

# H2020: ENERGÍA LIMPIA, SEGURA Y EFICIENTE: PRÓXIMAS OPORTUNIDADES DE PARTICIPACIÓN



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- **Contexto Político**
- **Programa de Trabajo 2016-2017:**
  - ☐ **Eficiencia energética**
  - ☐ **Energía Baja en Carbono**
- **Otros**

# Estructura y Presupuesto

## HORIZONTE 2020

74.828

<b>I. Prioridad «Ciencia excelente»</b>	<b>24.232</b>
1. El Consejo Europeo de Investigación (CEI)	13.095
2. Las Tecnologías Futuras y Emergentes (FET)	2.585
3. Las acciones Marie Skłodowska-Curie	6.162
4. Las infraestructuras de investigación	2.390
<b>II. Prioridad «Liderazgo industrial»</b>	<b>16.466</b>
1. Liderazgo en tecnologías industriales y de capacitación:	13.035
1.1 Tecnologías de la información y la comunicación (TIC)	7.423
1.2 Nanotecnologías, 1.3 Materiales avanzados y 1.5 Fabricación y transformación avanzadas	3.741
1.4 Biotecnología	501
1.6 Espacio	1.403
2. Acceso a la financiación de riesgo	2.842
3. Innovación en las PYME	589
<b>III. Prioridad «Retos de la sociedad»</b>	<b>28.630</b>
1. Salud, cambio demográfico y bienestar	7.257
2. Seguridad alimentaria, agricultura y silvicultura sostenibles, investigación marina, marítima y de aguas interiores y Bioeconomía	3.708
3. Energía segura, limpia y eficiente	5.688
4. Transporte inteligente, ecológico e integrado	6.149
5. Acción por el clima, medio ambiente, eficiencia de los recursos y materias primas	2.956
6. Europa en un mundo cambiante – Sociedades inclusivas, innovadoras y reflexivas	1.258
7. Sociedades seguras – Proteger la libertad y la seguridad de Europa y de sus ciudadanos	1.613
<b>IV. Difundir la excelencia y ampliar la participación</b>	<b>816</b>
<b>V. Ciencia con y para la sociedad</b>	<b>445</b>
<b>VI. Acciones directas no nucleares del Centro Común de Investigación (JRC)</b>	<b>1.856</b>
<b>VII. Instituto Europeo de Innovación y Tecnología (EIT)</b>	<b>2.383</b>

Precios corrientes en M€

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- **Contexto Político**
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  - ☐ Ciudades Inteligentes
- **Otros**

# Contexto Político

🇪🇺 Global: Acuerdo de París y COP21-22

🇪🇺 UE: Paquete Energía y Clima 2030

🇪🇺 UE: Unión de la Energía



🇪🇺 SET Plan & Integrated Roadmap

🇪🇺 \*UE: Paquete legislativo "invernal"



# Acuerdo París- COP21-22



Implementation of  
National Climate  
Plans

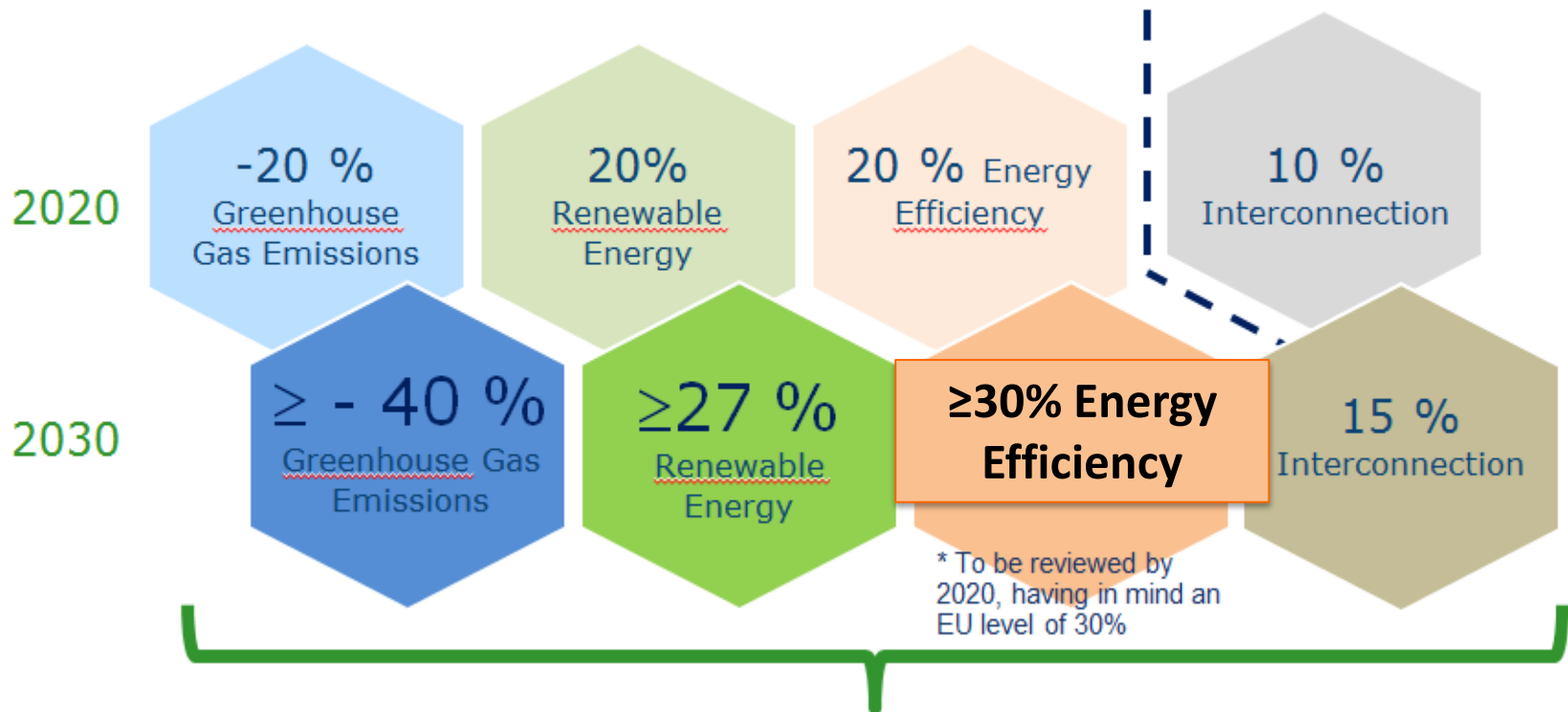
-> ca. **€ 1 trillion  
investment / year**  
in low-carbon  
technologies,  
renewables and  
energy efficiency

Mission Innovation -  
> **Doubling of R&D  
funds for clean  
energy**



# UE: 2030 Framework for Climate and Energy

Agreed headline targets



New governance system + indicators

# 2015: Energy Union



1. **Energy security**, solidarity and trust

2. A fully **integrated** European **energy market**

3. **Energy efficiency** contributing to moderation of demand

4. **Decarbonisation** of the economy

5. **Research, Innovation and Competitiveness**



[http://ec.europa.eu/priorities/energy-union/index\\_en.htm](http://ec.europa.eu/priorities/energy-union/index_en.htm)



# 2014: Integrated Roadmap



## Towards an Integrated Roadmap, (December 2014)

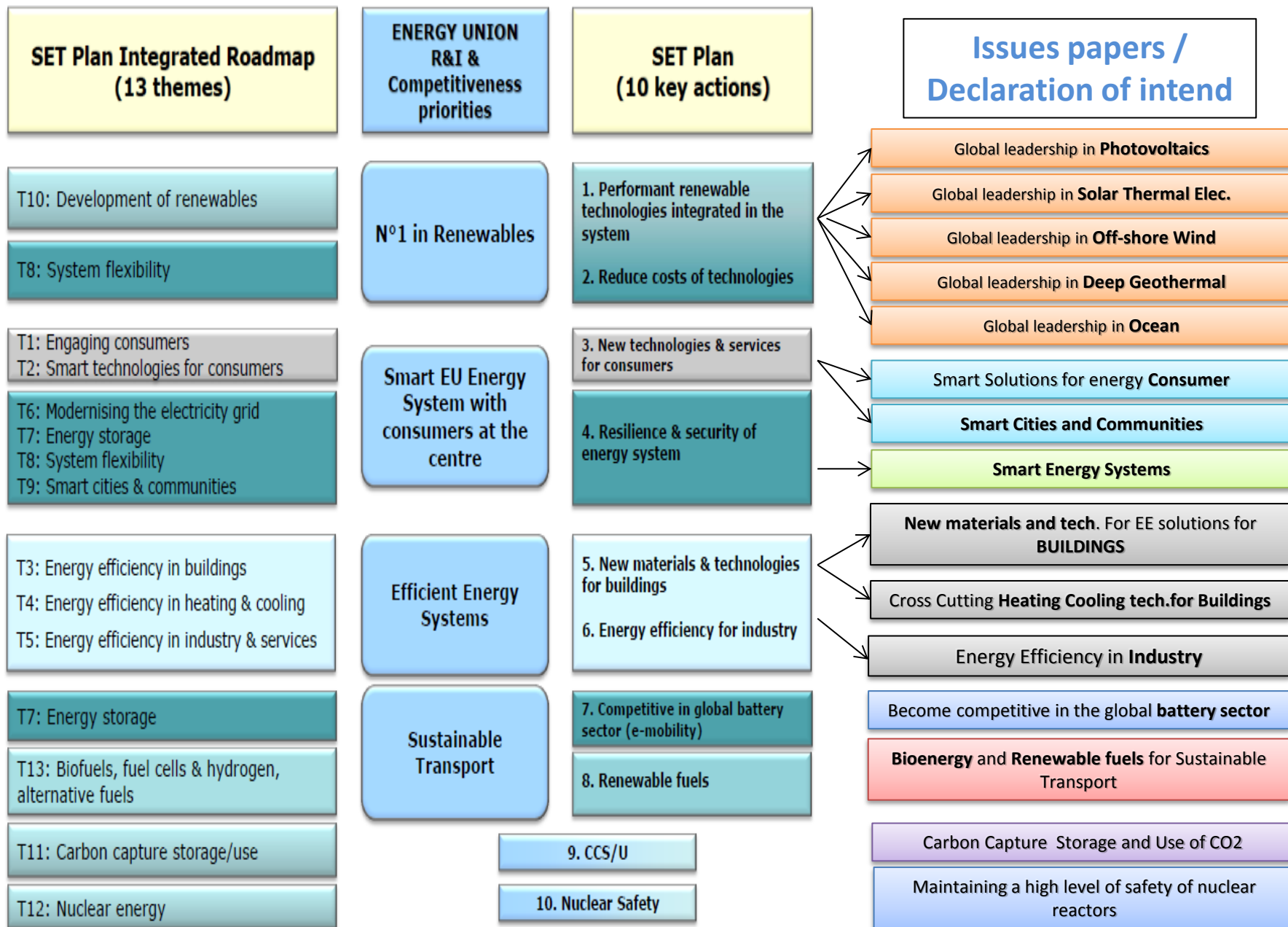
- ☐ Active Consumer
- ☐ Demand focus (energy efficiency)
- ☐ System optimisation
- ☐ Supply

### Strategic Energy Technology (SET) Plan

Towards an Integrated Roadmap:  
Research & Innovation Challenges and Needs  
of the EU Energy System



<https://setis.ec.europa.eu/set-plan-process/integrated-roadmap-and-action-plan>



# Paquete legislativo «Winter Package»

<https://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>

- Clean Energy For All Europeans
- Electricity market and consumers
- Energy Efficiency Package (Revision EPBD, EED)
- Revised Renewable Energy Directive (**RED**) and bioenergy sustainability policy for 2030 (RES share of at least 27% in the EU in 2030);
- Communication on the most vital energy infrastructures
- Revision of the Regulation on security of electricity supply.
- **Governance** of the Energy Union (preparing the ground for creating **Integrated National Energy and Climate Plans** for the period of 2021 to 2030).
- **An Energy Union research, innovation and competitiveness strategy for a low carbon economy (EURICS) – “Accelerating Clean Energy Innovation”**
- Energy prices and costs
- Second State of Energy Union

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# RS3: Programme Structure Call 2016-2017

**Secure Clean and  
efficient Energy**

**Cross-Cutting  
activities**

**Energy Efficiency**

25 Topics  
Budget: 194 M.€

**Low Carbon  
Technologies**

36 topics  
Budget: 720,22 M.€

**Smart Cities and  
Communities**

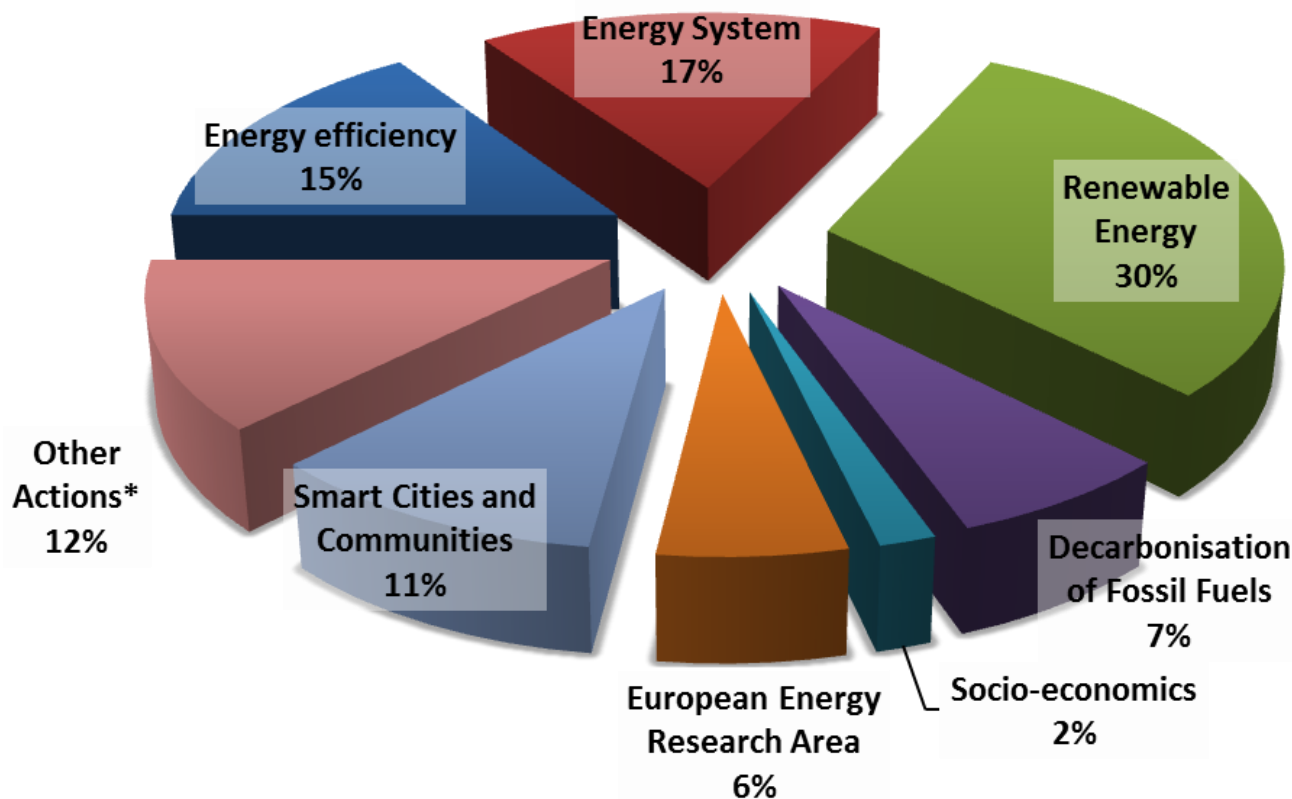
1 topic  
Budget: 131,5 M.€



**EASME**

**INEA**

# Indicative budget distribution per area for Energy calls 2016-2017



Total budget 2016-2017: EUR 1 344 million

\* *Other Actions* = actions not implemented through calls for proposals (e.g. Risk Finance, procurements, subscriptions, contributions, grant to identified beneficiaries)



# 1. Reglas de participación



<b>1. Excellence</b> <i>Note: The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description in the work programme:</i> <ul style="list-style-type: none"> <li>• Clarity and pertinence of the objectives;</li> <li>• Credibility of the proposed approach;</li> <li>• Soundness of the concept, including trans-disciplinary considerations, where relevant;</li> <li>• Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches).</li> </ul> <u>Comment:</u>	<p>Score 1: Threshold 3/5</p>
<b>2. Impact</b> <i>Note: The following aspects will be taken into account, to the extent to which the outputs of the project should contribute at the European and/or International level:</i> <ul style="list-style-type: none"> <li>• The expected impacts listed in the work programme under the relevant topic;</li> <li>• Enhancing innovation capacity and integration of new knowledge;</li> <li>• Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of European and global markets, and where relevant, by delivering such innovations to the markets;</li> <li>• Any other environmental and socially important impacts;</li> <li>• Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant.</li> </ul> <u>Comment:</u>	<p>Score 2: Threshold 3/5</p>
<b>3. Quality and efficiency of the implementation*</b> <i>Note: The following aspects will be taken into account:</i> <ul style="list-style-type: none"> <li>• Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources;</li> <li>• Complementarity of the participants within the consortium (when relevant);</li> <li>• Appropriateness of the management structures and procedures, including risk and innovation management.</li> </ul> <u>Comment:</u>	<p>Score 3: Threshold 3/5</p>
<p>Total score (1+2+3) Threshold 10/15</p>	

- Las convocatorias que se evalúan en una **única fase** tienen un umbral mínimo **por criterio de 3/5 y el total de 10/15**.
- En las **IA** el criterio de **impacto** tiene un peso de 1,5 a la hora de elaborar el ránking.
- Límite de páginas de las secciones 1, 2 y 3:
  - 70 en el caso de las RIA/IA
  - 50 en el caso de las CSA
- Los expertos valoran la capacidad operacional de los proponentes para llevar a cabo el trabajo propuesto.
- Revisar el programa de trabajo por si hubiera criterios adicionales

[http://ec.europa.eu/research/participants/data/ref/h2020/call\\_ptef/ef/h2020-call-ef-ria-ia-csa\\_en.pdf](http://ec.europa.eu/research/participants/data/ref/h2020/call_ptef/ef/h2020-call-ef-ria-ia-csa_en.pdf)

# 1. Reglas de participación

Mismos principios básicos

## Condiciones Mínimas

- Acciones de colaboración estándar(RIA/IA):

**Al menos 3 entidades legales distintas establecidas cada una de ellas en 3 EEMM o países asociados distintos**

- Acciones de coordinación y apoyo (CSA):

**Una entidad legal establecida en un EEMM o país Asociado**

## OJO!!! Condiciones Adicionales

En el programa de trabajo

# 1. Reglas de participación

## Condiciones Adicionales (Ejemplos)

LCE-20-2016-2017	An off-take agreement with one or more airlines or alternative similar agreements must be signed before signature of the grant agreement to ensure additional budget for the project in order to produce substantial quantities of fuel and confirm the airline's commitment towards the development of aviation biojet.
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EE-25-2016, EE-18-2017, EE-23-2017, EE-24-2016-2017, EE-02-2017, EE-06-2016-2017, EE-09-2016-2017, EE-11-2016-2017, EE-13-2016, EE-15-2017	<p>Taking into account the nature of the activity and with the objective to maximize the European Added Value and European market uptake through transnational collaboration*, the following additional eligibility criteria apply:</p> <ol style="list-style-type: none"><li>1. at least three legal entities shall participate in an action;</li><li>2. each of the three legal entities shall be established in a different Member State or Associated Country</li><li>3. all three legal entities shall be independent of each other within the meaning of Article 8 of the Rules for Participation.</li></ol> <p>* Transition towards Secure, Clean and Efficient Energy and the Energy Union project are cross-national policy initiatives and priorities aiming at trans-national solutions.</p>
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2020

20%



2030

≥30%

Reducir el consumo de energía y la huella de carbono mediante un uso inteligente y sostenible

Heating and cooling

Engaging consumer

Innovative Financing



Industry, services and products

Buildings

PPP SPIRE

PPP E2B



# Heating & Cooling – Topics 7 Junio 2017

## *EE-02-2017 “Improving the performance of inefficient district heating networks”*

The scope is to **accelerate the cost effective and energy efficient retrofitting** existing, inefficient **district heating networks**.

- Replicate or develop **technical, managerial, organisational and financial approaches** for the initiation of **concrete schemes that guarantee substantial primary energy savings and efficiency gains**
- **Engage** and involve as necessary, those in charge of **city networks, district heating companies, managers of buildings blocks, housing associations and other building owners/managers and end consumers**.
- Development of **concrete regional or national action plans for the retrofitting of inefficient district heating networks**.

*Proyectos de 1 a 2 M€. Ppto total: 4M€*





# Consumer in the centre - Topics 7 Junio 2017

## *EE-06-2016-2017 “Engaging private consumers towards sustainable energy”*

Develop innovative engagement **actions to motivate changes in consumers' sustainable energy behaviour**

- They should focus on clearly **defined target groups of private consumers** (individuals or collectives), using market segmentation.
- The proposed actions should demonstrate an understanding of different types of behaviours and consider the different approaches needed to influence them. The actions should also address the **risk of "rebound effects"**
- **All relevant stakeholders** necessary for the successful implementation of the action should be involved, **consumer organisations**, in particular.
- Where relevant **gender issues** should be taken into account.
- Cover a **wide geographic area**

**Proyectos de 1 a 2 M€. Ppto total: 5 M€**



# Consumer in the centre - Topics 7 Junio 2017

## *EE-09-2016-2017 “Engaging and activating public authorities”*

a) Actions aiming at **engaging public authorities**.

- innovative approach in **empowering public authorities** to step up their active role to **develop, finance and implement ambitious sustainable energy plans and measures** on the basis of reliable data.
- Public actors are encouraged to adopt a multi-stakeholder approach and to look at **sectors with high energy saving potential such as buildings, industry and urban mobility**, as well as to take into consideration the integration of relevant indoor environment quality criteria regulations when increasing energy efficiency performance of buildings.

The proposed action should cover **one**...



# Consumer in the centre - Topics 7 Junio 2017

## *EE-09-2016-2017 “Engaging and activating public authorities”*

### b) Peer to peer learning for public authorities - step up public authorities' capacity to help deliver the energy transition

- facilitating organisations which are identifying the peer-learning potential and **facilitating in-depth exchange across Europe.**
- **Consortia will involve the Local and Regional Energy Agencies and other relevant actors** and will be in charge of
  - i) developing and implementing a **transparent and effective identification and matching process,**
  - ii) assessing the replication potential and delivering a replication plan (**peer-learning plan**);
  - iii) organising the **peer-learning exchanges;**
  - iv) defining the learning **objectives and expected impacts** and;
  - v) proactively **disseminating** and ensuring further replication of results beyond the participating public authorities and Member States.

***Proyectos de 1 a 2 M€. Ppto total: 7 M€***



# Buildings - Topics 7 Junio 2017

## *EE-11-2016-2017 “Overcoming market barriers and promoting deep renovation of buildings”*

Proposals should be **aiming at overcoming market barriers to deep renovation** within the value chain. Any building type may be included (public or private, residential or non-residential).

Renovations can take place at one point in time or be staged in a step-by-step approach, but in any case they **should strive to achieve "deep renovation" (at least 60% energy savings compared to pre-renovation levels)** or aim towards Nearly Zero Energy Buildings (NZEB) performance. Proposals **might consider integration of voluntary certification schemes along with energy performance certificate**, including elements of indoor quality classification for buildings.

Proposals should address **at least two of the following options...**

***Proyectos de 1 a 2 M€. Ppto total: 8 M€ a compartir con EE-14***



# Buildings - Topics 7 Junio 2017

## *EE-14-2016-2017 “Construction skills”*

Upgrading or setting up large-scale qualification and training schemes.

- Address **coordination and accompanying measures** (e.g. voluntary certification schemes, accreditation, mutual recognition, incentives to encourage the participation of craftsmen, sustainability of the schemes, etc.). **Running training actions will not be in the scope of the proposal.**
- Proposals may also focus on setting up a **mutual recognition scheme of qualifications and certifications among different Member States.**
- Proposals should include a **strategy to ensure that qualification and training schemes are sustained** after the end of the project. For financial support to trainees, proposals should link to **other sources of funding** available at national level such as the European Social Fund, including the Youth Guarantee Scheme.

...the aim is to **improve the overall quality of renovations** and new constructions, to accelerate the renovation rate and to ensure proper interactions between different trades and professions. The submitted **proposals need to be focused** and are **not necessarily required to address the whole range of professions and crafts** involved in the building sector.

Proposals should **take note of the BUILD UP Skills initiative**....

*Proyectos de 0,5 a 1 M€. Ppto total: 8 M€ a compartir con EE-11*



# Industry, services and products - Topics 7 Junio 2017

*EE-15-2017 “Increasing capacities for actual implementation of energy efficiency measures in industry and services”*

Proposals should focus on **one of the following** topics:

- **Capacity building programmes** for qualified and/or accredited experts carrying out **energy audits** to ensure that they include the necessary financial and technical data which **allows decision-makers and financiers to make informed decisions** on implementing the energy saving measures identified; this could include the integration of LCCA (Life Cycle Cost Analysis) or NPV (Net Present Value) in energy audits.
- **Staff trainings and capacity building programmes** to enhance **corporate policy towards energy efficiency, energy culture** (motivations, behaviour change, mitigation of perceived risks and barriers) **and sustainable supply-chain initiatives**. All actors (from decision makers/corporate board members to employees in each department including purchase) should be targeted.

*Proyectos de 1 a 2 M€. Ppto total: 11 M€ a compartir con EE-16 y EE-18*





# Industry, services and products - Topics 7 Junio 2017

## *EE-16-2016-2017 “Effective implementation of EU product efficiency legislation”*

**Improve market surveillance activities**, providing support for joint surveillance actions.

- Focus on building up the **monitoring, verification and enforcement of the EU's energy-related products policy**.
- Support **higher level of surveillance activities** and go beyond product testing.
- Should **not replace activities that are under the responsibility of Member States**, but should add European value to them (e.g. execution of joint activities, exchange of information, development of common methods, protocols or checklists, etc.).
- **Must include the relevant market surveillance authorities** at least one per participating country, in their consortia and **should also involve consumers**.
- Should **take stock of previous EU-funded work** on monitoring, verification and enforcement, combining and leveraging relevant results to a much wider audience across the EU.
- Should **consider the use of databases to record actions' results on specific product models**, notably existing databases **used by market surveillance authorities and/or developed in previous EU-funded work**.

***Proyectos de 1 a 2 M€. Ppto total: 11 M€ a compartir con EE-15 y EE-18***



# Industry, services and products - Topics 7 Junio 2017

***EE-18-2017 “Energy efficiency of industrial parks through energy cooperation and mutualised energy services”***

Proposals should improve the **energy efficiency of industrial parks** (or neighbouring businesses) by unlocking the market potential for energy cooperation and by supporting the demand and offer of mutualised high-quality energy services.

Proposals should address at least one of the following aspects:

- implementation of **energy cooperation between businesses**: develop and test instruments facilitating the actual implementation of energy cooperation between businesses.
- implementation of **joint energy services**: develop and test replicable business models and service concepts for joint energy services provided by ESCO or other relevant third party.

***Proyectos de 1 a 2 M€. Ppto total: 11 M€ a compartir con EE-15 y EE-16***



# Financing Energy Efficiency – Topics 7 Junio 2017

## ***EE-22-2016-2017: “Project Development Assistance”***

The aim of the action is thus to build technical, economic and legal expertise needed for project development and leading to the **launch of concrete investments**.

- The proposed **investments will be launched before the end of the action**.
- The PDA focusses on the **sectors of existing public and private buildings**; street lighting; retrofitting of existing district heating/ cooling; energy efficiency in urban transport (such as transport fleets, the logistics chain, e-mobility, modal change and shift) in urban/sub-urban agglomerations and other densely populated areas and energy efficiency in industry and services.
- The main focus should lie on **capturing untapped high energy efficiency potentials**.
- Proposals should have an exemplary/showcase dimension in their ambition to reduce energy consumption and/or in the size of the expected investments.
- Proposals should also deliver **organisational innovation in the financial engineering** and the **mobilisation of the investment programme**.
- Proposals should demonstrate a **high degree of replicability** and include a clear action plan to communicate experiences and results towards potential replicators across the EU.
- **Every million Euro of Horizon 2020 support should trigger investments worth at least EUR 15 million.**

This PDA facility focuses on small and medium-sized energy **investments of at least EUR 7.5 million to EUR 50 million**

***Proyectos de 0,5 a 1,5 M€. Ppto total: 8 M€***



# Financing Energy Efficiency – Topics 7 Junio 2017

## *EE-23-2017: “Innovative financing schemes”*

Development or replication of **innovative financing schemes** including various forms of on-bill financing (e.g. utility-financed).

- Supporting **energy efficiency financing by innovating the framework and instruments** that could be further up-scaled (e.g. under the European cohesion policy or other schemes).
- Analyse impacts of **existing financial instruments** and requirements for up-scaling.
- Should include **capacity building on innovative financing for specific groups of stakeholders** such as Member States, public authorities, energy agencies, energy consultants, and the financial sector, led by or involving professional federations or associations at the national level as appropriate. Capacity building could use concrete examples developed through project development facilities (e.g. ELENA, MLEI PDA).
- **Training tools** should be complementary to already existing/recognised training schemes for the targeted groups, and demonstrate sustainability.

*Proyectos de 1 a 2 M€. Ppto total: 8 M€ a compartir con EE-24*



# Financing Energy Efficiency – Topics 7 Junio 2017

## *EE-23-2017: “Innovative financing schemes”*

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*Proyectos de 1 a 2 M€. Ppto total: 8 M€ a compartir con EE-24*



# Financing Energy Efficiency – Topics 7 Junio 2017

## *EE-24-2016-2017: “Making the energy efficiency market investible”*

Proposals should address **one or more** of the following issues:

- Development, demonstration and promotion of frameworks for the standardisation and benchmarking of energy efficiency investments such as labelling schemes, project rating methodologies and risk assessment tools
- **Gathering, processing and disclosing large-scale data on actual financial performance of energy efficiency investments**, in order to create a **track record** for energy efficiency in different sectors (buildings, industry, transport, etc.). Further integrating the 'green value' of buildings in property valuation through collection of market data across the EU and actions targeted to the key actors in the sale or lease process (e.g. real estate agents, property valuers, notaries, etc.)
- Targeting **institutional investors** (e.g. public pension schemes) in order to **increase the share of their funds** invested in energy efficiency, or to develop specific funds or investment products. Supporting the integration of energy efficiency in portfolio management strategies for institutional investors and/or fund managers, including through re-definition of fiduciary duties.

***Proyectos de 1 a 2 M€. Ppto total: 8 M€ a compartir con EE-23***



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Interconnections

2020

10%

2030

15%

Suministro de electricidad a bajo coste y de baja emisión de carbono

Integrated EU energy system

Cross-cutting issues

Renewable energy technologies

2020

20%

RES

2030

≥27%

2020

-20%

GGE

2030

-40%

Decarbonisation of Fossil Fuels

Social, economic and human aspects

European Research Area in Energy





# Renewable energies



	Basic Research (TRL <4)	Advanced Research (TRL 3-5)	Demonstration (TRL 5-7)	Market uptake
PV	LCE-6	LCE-7	LCE-9, LCE-10	LCE-21
CSP			LCE-11	
Solar Heating and Cooling			LCE-12	
Wind Energy			LCE-13, LCE-14	LCE-21
Ocean Energy			LCE-15, LCE-16	
Hydropower				
Geothermal Energy			LCE-17, LCE-23, LCE-18	
CHP				
RES integration in the system				
Bio- and Renewable Alternative Fuels		LCE-8, LCE-22	LCE-19, LCE-20	



# Photovoltaics (PV)

*LCE-10-2017*

## Scope

- Reduction of the cost of PV electricity by **optimising the PV system energy yield and lifetime** and **decreasing cost** at module (encapsulation materials, glass, and antireflective layers, anti-soiling layers, module architecture, etc.), balance-of-system component (electronics, inverters, tracking systems, etc.) or system configuration levels.
- TRL: 5-6 a 6-7

## Impact

- Demonstration of **cost-effective solutions** (reduction of cost per kWh) with **increased energy yields** at module/system level (standard and operating conditions). Solutions will contribute to **reduce energy payback time and increase lifetime** (i.a) for the PV system. At module level, solutions should show **increased cost effectiveness for recycling**.

***Projects 7-10M€ (10M€ total)***



# Concentrated Solar Power (CSP)

## *LCE-11-2017(EUR 12 million)*

Near-to-market solutions for **reducing the water consumption of CSP plants**

- Projects shall demonstrate cost-effective technical solutions which **significantly reduce or replace the water consumption of CSP plants**. The demonstration shall take place in a region with very good solar resource values (Direct Normal Irradiation > 2000 kWh/m<sup>2</sup> year).
- ... particular relevance to local communities, **multidisciplinary research designs that integrate contributions also from the social sciences and humanities** are encouraged. Engaging and involving local communities, and further investigating the **roots of social acceptance or any resistance** to CSP plants, so as to develop mitigating strategies or alternative solutions, should likewise be part of the project.

*Projects 10 to 12 M€ (12M€ total)*



# Solar Heating and Cooling (SHC)

***LCE-12-2017***

***Solar heat in industrial processes***

Use of **solar heat for industrial purposes** .

Proposals shall demonstrate **less complex and cost effective technical solutions** which significantly **increase the share of solar heat in industrial processes** and which can be easily integrated into existing industrial plants.

**Impact**

The action will result in solutions which demonstrate that solar heat can be a reliable energy source for industrial processes, therefore bringing significant prospects for the market uptake of this renewable energy source and for the decarbonisation of industrial processes.

**Projects 5-8 M€ (8M€ total)**



# Wind energy

***LCE-14-2017***

***Large >10 MW wind turbines***

The development of **large scale (>10MW) turbines** will have intrinsically **logistical requirements** regarding **handling, installation, operation and maintenance**, constituting a large part of the levelised cost of energy (LCOE). Improved handling (storage, loading, transport, etc.) on land, in the harbors and/or at sea, as well as improved logistics around operations and maintenance have to be taken into account in this innovation action.

**Impact**

In 2030 the **cost of energy for offshore wind should be reduced at least by 50%**. The action will also result in a more effective use of the seas and oceans, and will reduce the time needed for installation, operation and maintenance.

**Projects 20-25 M€ (25M€ total)**





# Ocean energy

***LCE-16-2017***

***Design tools for ocean energy devices and arrays development/deployment***

Develop and demonstrate **new advanced tools based on the first experiences of ocean energy arrays**. Enabling technical **risk reduction** and **attracting investors** for future innovative array designs.

The impact of design on **energy yield, survivability and O&M as well as environmental impacts** should be taken into account. These tools should facilitate a significant increase in **reliability, survivability, performance improvement and cost reduction** of devices and arrays.

**Projects 5-7 M€ (7M€ total)**



# Geothermal energy

**LCE-17-2017**

## ***Geothermal systems for retrofitting buildings***

To demonstrate the **cost-effectiveness and efficiency of geothermal systems for heating and cooling in individual installations being retrofitted;**

### **Focus:**

- TRL 7 shall be achieved at the end of project activities
- Proposals shall target **easy to install and efficient** underground coupling systems for retrofitting existing types of buildings or **adaptable to existing types of buildings**, including historical buildings, to make geothermal energy a standard source of heat and cold in building renovation
- The **difficulties in drilling in built environments** must be taken into consideration and properly addressed
- This topic will contribute to the PPP on Energy-efficient Buildings

***Projects 5-8 M€ (8M€ total)***



# Geothermal energy

**LCE-18-2017**

***EGS in different geological conditions***

***Aims:***

- Enhanced geothermal systems (EGS) have to be demonstrated as cost-competitive whereby innovative solutions are needed to allow for applications in geologic systems with different characteristics and of different origin;
- Proposals should aim at testing EGS systems to **ensure reservoir productivity** in different geological settings and energy production at **competitive costs**

***Impact:***

**Lower the costs for geothermal electricity and heat production** in different geological conditions applying the EGS technology. The action will contribute to increase the **penetration** of geothermal energy by demonstrating the viability of EGS.

***Projects 6-10 M€ (10M€ total)***



# Biofuels

***LCE-19-2016-2017***

***Demonstration of the most promising advanced biofuel pathways***

Projects should target the most promising advanced liquid biofuel production pathways incorporating new or improved biochemical/thermochemical/chemical conversion together with upgrading technologies and valorisation of co-products that improve the economic viability of the fuel production.

- Biofuels from waste flue gases of industrial wastes / other wastes and residues (2017)
- Biomass from aquatic biomass (2017)

## **Impact**

Demonstrating **advanced biofuel technologies at large industrial scale** reduces the technological risks and paves the way for subsequent first-of-a-kind industrial projects.

**Projects 10-15 M€ (15M€ total)**



# Biofuels

**LCE-20-2016-2017**

***Enabling pre-commercial production of advanced aviation biofuel***

Pre-commercial production of advanced aviation biofuel:

- The ultimate **production target** of aviation biofuel for the complete plant shall be **in the range of several tens of thousand tonnes** per year
- Biofuel must be fully **compliant with international aviation fuel standards** and therefore suitable for commercial flight operations.
- **Address the entire value chain** including the supply chain of sustainable biomass feedstock and the actual use of the produced biofuel in aviation
- **Biofuels produced from starch, sugar and oil fractions of food/feed crops are excluded**
- **Industrial involvement** in the consortium and explicit exploitation plans are a prerequisite (business plan, off-take agreement, etc...)

**Projects 5-10 M€ (10M€ total)**

# Índice

- Contexto Político
- Programa de Trabajo 2016-2017:
  - Eficiencia energética
  - Energía Baja en Carbono
- Otros

# Resultados H2020: 2014-2015 y provisionales 2016



# 2014-2015

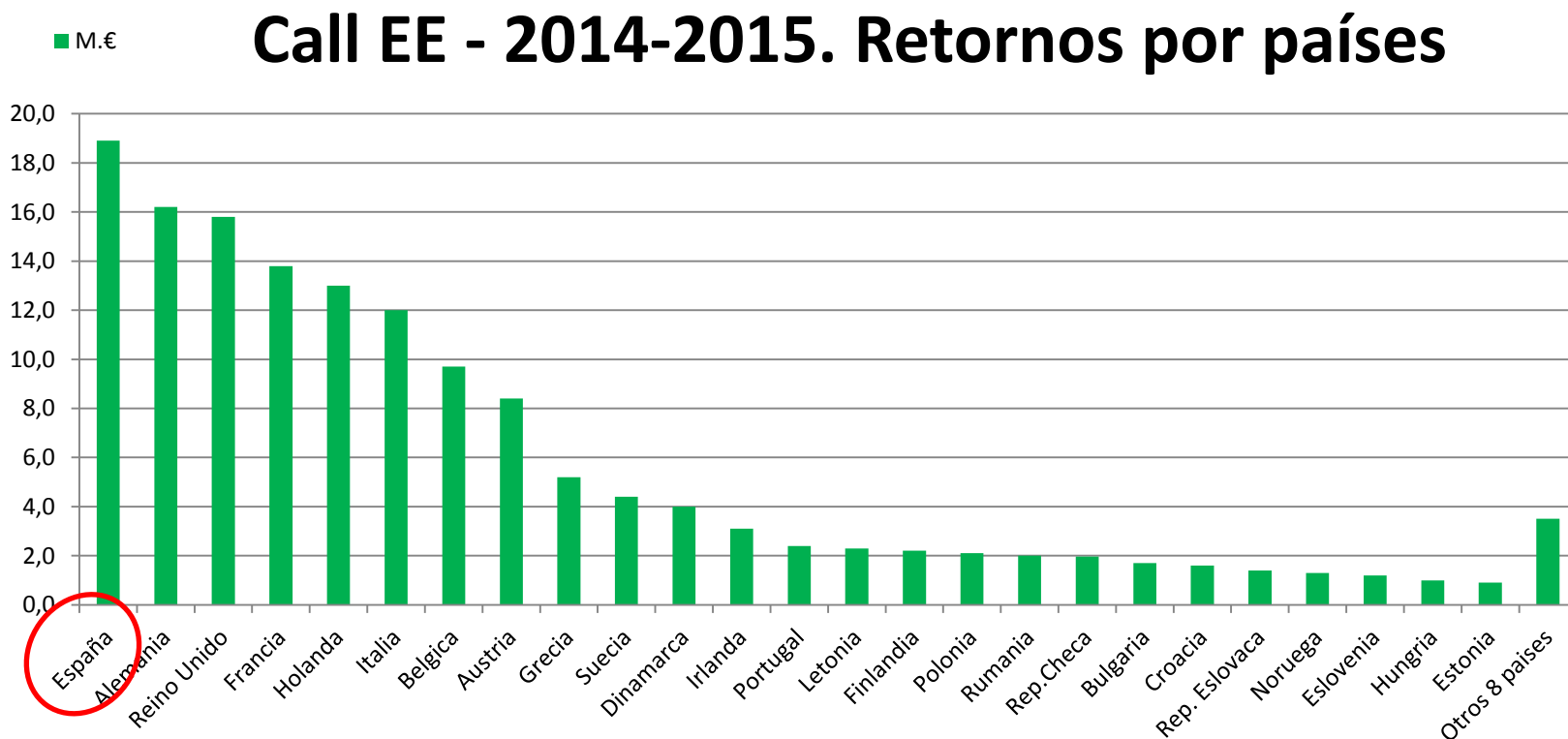
# Tasas de éxito globales – 2014-2015

	Propuestas	Proyectos	Tasa de Éxito
EE	781	87	11,1%
LCE	615	115	18,7%
SCC	80	9	11,2%
<b>Total</b>	<b>1476</b>	<b>211</b>	<b>14,3%</b>

## RETORNOS – RS ENERGIA 2014-2015

1476 propuestas, de las cuales 211 se han financiado  
 En 124 proyectos aprobados hay participación española (58,7%)  
 33 proyectos de los financiados están liderados por españoles. (15,6%)  
**Retorno UE (27) – 13,1% (141,1 M.€) (Total adjudicado: 1.077,6 M.€)**  
**2º Pais en retornos por detrás de Alemania (15,7%), y seguido de UK (13%)**  
55% de participación empresarial en proyectos aprobados.

# Calls EE 2014 y 2015:



De 87 proyectos, en 52 hay participación española.

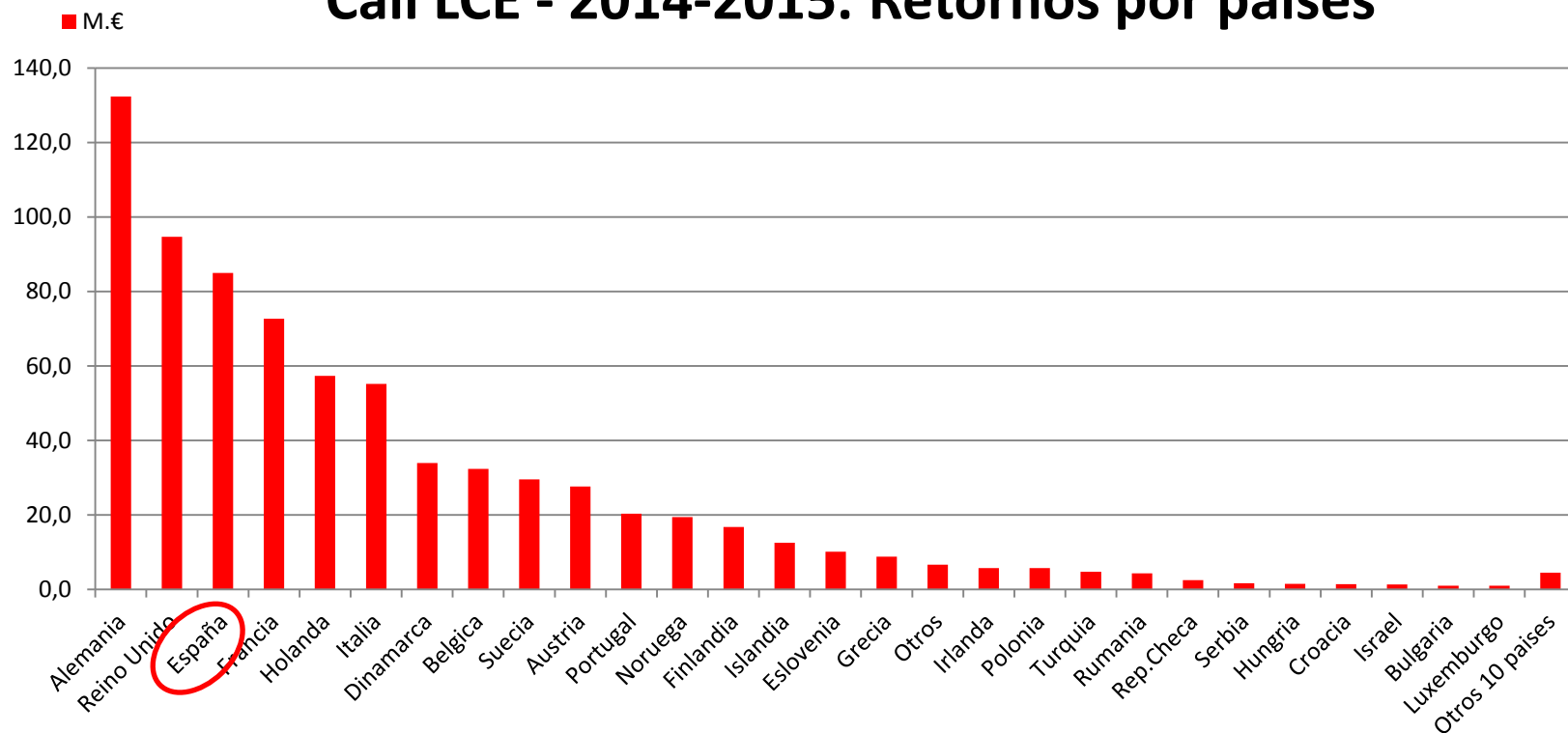
15 proyectos liderados por España.

**12,2%** - tasa de éxito española.

**Entidades más destacadas:** CIRCE, Diput. Girona, Giroa, SA, Wellness SC SL, Escan SL, UPCatalunya, Tekniker, Deloitte, Accional Infraestructura

# Calls LCE 2014 y 2015:

## Call LCE - 2014-2015. Retornos por países



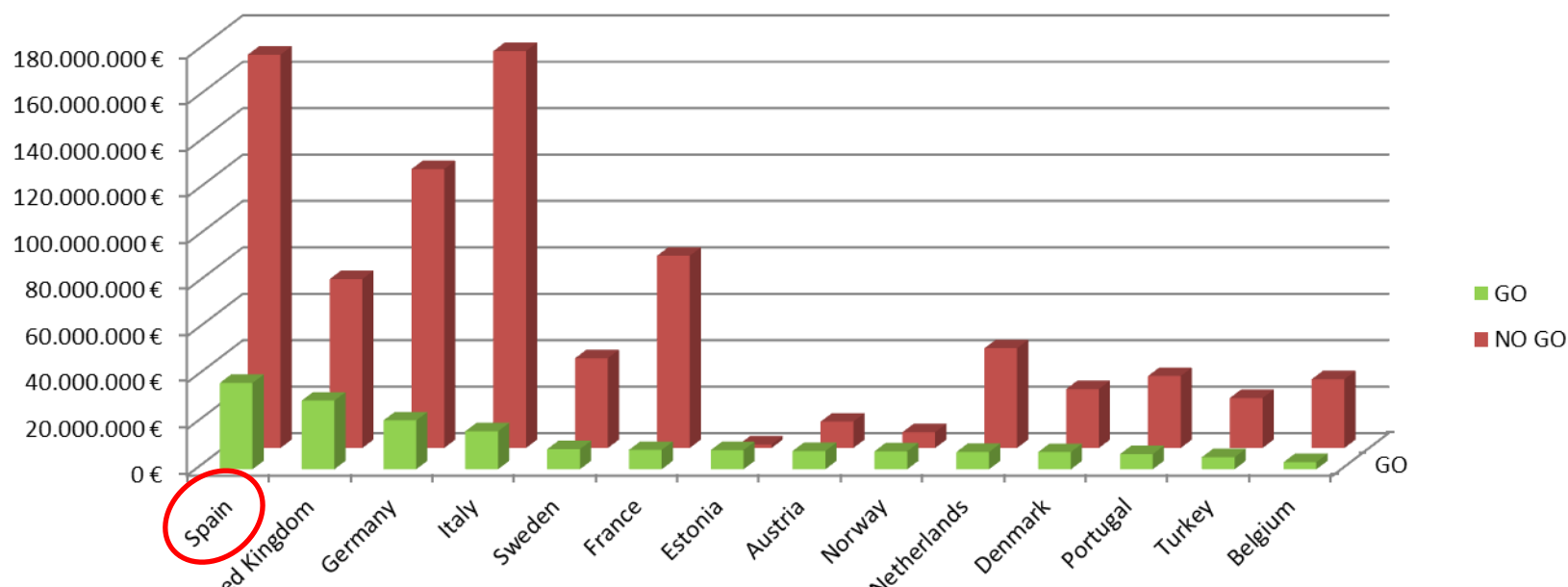
De 115 proyectos, en 64 hay participación española.

15 proyectos liderados por España.

**19,6%** - tasa de éxito española. **Retorno España 12,1%**

**Entidades más destacadas:** Acciona Infra, Esteyco, SA, Tecnalia, Adwen OS,SL, EDP Renovables, SL, F.CENER-CIEMAT, CIRCE, Ciemat, CSIC.

# SCC 2014 y 2015: Light House Projects, CSA



**9 proyecto con participación española en 8. 3 liderados por España**

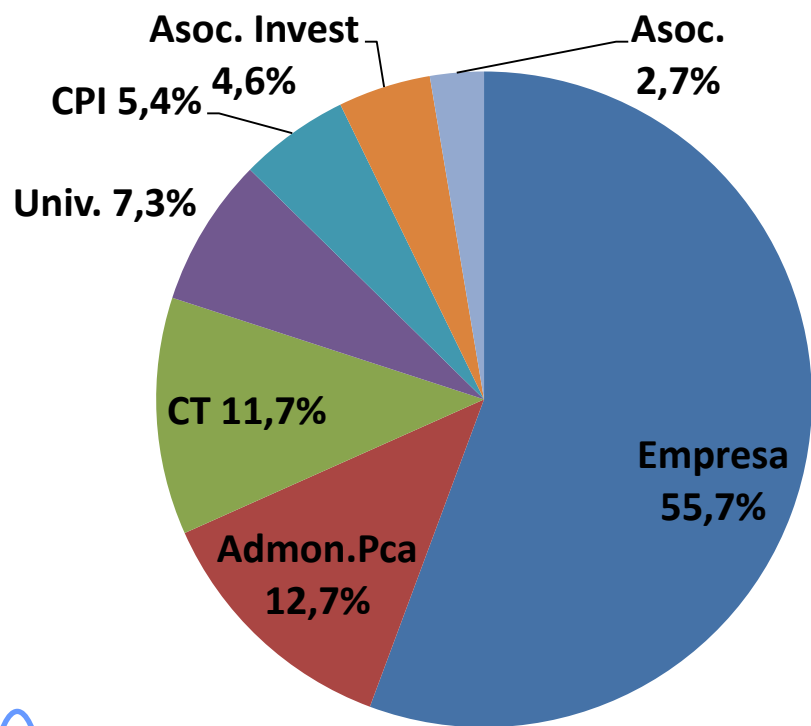
**Lighthouse cities:** VALLADOLID, BARCELONA, SAN SEBASTIAN, VITORIA

**Followers:** SABADELL, SANTIAGO DE COMPOSTELA

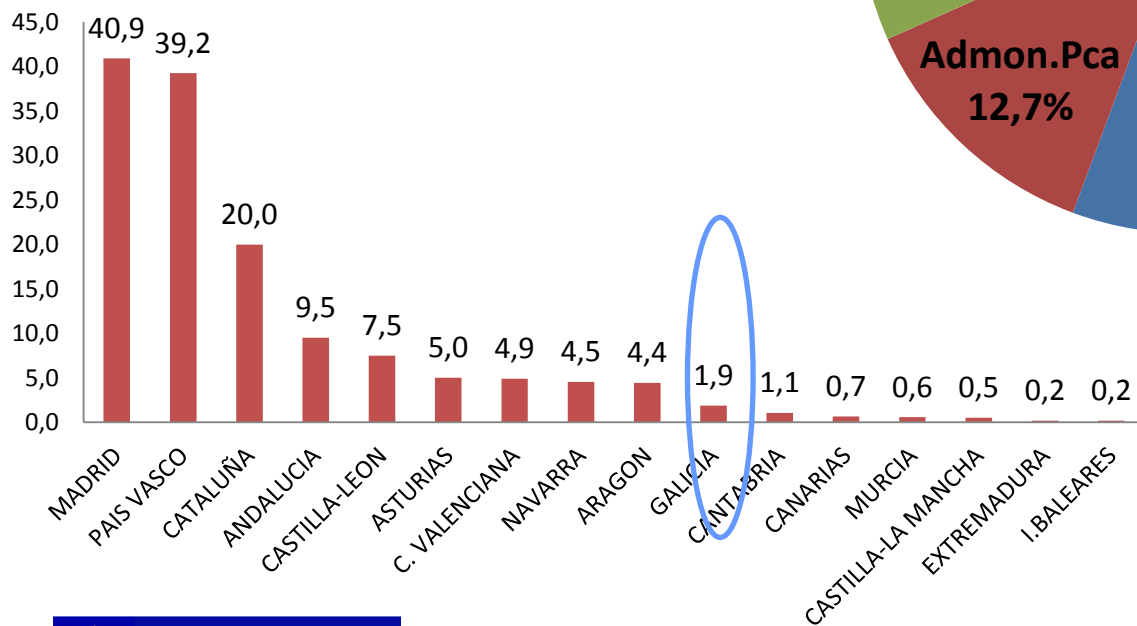
**Lideres:** Tecnalia, Fundación Cartif, Fomento de S.Sebastian, S.A.

# Resultados RS-ENERGIA WP2014-2015

Por tipo de Entidad:



M.€ - Estadísticas por CCAA



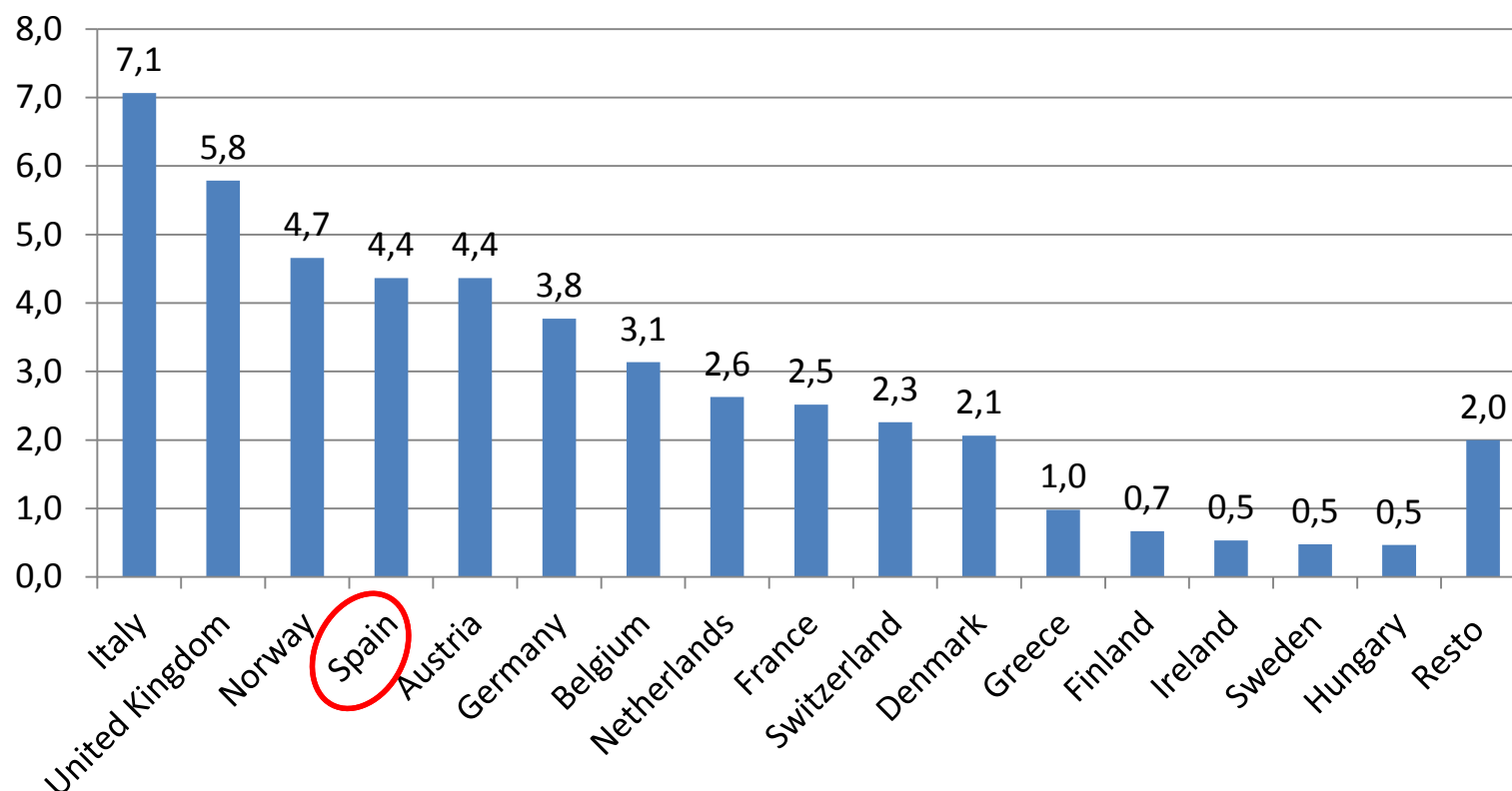
# 2016 preliminares



## Resultados EE-RIA/IA Deadline 21/1/2016

### Estadísticas, retorno por país.

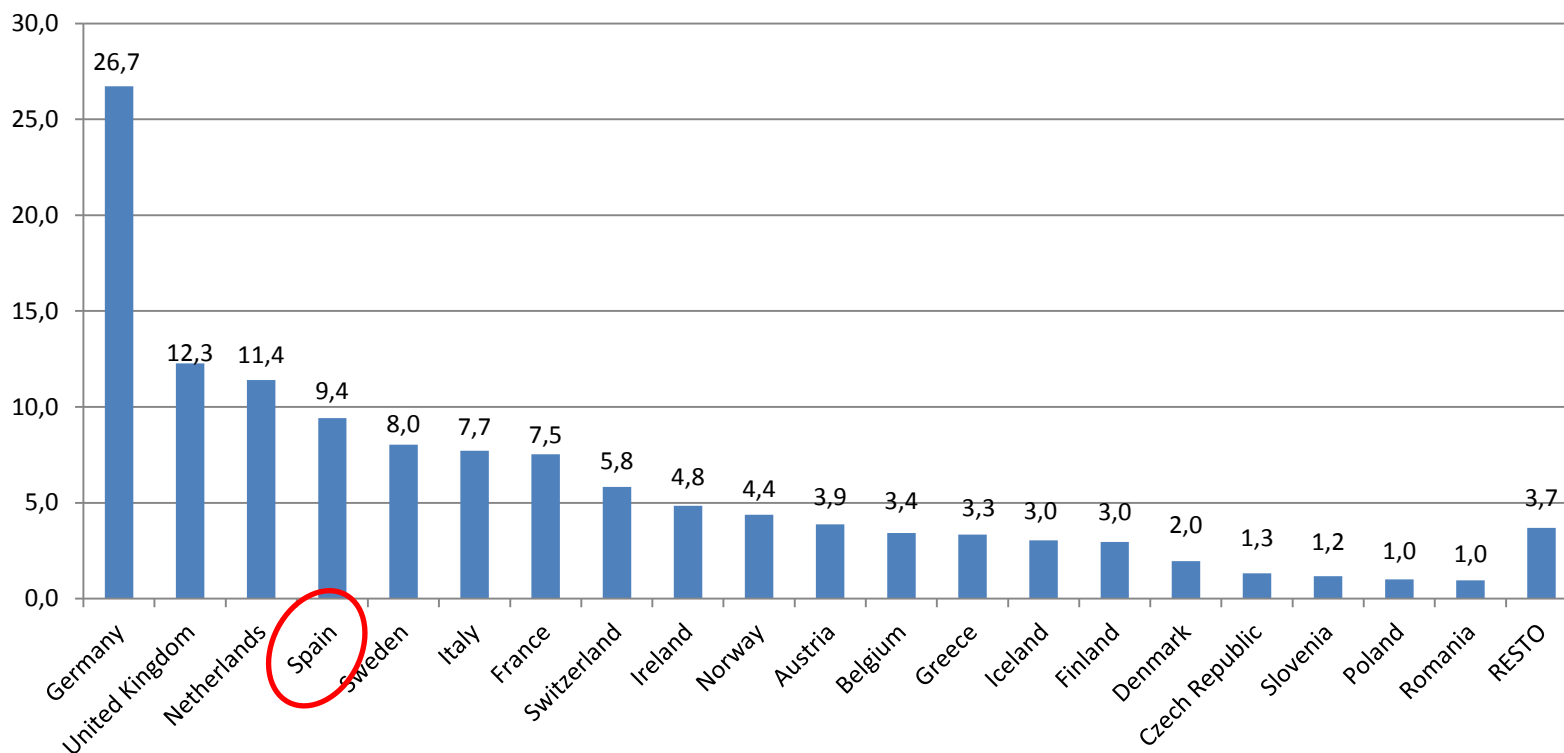
**15 propuestas a financiar – Subvención solicitada: 47,76 M.€ Subv.España: 4,4 M.€**



# Resultados convocatoria Renovables, CCS, SSH .

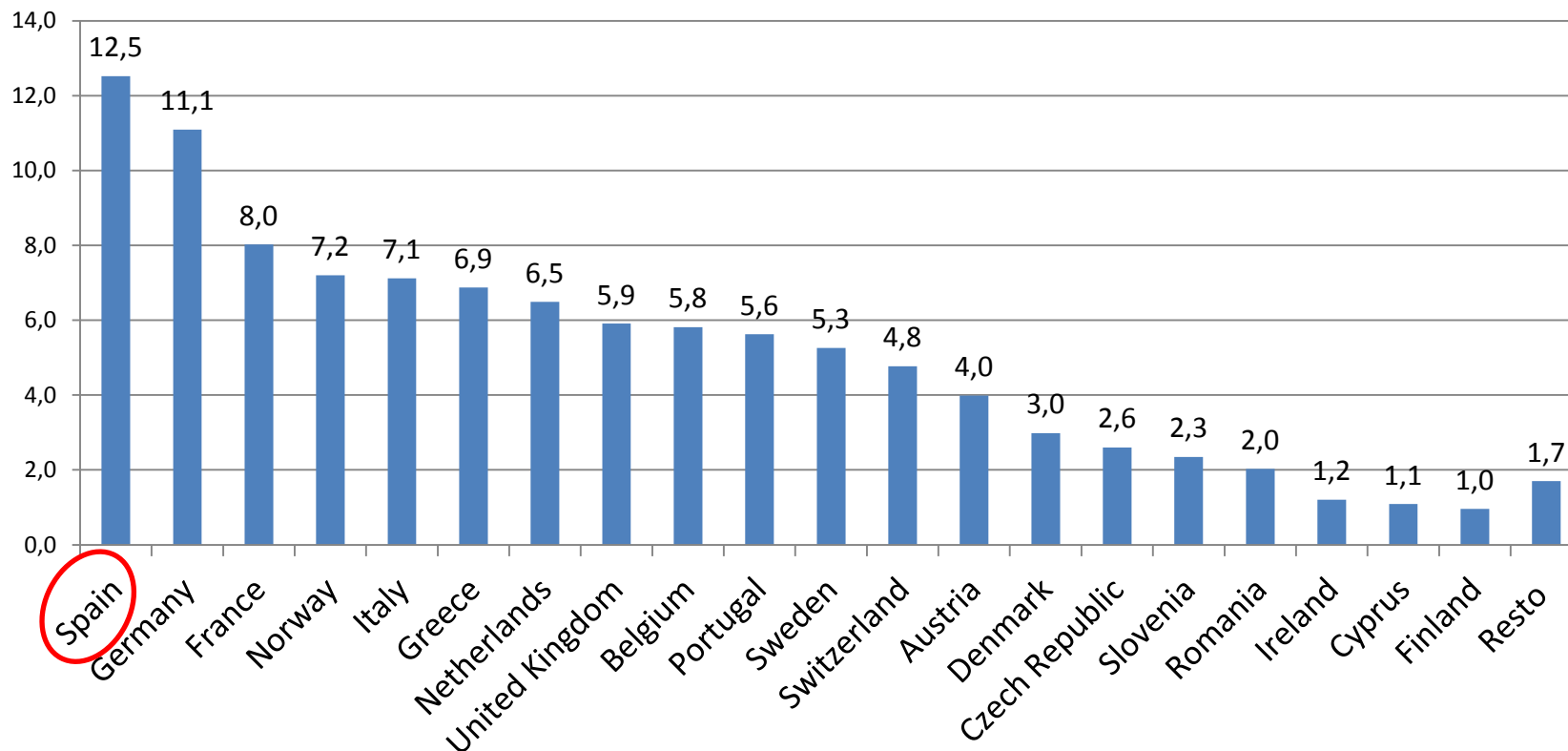
Deadline: 16 febrero 2016. Estadísticas, retorno por país.

Retorno económico provisional en M.€



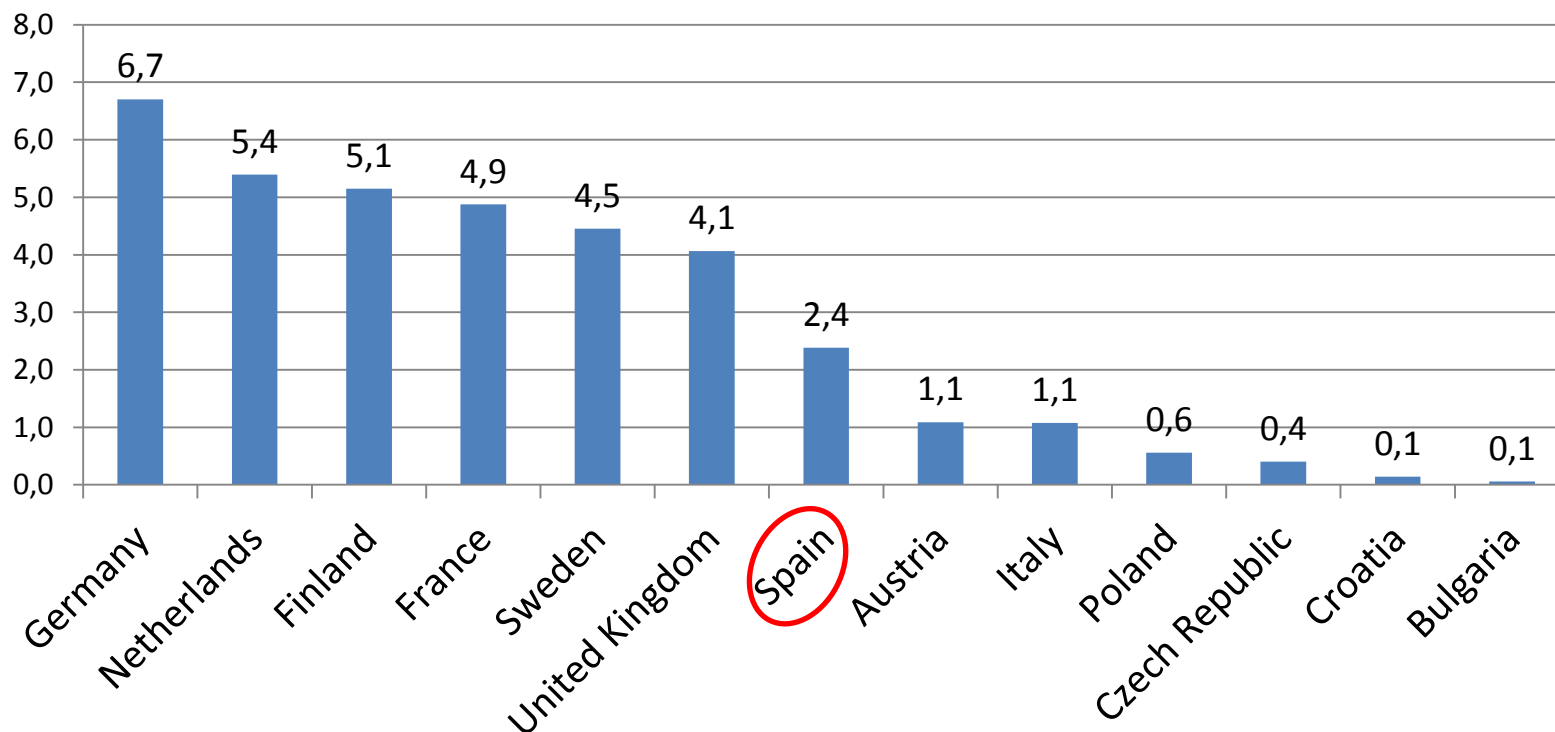
**ESPAÑA:** De un total de 24 proyectos financiados en esta convocatoria, 5 son liderados por España. 23 participaciones españolas financiadas de un total de 276. Retorno España: 9,4 M.€ de un total de 125 M.€ adjudicados.

### Retorno económico provisional en M.€



**ESPAÑA:** De un total de 13 proyectos financiados en esta convocatoria, 4 son liderados por España. 21 participaciones españolas financiadas de un total de 171. Retorno España: 12,5 M.€ de un total de 105,6 M.€ adjudicados.

# Call 2016 - SCC



## Call 2016:

Sólo 8 propuestas evaluadas, y 2 financiadas (2014 – 19 (3); 2015 – 37(4))

**Budget inicial:** 60 M.€ - Sólo se adjudica 36,35 M.€

**Retorno España:** 2,38 M.€ (6,5% UE-27 y Total)

**7ª posición en retorno**

# Y no olvidar...

- ✓ Instrumento Pyme
- ✓ APC
- ✓ Programa de gestores en SOST
- ✓ Seminario de gestores...

# Enlaces

- ✓ <http://ec.europa.eu/research/index.cfm?pg=events&eventcode=E8549B02-9403-39F9-E71BF7B28BF5B857>
- ✓ <https://ec.europa.eu/inea/en/news-events/events/h2020-energy-research-virtual-info-day>
- ✓ <https://ec.europa.eu/easme/en/horizon-2020-secure-clean-and-efficient-energy-info-day>

# SC3 en España



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