Green Bond funded capacity owned by EDF at the end December 2016:

- Green Bond N.1 (November 2013): 53%
- Green Bond N.2 (October 2015): 55%

The detailed list of projects will be published in the 2016 EDF reference document

(1) Sum of the gross impacts of each project funded by the corresponding Green Bond

(2) Sum of the impacts of each project weighted by the share of total investment funded by the corresponding Green Bond

(3) Of which one project received funding from both Green Bonds

# WHAT HAS CHANGED SINCE 2013?

## Content

Introduction of:

- ≡ Avoided CO<sub>2</sub> emissions
- ≡ Gross vs. Net impacts
- ≡ Share of Green Bond-funded capacity owned
- ≡ Reporting on one, then on several green bonds

## Format

- ≡ Introduction in periodic financial presentations
- ≡ Significant development of the dedicated page in EDF's website

≡ Most changes introduced as a result of investors' feedback

(1) Net investments excluding Linky, new developments and asset disposals

# WHAT WILL/MAY CHANGE IN THE FUTURE?

## Content

- ≡ Reporting on hydropower investments
- ≡ Possible evolution of avoided CO<sub>2</sub> emission methodology in the context of renovation and modernization of hydropower plants
- ≡ Other impact indicators?

## Format

- ≡ Frequency of the reporting

- ≡ Best to seek investors' view on such changes before their introduction

(1) Net investments excluding Linky, new developments and asset disposals





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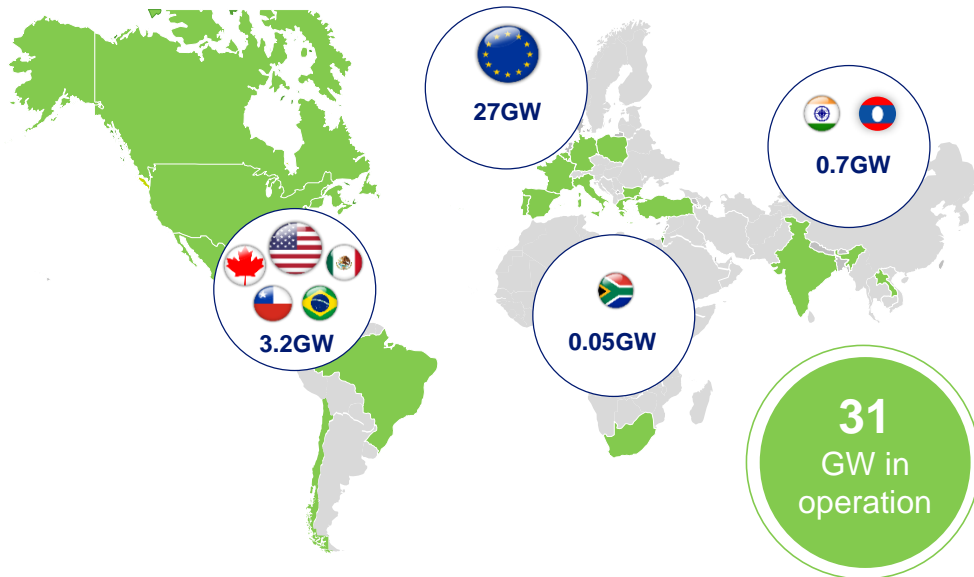
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Appendices

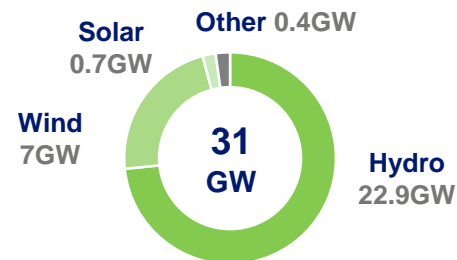


# GREEN BOND ELIGIBLE PROJECTS: CORE TO EDF'S CURRENT ACTIVITIES AND FUTURE GROWTH

## Global presence in 22 countries



## Capacity by Technology



BALANCED CAPACITY MIX WITH 31GW IN OPERATION

8.3GW renewables and 22.7GW hydro operating assets

~2GW UNDER CONSTRUCTION

Including over 500MW in solar

HYDROPOWER: 'DNA' OF EDF

Leader in Europe with a growing development pipeline

SELECTIVE GROUP INVESTMENT PLAN

Over €2.5bn gross investments p.a. and increasing over time

SKILLED AND EXPERIENCED WORKFORCE

Close to 10,000 staff dedicated to renewable energy sources

Key figures at 30 September 2017. All capacity figures are net figures, corresponding to EDF Group's stake in each asset. Includes net installed power generation capacity and net power generation capacity under construction. In addition, renewables activities comprise 2.5GWth of renewable heat capacity (located mainly in France and operated by Dalkia)

# EDF EN ELIGIBLE PROJECTS

## New renewable energy projects

- New projects identified and developed by EDF Energies Nouvelles in the field of renewable energies such as wind (off-shore and on-shore), photovoltaic, biogas, marine energy, etc.



- Eligible projects can only consist of new projects (under development or construction)

## Fulfilling E&S criteria

- EDF EN Project E&S Criteria cover five Environmental and Social aspects
  - Civil rights and Governance assessment of country location of the projects
  - Management of environmental impacts
  - Protection of workers' health and safety
  - Promotion of responsible supplier relationship
  - Dialogue with local players

# EDF MAINLAND FRANCE HYDRO ELIGIBLE PROJECTS

## Investments in existing hydropower facilities in mainland France (excluding subsidiaries)

- Renovation and upgrade of hydropower generation facilities
- Modernisation and automation of existing hydropower facilities' maintenance and operation
- Hydropower development projects

Improve hydropower generation efficiency and safety

Improve resilience to climate change

Increase generation flexibility and ability to manage growth in intermittent renewables

Net increase of hydropower output and/or storage capacity (for pumped storage)

## Fulfilling E&S criteria

- French Hydro Project E&S criteria cover five E&S aspects
  - Development of sustainable human resources practices and processes
  - Management of environmental impacts
  - Protection of employees and contractors workers' health and safety
  - Promotion of responsible contractors relationship
  - Dialogue with local players

*Inspired by the IHA Protocol's philosophy*

