



IX ASAMBLEA GENERAL DE REOLTEC H2020: ENERGÍA LIMPIA, SEGURA Y EFICIENTE

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CDTI- Centre for the Development of Industrial Technology

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- **Contexto Político**
- **Resultados 2014-2015**

Political Context

2030 Climate-Energy Package

- 40% reduction of Greenhouse Gases
- 27% of renewable energy
- 27% improvement in energy efficiency



Energy Union

- *Energy security, solidarity and trust*
- *A fully integrated internal energy market*
- *Energy efficiency first*
- *Transition to a low-carbon society*
- *An Energy Union for Research, Innovation and Competiveness*

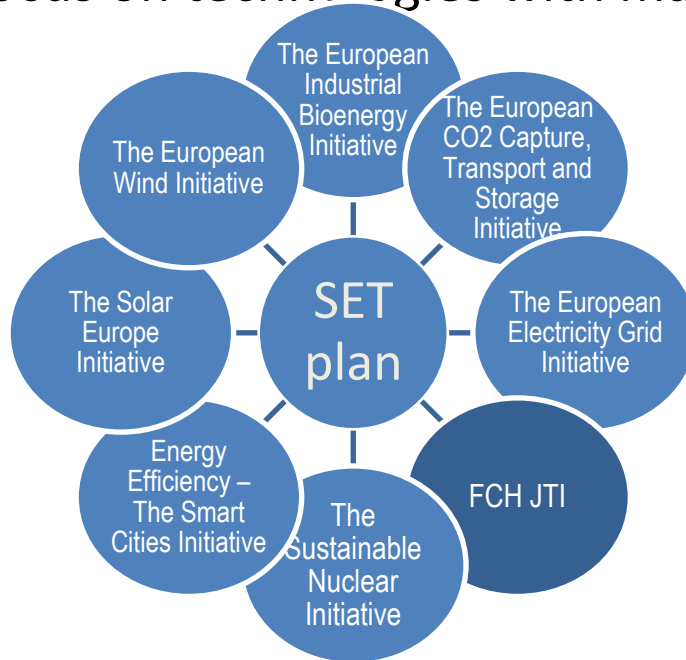
SET-Plan

- *Integrated Roadmap*
- *Communication on Integrated SET-Plan (COM[2015]6317)*



2008: The SET PLAN

Focus on technologies with market impact up to 2020 (set up of EIs)



Focus on longer-term research actions beyond 2020 (set up of EERA)

Objective for 2020

- 20% reduction of CO2 emissions (base1990)
- 20% share of Renewable Energy
- 20% improvement in Energy Efficiency

2013: Communication on Energy Technologies and Innovation

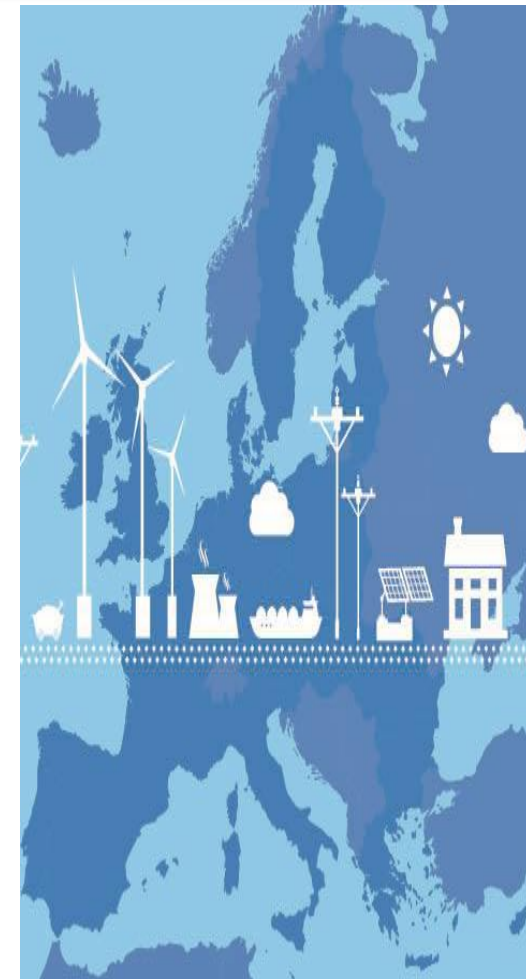
Key principles:

- New policy challenges post-2020

Objectives for 2030 (Climate-Energy package)

- 40% reduction of CO2 emissions (1990)
- 27% share of Renewable Energy
- 27% improvement in Energy Efficiency

- From technologies sector to energy system
- Bridging R&I con energy policy
- Making better use of existing financial resources
- Keeping options open, while concentrating on the most promising technologies for post 2020



<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52013DC0253&from=EN>

2014: Integrated Roadmap

Toward an Integrated Roadmap, (December 2014)

- Active Consumer
 - Demand focus (energy efficiency)
 - System optimisation
 - Supply
- New integrated approach – going beyond technology silos
 - First time – a comprehensive European energy R&I agenda for solutions to cost-effectively accelerate the energy transition.

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>

2015: Energy Union, feb 2015

http://ec.europa.eu/priorities/energy-union/index_en.htm

This communication aims to provide EU consumers (households and industries) with **SECURE, SUSTAINABLE, COMPETITIVE** and **AFFORDABLE** energy

ENERGY UNION: 5 Pillars

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**

September 2015 Communication: The Integrated SET PLAN

Energy Union R&I Pillar
- Priorities

SET-PLAN 10 Key Actions

4 CORE PRIORITIES

Nº 1 in RENEWABLES

Smart EU energy system, with consumer at the centre

Efficient Energy Systems

Sustainable Transport

- 1. Performant renewable technologies integrated in the system**
- 2. Reduce costs of technologies**
- 3. New technologies & services for consumers**
- 4. Resilience & security of energy system**
- 5. New materials & technologies for buildings**
- 6. Energy efficiency for industry**
- 7. Competitive in global battery sector (e-mobility)**
- 8. Renewable fuels**

September 2015 Communication: The Integrated SET PLAN

Energy Union R&I Pillar
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SET-PLAN 10 Key Actions

2 additional research priorities

9. CCS/CCU

10. Increase safety in the use of nuclear energy

https://setis.ec.europa.eu/system/files/Communication_SET-Plan_15_Sept_2015.pdf



The SET Plan Process to prioritise

For each of the 10 Key Actions:

1. **A few R&I priorities/targets proposed by the EC**
'Issues paper'
2. **Large consultation (stakeholders, SET Plan countries)**
3. **A meeting between all to decide on final R&I targets**
'Declaration of Intent'
4. **Implementation**
5. **Monitoring**

Actions 1 & 2: No 1 in renewables

Solar Thermal Electricity (CSP/STE)

Photovoltaics

Offshore wind

Offshore wind: 'Declaration of intent'

https://setis.ec.europa.eu/system/files/declaration_of_intent_offshore_wind.pdf

1. Reduce the levelised cost of energy (LCoE) at final investment decision (FID) for fixed offshore wind* by improvement of the performances of the entire value chain to

- **less than 10 ct€/kWh by 2020 and to**
- **less than 7ct€/kWh by 2030;**

2. Develop cost competitive *integrated wind energy systems* including substructures which can be used in **deeper waters (>50m) at a maximum distance of 50 km from shore with a LCoE* of**

- **less than 12 ct€/kWh by 2025 and to**
- **less than 9 ct€/kWh by 2030**

* the costs for delivering the electricity to onshore substations are taken into account within the LCoE

RS-3: Secure, clean and efficient energy

HORIZONTE 2020

74.828

I. Prioridad «Ciencia excelente»

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

II. Prioridad «Liderazgo industrial»

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

III. Prioridad «Retos de la sociedad»

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

IV. Difundir la excelencia y ampliar la participación

816

V. Ciencia con y para la sociedad

445

VI. Acciones directas no nucleares del Centro Común de Investigación (JRC)

1.856

VII. Instituto Europeo de Innovación y Tecnología (EIT)

2.383

Precios corrientes en M€

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%
Total	1476	211	14,3%

RETORNOS – RS ENERGIA 2014-2015

1476 propuestas, de las cuales 211 se han financiado

En **124 proyectos aprobados hay participación española**

33 proyectos de los financiados están liderados por españoles.

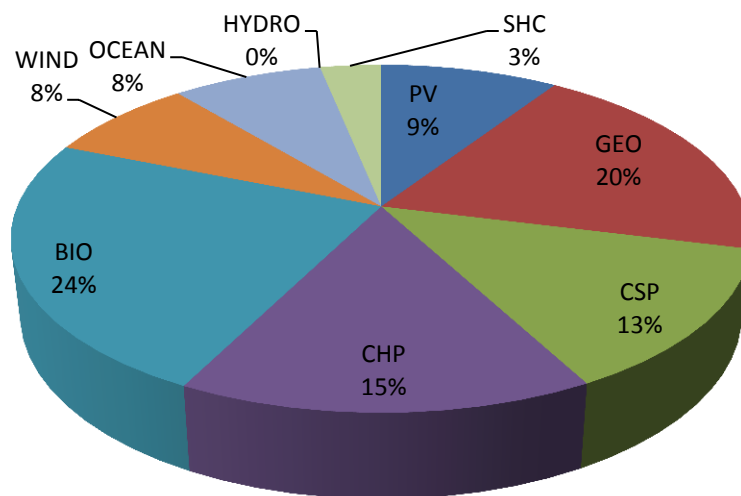
Retorno UE (27) - 13,1% (141,1 M.€) (Total adjudicado: 1.077,6 M.€)

2º País en retornos por detrás de Alemania (15,7%), y seguido de UK (13%)

55% de participación empresarial en proyectos aprobados.

Tecnologías topics LCE-2 y LCE-11

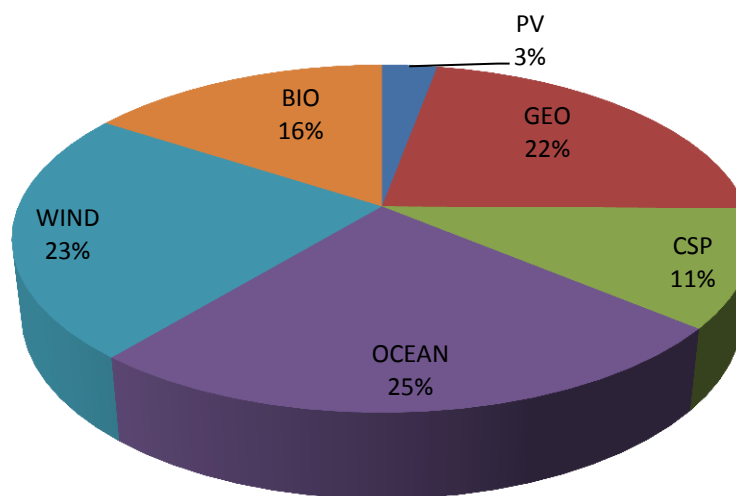
	2014			2015			TOTAL	
	Proposals	Funded	Subv (M€)	Proposals	Funded	Subv (M€)	Funded	Subv (M€)
PV	36	2	9,5	47	1	3,3	3	12,8
GEO	11	2	12,1	18	3	14,9	5	27
CSP	25	1	6,5	13	2	11,8	3	18,3
CHP	31	2	12,1	19	2	9	4	21,1
BIO	81	2	10,6	88	4	22	6	32,6
WIND	25	1	7,3	10	1	3,5	2	10,8
OCEAN	25	0	0	20	2	10,8	2	10,8
HYDRO	9	0	0	4	0	0	0	0
SHC	18	0	0	6	1	4,4	1	4,4
Total	261	10	58,1	225	16	79,8	26	137,9



Total Grant Wind: 10,8 M.€
 Total Grant Spain: 4,1 M.€
Aprox. 38%
Proyecto TELWIND. Liderado España
http://cordis.europa.eu/project/rcn/199267_en.html

Tecnologías topics LCE-3 y LCE-12

	2014			2015			TOTAL	
	Proposals	Funded	Subv (M€)	Proposals	Funded	Subv (M€)	Funded	Subv (M€)
PV	3	0	0	57	1	5,5	1	5,5
GEO	6	2	11,9		2	30,7	4	42,6
CSP	8	2	20,9		0	0	2	20,9
OCEAN	8	1	17		2	30,6	3	47,6
WIND	6	2	14		2	30,4	4	44,4
BIO	5	2	30,2	17	0	0	2	30,2
Total	36	9	94	74	7	97,3	16	191,3



Total Grant Wind: 44,4M.€
 Total Grant Spain: 22,7 M.€
Aprox. 51%
Proyecto ELICAN y DEMOGRAVI 3
Liderados España
http://cordis.europa.eu/project/rcn/199304_en.html
http://cordis.europa.eu/project/rcn/199361_en.html

OTROS ENLACES DE INTERES

- Información del SET-PLAN

<https://setis.ec.europa.eu/set-plan-process>

- Proyectos aprobados en Programa Marco:

http://cordis.europa.eu/projects/home_en.html

- Communication on the State of the Energy Union

http://ec.europa.eu/priorities/energy-union-and-climate/state-energy-union_en

ESHORIZONTE2020

Portal español del Programa Marco de Investigación e Innovación de la Unión Europea

MUCHAS GRACIAS

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