



For more information, contact:

Mariëlle Vosbeek
+31.30.662.3402
press@ecofys.com

Lindsay Funicello-Paul
+1.781.270.8456
lindsay.funicello.paul@navigant.com

For overall questions on the project, please contact:

David de Jager, d.dejager@ecofys.com, +31 30 662 3388

For questions on **Bulgaria, Hungary, Romania and Slovakia:**

Robert Brückmann, rb@eclareon.com, +49 30 88 66 740 20

For questions on **Croatia:**

Mak Dukan mak@starfishenergy.org, + 38 599 81 26 045

For questions on **Greece:**

Dr. Haris Doukas, h_doukas@epu.ntua.gr, +30 210 7724729

Cost of capital for wind onshore and PV investments mapped for South Eastern Europe

10 January, 2017 – Brussels, Belgium – Countries can only benefit from a low weighted average cost of capital (WACC) on wind onshore and PV investments, if adequate support policies are in place. “WACC-aware” stable policy schemes have to be designed at national and European level to allow for adequate business cases and to trigger investments. These are the key findings of the ‘Pricetag project’ funded by the European Climate Foundation. The research was conducted by the coordinator Ecofys, eclareon, supported by Starfish Energy, and by EPU-NTUA involved as external contributor.

The Pricetag project estimates the cost of capital of wind onshore and ground-based PV in Bulgaria, Croatia, Greece, Hungary, Romania and the Slovak Republic. It aims to update the estimates provided by the EU-funded [DiaCore project](#) and provides input to the policy debate on a de-risking instrument for renewable energy investments¹.

Over 2014-2016, the weighted average costs of capital (WACCs) have decreased for all economic investments, due to the policies of the European Central Bank and national central banks. In

¹ The newly issued recast of the Renewable Energy Directive states in article 3.4: “The Commission shall support the high ambition of Member States through an enabling framework comprising the enhanced use of Union funds, in particular financial instruments, especially in view of reducing the cost of capital for renewable energy projects.”

addition, the cost of borrowing for corporations fell by approximately 30%². However, the WACCs for wind and PV investments have not decreased as much.

“We were quite surprised –in most markets, there has not been any wind power development – despite decreased cost of capital for such projects” says Robert Brückmann from eclareon. “The only market that has shown some promise is Greece – although the costs of capital are surprisingly high. But Greece has a – more or less – functioning support scheme. Our analysis shows how strongly South-East European markets still depend on stable political frameworks that allow for sustainable business cases. We believe the same is true for other EU markets.”

In all researched Member States, the cost of capital for wind and PV is well above the cost of capital found in the best performing Member States in the EU. This means that taxpayers and consumers in Bulgaria, Croatia, Greece, Hungary, Romania, and the Slovak Republic pay more than necessary to achieve renewable energy targets.

David de Jager from Ecofys states that: “In most countries explored within the Pricetag project, investing in wind onshore and PV projects is perceived as a riskier investment compared to equivalent investments e.g. in infrastructures. One exception is Greece, which – despite the economic downturn –provided with its current support scheme revenues that were high and reliable enough to attract investments. However, the support level could be significantly reduced if the cost of capital would be further reduced.”

As Chris Barrett from the European Climate Foundation explains, “this report tells us something very important about how Europe can achieve its renewable energy goals. The lower interest rates of recent years on their own are not enough, investors need clear and supportive policies – country–by–country and at the European level – to ensure renewables are deployed at the pace and capacity the low-carbon transition demands”.

The report can be downloaded at: www.ecofys.com

Graphics:

[Weighted Average Cost of Capital for onshore wind across South East Europe © ECF, Ecofys, eclareon](#)
[Weighted Average Cost of Capital for PV across South East Europe © ECF, Ecofys, eclareon](#)

² <https://www.ecb.europa.eu/press/pdf/mfi/mir1611.pdf>

Background Policy Information:

In 2014, the European Commission presented its proposal for a 2030 policy framework for climate and energy, and proposed to increase the share of renewable energy to at least 27% of the EU's energy consumption by 2030. In 2014, EU Heads of State endorsed the binding EU target of 27%, and "Member States contributions guided by the need to deliver collectively the EU target". Thus, in contrast to the 2020 renewable energy target, the 2030 renewables target is only binding at EU-level and is not to be translated into national binding targets.

In November 2016, the European Commission presented a legislative proposal for a revised Renewable Energy Directive (RED2) to set up a regulatory framework for the renewable energy sector post-2020, and achieve the 2030 RES target. Within this proposal, the European Commission proposed to set up a de-risking mechanism in Article 3.4: "The Commission shall support the high ambition of Member States through an enabling framework comprising the enhanced use of Union funds, in particular financial instruments, especially in view of reducing the cost of capital for renewable energy projects".

In 2016, the DiaCore report showed how the cost of capital for wind onshore differed between the EU-28 Member States. It has been instrumental in attracting attention toward the costs of capital of renewable energy. The report provided for the first time a mapping of the cost of capital of wind onshore projects, based on interviews performed across the EU in 2014.

The current absence of national renewable energy targets may lead to an increased risk of developing a double-speed Europe. As emphasised by the European Commission³: "Investments are increasingly concentrated in a few Member States with low cost of capital and policy frameworks perceived as more stable. UK and Germany alone represented over 2/3 of all investments over 2013-2015". In most South Eastern European Member States, renewable energy markets have yet to be further developed, while relying on strong renewable energy potential.

Background information on the cost of capital for renewable energy investments:

Before investing in a renewable energy project, investors perform a risk analysis. If they see an investment as risky, they will demand a higher fee for making capital available. A similar reasoning holds for lenders: they will ask for more securities, will lend less money and/or charge higher fees. The cost of this compensation – the cost of capital – must be paid from the

³ European Commission presentation made during the press conference the Winter Package on the 30th of November 2016 (presentation on the recast of the Renewable Energy Directive).



revenues of the projects and, thus, directly influences the cost structure of the project. If the investment is perceived as risky, the cost of capital increases.

Renewable energy projects are highly capital intensive compared to investments into other types of generating resources (e.g. gas or coal). Once an investment has been realised, owners of renewable energy installations have only limited means to change their cost calculation in reaction to changing economic circumstances. This also means the cost of capital is a crucial element in every renewable energy investment decision, as emphasised in the DiaCore project. The cost of capital varies with the perceived risk of an investment. To address these risks and, thus, lower the cost of capital, renewable energy (RE) policies are generally designed to create more certainty in revenues and expenditures of renewable energy projects. In case policies fail to address uncertainties, the increased cost of capital might cause a decrease in the number of renewable energy projects actually realised.

The cost of capital can be influenced by different factors, such as the country risk and/or the risks specifically linked to the renewable energy regulatory framework of the country. The country risk refers to factors such as for instance the political stability of a country, its corruption, economic development and exchange rate fluctuations. Country risks affect all investments in a particular country, not just those in renewable energy.

About Ecofys

Ecofys, a Navigant company, is a leading international energy and climate consultancy focused on sustainable energy for everyone. Founded in 1984, the company is a trusted advisor to governments, corporations, NGOs, and energy providers worldwide. The team delivers powerful results in the energy and climate transition sectors. Working across the entire energy value chain, Ecofys develops innovative solutions and strategies to support its clients in enabling the energy transition and working through the challenges of climate change. Additional information about Ecofys can be found at www.ecofys.com.

About Navigant

Navigant Consulting, Inc. is a specialized, global professional services firm that helps clients take control of their future. Navigant's professionals apply deep industry knowledge, substantive technical expertise, and an enterprising approach to help clients build, manage and/or protect their business interests. With a focus on markets and clients facing transformational change and significant regulatory or legal pressures, the Firm primarily serves clients in the healthcare, energy and financial services industries. Across a range of advisory, consulting, outsourcing, and technology/analytics services, Navigant's practitioners bring sharp



insight that pinpoints opportunities and delivers powerful results. More information about Navigant can be found at navigant.com.

About European Climate Foundation (ECF)

ECF is a 'foundation of foundations'. It was established in early 2008 as a major philanthropic initiative to help Europe foster the development of a low-carbon society and play an even stronger international leadership role to mitigate climate change. The ECF works with stakeholders as diverse as industry representatives, unions and consumer groups to target a range of issues across the power, transport and energy sectors. These include EU climate and energy policy, finance, governance and innovation. The ECF promotes new regulation to mitigate climate change, in addition to supporting partners in revising and improving existing policies such as the Emissions Trading Scheme. It aims to contribute to a potential Europe-wide reduction in emissions amounting to 3 billion tonnes carbon dioxide equivalent per year by 2030.

About eclareon

eclareon is an internationally operating consulting firm focusing on renewable energy, energy efficiencies and climate policies. We advise public clients on the political, economic and legal frameworks of European and global energy markets. For our public clients, we develop support scheme design options, barrier removal strategies and economic analyses. Based on the results, we analyse the viability of innovative operating models for renewable energy projects and suitable financing schemes. Furthermore, we support companies in the identification of successful business models and strategies for their market entry. We have a 10-year track-record of successful projects under the Intelligent Energy Europe and the Seventh Framework Programme for Research.

About Starfish Energy

Starfish Energy is a consultancy that specialises in renewable energy and energy efficiency policies and markets. With offices in Berlin and Zagreb, Starfish follows EU energy policy developments and brings this expertise to its clients who are investing or developing policies in Croatia and other Western Balkan countries including Serbia, Bosnia and Herzegovina, Kosovo, Albania, Montenegro and Macedonia.

The Pricetag results and analysis concerning Greece have been externally reviewed and enhanced by the National Technical University of Athens (EPU-NTUA).



About National Technical University of Athens (EPU-NTUA):

EPU-NTUA (Decision Support Systems Laboratory under the School of Electrical & Computer Engineering of NTUA) is a multidisciplinary scientific unit with a long tradition in research activities in the areas of management and decision support for renewable energy sources technologies, energy efficiency, climate change, sustainable development and energy conservation, among others. EPU-NTUA was established in 1980 and since then, it has been growing constantly since then, expanding its spectrum of activities and its geographical target areas. Today, more than 80 highly qualified researchers and experts are members and close collaborators in EPU-NTUA, ready to offer innovative scientific services.

** The information contained in this press release concerning the report, "Mapping the cost of capital for wind and solar energy in South Eastern European Member States", is a summary and reflects Ecofys' current expectations based on market data and trend analysis. Market predictions and expectations are inherently uncertain and actual results may differ materially from those contained in this press release or the report. Please refer to the full report for a complete understanding of the assumptions underlying the report's conclusions and the methodologies used to create the report. Neither Ecofys nor Navigant undertakes any obligation to update any of the information contained in this press release or the report.*

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