



Horizon 2020



Lecture et décryptage

**Enabling next-generation of smart energy services
valorising energy efficiency and flexibility at demand-side**

LC-SC3-B4E-14-2020

David Argenti (PCN Energie)

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Horizon 2020

Quelques rappels...

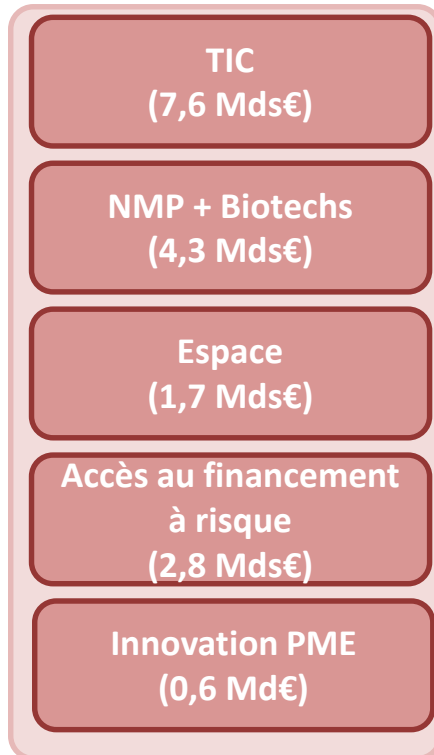
L'énergie dans Horizon 2020

Excellence scientifique



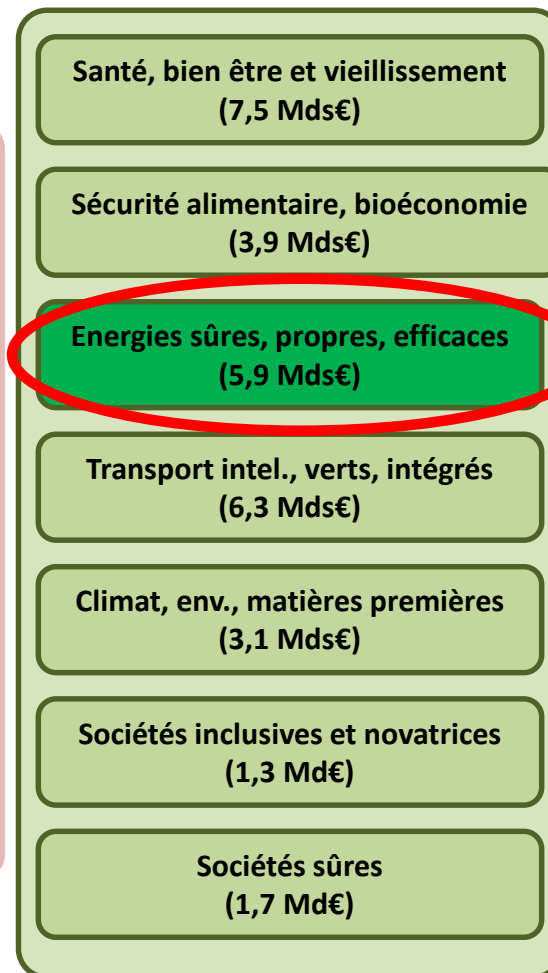
24,4 Mds€

Primauté industrielle

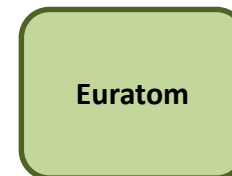
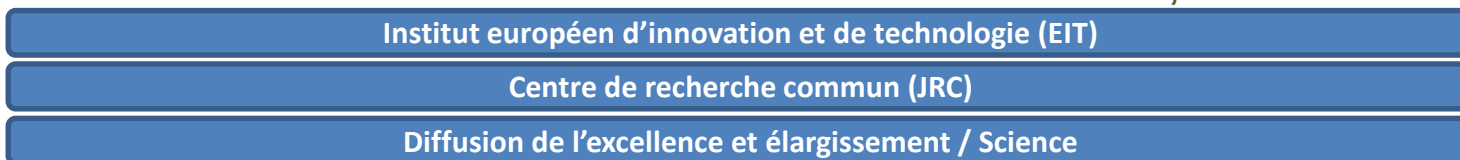
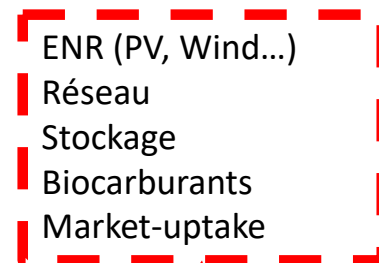


17 Mds€

Défis sociétaux



29,7Mds€



Défi sociétal n°3 = Energie

	2019	2020
Energy Efficiency = EE / B4E	113 M€	86,5 M€
Renewable energy solutions = RES	216 M€	248 M€
Energy Consumer & Energy system = EC & ES	125,65M€	155 M€
Smart Cities and Communities = SCC	83 M€	75 M€
Nearly-zero CO2 emissions from fossil fuels = NZE	53 M€	29 M€
Joint actions among countries = JA	21 M€	15 M€
Cross-cutting issues	12 M€	15 M€
	623,65M€	623,5M€

Pour mémoire : budget 2018 = 537,3M€

Les différents types d'appels à projets

Recherche & Innovation (RIA)

TRL 2 à 5

- activités visant à **établir de nouvelles connaissances**, à travers des recherches fondamentales ou appliquées
- peuvent inclure du **développement et de l'intégration de technologies**, des essais et la validation d'un prototype à petite échelle

Taux de financement 100%

Innovation (IA)

TRL 5 à 8

- activités visant directement à produire des plans, arrangements ou concepts pour un produit, procédé ou service nouveau ou amélioré : **prototypage, démonstration ou pilotes, validation du produit à grande échelle**, première commercialisation
- peuvent inclure des activités limitées de recherche et de développement

Taux de financement 70% pour le privé (100% public)

Coordination & Support (CSA)

- Activités visant à améliorer les savoir-faire ou mobilisant des budgets considérables ou facilitant la mise en œuvre des politiques de l'Union

Taux de financement 100%

Taux de financement

Taux de financement des <u>coûts directs</u> éligibles		
	Entités à but non lucratif	Entreprises
RIA	100%	100%
IA	100%	70%
CSA	100%	100%

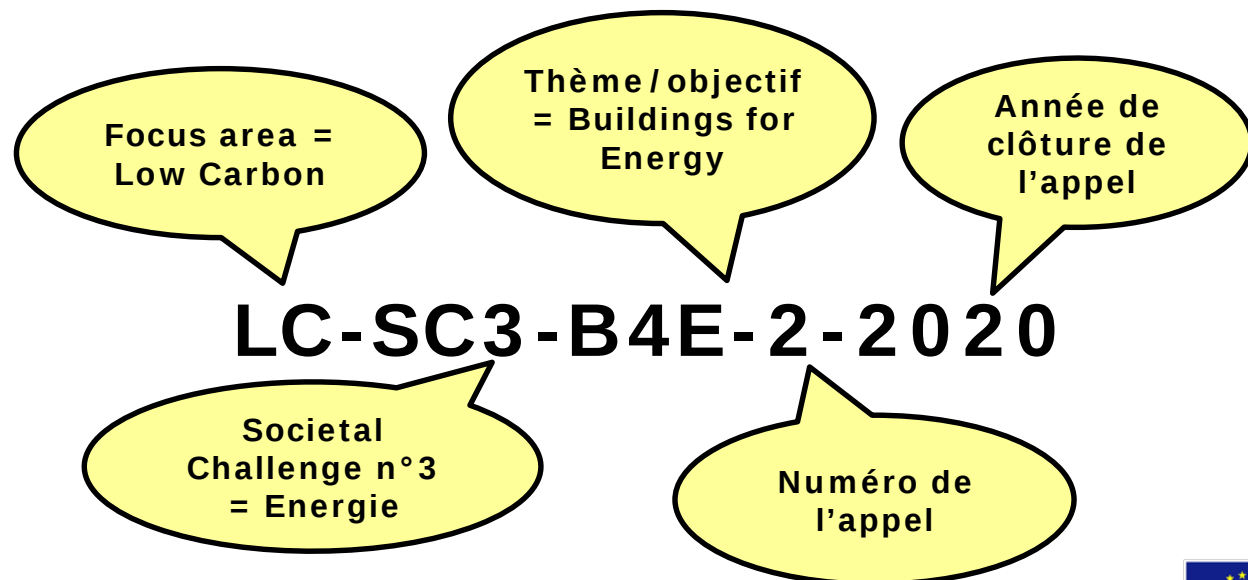
+

Coûts indirects: forfaitairement **25%** des coûts directs pour tous les partenaires (hors sous-traitance et contributions en nature)

Les grandes priorités pour 2020

1. Building a low-carbon, climate resilient future = **LC**
2. Digitising and transforming European industry and services = **DT**
3. Connecting economic and environmental gains – the Circular Economy = **CE**
4. Boosting the effectiveness of the Security Union = **SU**

Décodage



Lire un appel à projet

Réf. du sujet

Et réf. de l'appel

LCE-12-2017: Near-to-market solutions for the use of solar heat in industrial processes

Défi à relever

Specific Challenge: The potential for the use of solar heat for industrial purposes is still largely untapped. The challenge is to reduce the technical complexity and develop cost effective solutions.

Scope: 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.

TRL 7 shall be achieved at the end of project activities (please see part G of the General Annexes).

Indication des TRLs

Périmètre

Opening the project's test sites, pilot and demonstration facilities, or research infrastructures for practice oriented education, training or knowledge exchange is encouraged.

The Commission considers that proposals requesting a contribution from the EU of between EUR 5 to 8 million would allow this specific challenge to be addressed appropriately. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts

Indication du montant de subvention disponible par projet

Impact attendu

Expected 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.

Type of Action: Innovation action

Type of action = Schémas de financement

+ informations sur le budget disponible
+ la date limite pour soumettre une proposition

Évaluation

- La Commission fournit aux évaluateurs **son interprétation** de l'appel considéré.
- **Aucune discussion**/négociation avec les évaluateur et/ou la Commission n'est possible. Le dossier n'est pas modifiable après le dépôt final.
- L'évaluateur évalue le dossier sur la base de ce qu'il contient **et rien de plus**.
- La Commission attend de l'évaluateur qu'il passe **3/4 heures** à lire le dossier **et** à écrire son rapport.



Horizon 2020



**Enabling next-generation of
smart energy services valorising energy efficiency
and flexibility at demand-side**

LC-SC3-B4E-14-2020

Lecture et décryptage

Archéologie des appels à projets

- EE-13-2018-2019-Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side as energy resource

Deux projets précurseurs

- [SENSEI](#)

The main concept underlying the SENSEI business models is pay-for-performance (P4P), which offers an effective way to engage both energy providers and third-party investors in energy efficiency. In a P4P scheme for financing energy retrofit projects, financial flows between the involved parties are linked to the actual – metered – and weather-normalised energy savings. This approach encourages long-term investment and transparent cash-flows (pay) in energy-efficient buildings by metering energy savings smart and getting a return on investment (ROI), based on proven and measured savings in the buildings (performance).

- [AmBIENCe](#)

The AmBIENCe project aims at extending the concept of Energy Performance Contracting to Active Buildings and making it available and attractive to a wider range of buildings. AmBIENCe will provide new concepts and business models for performance guarantees of Active Buildings, combining savings from energy efficiency measures with additional savings and earnings resulting from the active control of assets leveraging for instance price based incentive contracts (Implicit Demand Response). The willingness to invest in additional sensorisation, ICT and IoT will be increased by offering adjacent other-than-energy services, e.g. related to comfort, security or maintenance.

Financing for energy efficiency investments - Smart Finance for Smart Buildings

Oct 27, 2017

Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side

ID: LC-SC3-B4E-14-2020

Focus area: Building a low-carbon, climate resilient future (LC)

Type of action:

◦ CSA Coordination and support action

Deadline Model : single-stage

Opening: 05 March 2020

Deadline: 10 September 2020 17:00:00 Brussels time

Open

<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-b4e-14-2020>

Challenge

- **Energy Efficiency services** (e.g. Energy Performance Contracting (EPC)) are available on the market already for quite some time. However, there is a **big untapped potential** in sectors and with actors not yet engaged in services triggering energy, CO2 and cost savings. New technologies have emerged opening the door for new types of services which use **ICT to better control and steer energy consumption**.
- **ICT-tools and big data** generated by smart meters, smart devices and sensors will help **monitor and verify energy savings** and **flexibility** and thus provide for **appropriate remuneration** of optimised consumption.
- Energy services aim to involve different services (e.g. system services) and benefits (e.g. comfort) towards **increasing their viability**.
- Energy services should nevertheless result in real, measurable energy savings and performance improvements of the **overall energy system**.

Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side

Scope

- Actions should take up and advance smart energy services concepts[...] including concepts which have been **developed, proved and tested under Horizon 2020**.
- Actions should **focus clearly on new revenue streams** and should further develop, adapt and refine concepts that:
 - ✓ **integrate** energy efficiency services with **other energy services** like distributed generation, demand response, e-mobility and including storage/hybrid energy systems building on contractual arrangements across different actors **and/or**
 - ✓ **integrate** energy efficiency services with **non-energy related services** such as comfort, health and safety **and/or**
 - ✓ enhance and refine successful energy performance **contracting models** that engage new sectors and actors and/or include **pay-for-performance** schemes **and/or**
 - ✓ factor in include customer **individualized energy services** as a result of better understanding of **customer behaviour and needs** derived of new data analytics tools.

Scope (2)

These concepts should:

- ✓ use and apply more accurate and **dynamic measurement and verification** of energy savings and flexible consumption ;
- ✓ address potential **legal and contractual aspects**.

Project results are expected to be considered and endorsed by **key market stakeholders**.

They should take into account any relevant results from **concluded or existing projects** that are (gradually) available.

Energy efficiency should constitute a core aspect of the service models.

Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side

Expected Impact

Proposals are expected to demonstrate the impacts listed below, using **quantified indicators and targets** wherever possible:

- Primary **Energy savings** triggered by the project (in GWh/year);
- **Investments** in sustainable energy triggered by the project (in million Euro);
- Improved **viability** of innovative energy services.
- A growing offer and up-take of services that **combine** energy efficiency with other energy services, technologies and non-energy benefits;

Additional positive effects can be quantified and reported :

- Reduction of the **GHG** emissions (in tCO₂-eq/year) and/or **air pollutants** (in kg/year) triggered by the project;
- Increase of **flexibility in the energy system**

Quelques recommandations

Répondre à un appel à projets

Comprendre l'appel à projets

1. Lire en détail l'appel à projets et les éléments de son contexte (Programme de travail).
2. Assister à la journée d'information organisée par la Commission (*Infoday*) (souvent disponible sous forme vidéo après la présentation).

Rédiger un excellent dossier

- Rédiger un papier de cadrage permet de constituer un noyau de consortium (*lean and mean*) ou de rejoindre un consortium en cours de formation (cf. planches suivantes) ;
- Si l'on coordonne, étoffer le consortium avec parcimonie ;
- Mettre en place un retro-planning réaliste ;
- Deux semaines avant le dépôt Faire relire sur le fond (par un « expert » non impliqué dans le projet) et sur la forme (si possible par un anglophone natif) ;
- Télécharger le dossier en l'état la veille de la date limite et le jour même à midi.

Trouver/compléter un consortium (1)

- Consulter le site **Webgate.ec.europa.eu** pour voir quelles ont été les propositions gagnantes en réponse à des appels voisins de celui auquel je souhaite postuler :
<https://webgate.ec.europa.eu/dashboard/sense/app/93297a69-09fd-4ef5-889f-b83c4e21d33e> (*H2020 projects*) ;
- puis aller sur le site Cordis pour les détails sur le consortium

Trouver/compléter un consortium (2)



Funding & tender opportunities
Single Electronic Data Interchange Area (SEDIA)

SEARCH FUNDING & TENDERS ▾ HOW TO PARTICIPATE ▾ PROJECTS & RESULTS WORK AS AN EXPERT SUPPORT ▾

Oct 27, 2017

The role of consumers in changing the market through informed decision and collective actions

ID: LC-SC3-EC-1-2018-2019-2020

Focus area: Building a low-carbon, climate resilient future (LC)

Type of action:

- | | | |
|---------------------------------------|-------------------------------|---------------------------------|
| ◦ CSA Coordination and support action | Deadline Model : single-stage | Opening: 12 March 2019 |
| ◦ CSA Coordination and support action | Deadline Model : single-stage | Opening: 25 January 2018 |

Horizon 2020

Work programme: Secure, clean and efficient energy

Go to top

Partner Search

83 Organisations are looking for collaborating partners for this topic

[View / Edit](#)

LEAR, account Administrators or self-registrants can publish partner requests for open and forthcoming topics after logging into this Portal.

Ex : LC-SC3-EC-1-2018-2019-2020
<https://ec.europa.eu/info/funding-tenders/opportunities/portal/screen/opportunities/topic-details/lc-sc3-ec-1-2018-2019-2020>

Trouver/compléter un consortium (3)



HOME ABOUT GET NEWSLETTER INTRANET

C-ENERGY 2020

Connecting Energy National Contact Points in a pro-active network under Societal Challenge 3 'Secure, clean and efficient energy' in Horizon 2020

Find your NCP EU funding **Partner Search** EU networks News & EU Policy Calendar Media

The banner features a composite image of a globe with a city skyline, solar panels, and sunflowers. Below the banner is a yellow navigation bar with seven circular icons. The 'Partner Search' icon, which shows three stylized figures in a circle, is highlighted with a red circle. Below the navigation bar, there are sections for 'C-Energy 2020 Project' and 'H2020 Energy', and a footer with links for 'Open Call', 'News', and 'Policy'.

<http://c-energy2020.eu/>

Trouver/compléter un consortium (4)



RECHERCHER...

> Recherche avancée multicritères

Accueil > Horizon 2020 > Défis sociétaux > Énergie

AGENDA

09 JUIN

Rencontre lauréats-candidats FET Proactive

PARIS

15 JUIN

Journée nationale d'information "Les PME dans Horizon 2020"

PARIS

Recherches de partenaires et offres de compétences en énergie

ENERGIE



Le P.C.N. énergie propose la consultation des recherches de partenaires et des offres de compétences pour les prochains appels du défi 3, grâce à sa collaboration avec ses homologues européens.

<http://www.horizon2020.gouv.fr/cid77777/recherches-partenaires-offres-competences-energie.html>

Pour vous aider : les Points de contact nationaux (PCN)

http://www.horizon2020.gouv.fr/ci_d74103/le-reseau-des-pcn.html

Pour nous contacter :
pcn-energie@recherche.gouv.fr

AGENDA

14 MARS
Journée d'information ERC
PARIS

18 MARS
Événement national d'information sur les appels "infrastructures critiques" dans Horizon 2020
PARIS

Tous les événements

APPELS EN COURS

- Liste des appels ouverts
- Programmes de travail 2018-2020

ANTICIPER LES PROCHAINS APPELS

- Le dispositif national

STATISTIQUES

- Données d'Horizon 2020
- La participation des acteurs français dans Horizon 2020

Le réseau des Points de Contact Nationaux

LES POINTS DE CONTACT NATIONALS



Les Points de Contact Nationaux (P.C.N.) d'Horizon 2020 sont chargés de diffuser l'information et de sensibiliser la communauté de la recherche et de l'innovation aux programmes européens.

Un réseau de Points de Contact Nationaux (PCN) est établi dans tous les pays bénéficiaires d'Horizon 2020, à la demande de la Commission européenne.

En vue de soutenir les porteurs de projets d'Horizon 2020, établis en France, le Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation (MESRI) déploie, pilote et anime un nouveau réseau de Points de Contact Nationaux chargé de porter le programme d'action du MESRI en faveur de l'amélioration de la participation française au programme européen.

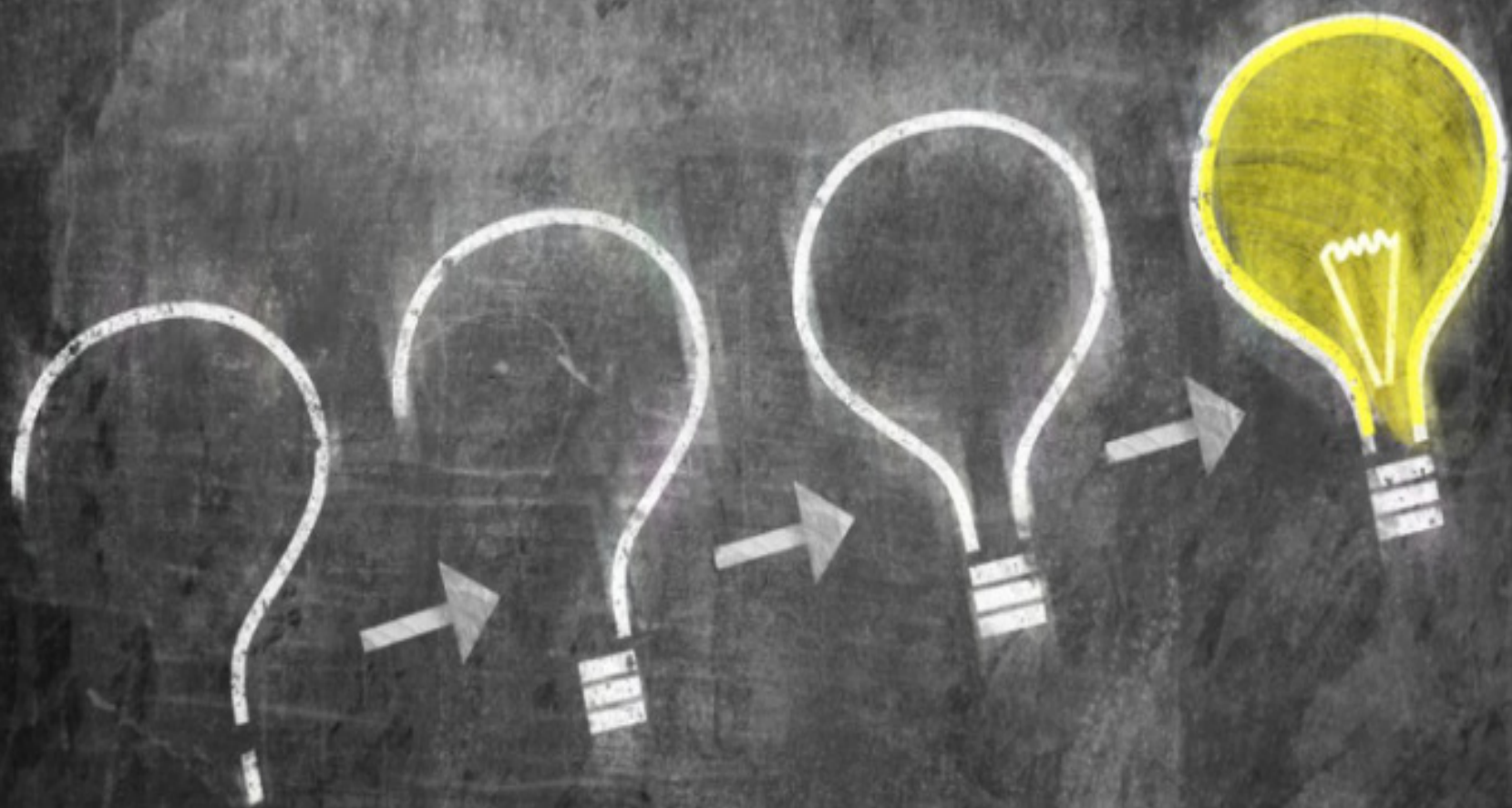
Les missions de ces PCN :

1. Informer, sensibiliser les équipes sur les opportunités de financement de projet d'Horizon 2020 ;
2. Aider, conseiller et former aux modalités de fonctionnement du programme ;
3. Signaler l'existence et orienter vers d'autres sources de financement (européens et nationaux) susceptibles de mieux répondre à leurs besoins et vers les services supports de ces financements.

Les PCN français sont des **consortia d'acteurs** chargés d'apporter une réponse auprès des porteurs de projets pour chacune de ces missions.

Connaitre votre interlocuteur, **PCN d'Horizon 2020**

PCN	Coordinateur	Etablissement	Consortium	Téléphone	Mél.
Coordination nationale	 Elia BOUQUET	MESRI Ministère de l'Enseignement supérieur, de la Recherche et de l'Innovation	Voir les membres	33 1 55 55 82 51	 Contact
		MESRI Ministère de			



Annexe 1

Enabling next-generation of smart energy services valorising energy efficiency and flexibility at demand-side

Specific Challenge:

Energy Efficiency services (e.g. Energy Performance Contracting (EPC)) are available on the market already for quite some time. However, there is a big untapped potential in sectors and with actors not yet engaged in services triggering energy, CO2 and cost savings. At the same time, new technologies have emerged opening the door for new types of services which use ICT to better control and steer energy consumption according to market and system needs and to the availability of renewable energy; others are able to integrate energy services with non-energy benefits such as comfort. By bundling various services and benefits, additional target groups, sectors and financial resources can be accessed.

Finally, ICT-tools and big data generated by smart meters, smart devices and sensors will help monitor and verify energy savings and flexibility and thus provide for appropriate remuneration of optimised consumption. A particular challenge for energy services of this kind is that while they aim to involve different services (e.g. system services) and benefits (e.g. comfort) towards increasing their viability, they should nevertheless result in real, measurable energy savings and performance improvements of the overall energy system.

Scope:

Actions should take up and advance smart energy services concepts which have evolved in the market, in parallel with the progressive deployment of new technologies, including concepts which have been developed, proved and tested under Horizon 2020. Proposals should demonstrate that they gather and help converge innovative, successfully tested service elements which are well adapted to the needs of the market and of the potential users and which are compatible with on-going technological innovation.

While the scope is based on the areas identified in the topic LC-SC3-EE-13-2018-2019[1] for the years 2018 and 2019, actions should focus clearly on new revenue streams, the use of innovative monitoring and verification schemes and the consideration of contractual aspects.

Financing for energy efficiency investments - Smart Finance for Smart Buildings

More specifically, actions should further develop, adapt and refine concepts for smart energy services that

- integrate energy efficiency services with other energy services like distributed generation, demand response, e-mobility and including storage/hybrid energy systems building on contractual arrangements across different actors (ESCOs, aggregators, DSOs, energy cooperatives, obliged parties under the Energy Efficiency Obligation Schemes implementing art 7 EED and eventually the consumers) and/or
- integrate energy efficiency services with non-energy related services such as comfort, health and safety and/or
- enhance and refine successful energy performance contracting models that engage new sectors and actors and/or include pay-for-performance schemes and/or
- factor in include customer individualized energy services as a result of better understanding of customer behaviour and needs derived of new data analytics tools.

These concepts should

- use and apply more accurate and dynamic measurement and verification of energy savings and flexible consumption, also in order to ex-ante identify and develop business opportunities; in this use 'big data' generated by smart meters, equipment, sensors and tools for standardised processes;
- address potential legal and contractual aspects (e.g. in relation to existing contracts or warranty, safety and data security issues linked to existing and newly deployed equipment).

Given that the service models will have advanced and matured, project results are, even more strongly than under the preceding calls, expected to be considered and endorsed by key market stakeholders. They should take into account any relevant results from concluded or existing projects that are (gradually) available. Projects are expected to consider those elements that promise to yield a particularly high level of business innovation. Energy efficiency should constitute a core aspect of the service models.

Financing for energy efficiency investments - Smart Finance for Smart Buildings

Projects are required to follow the H2020 guidance on ethics and data protection[2], taking into account digital security, privacy and data protection requirements including the compliance with relevant directives/regulations (e.g. NIS[3] , eIDAS[4], GDPR[2]) and relevant National Legislation.

The Commission considers that proposals requesting a contribution from the EU of between EUR 1 million and 2 million would allow this specific challenge to be addressed. Nonetheless, this does not preclude submission and selection of proposals requesting other amounts.

Expected Impact:

Proposals are expected to demonstrate the impacts listed below, using quantified indicators and targets wherever possible:

- Primary Energy savings triggered by the project (in GWh/year);
- Investments in sustainable energy triggered by the project (in million Euro);
- Improved viability of innovative energy services.

In addition, proposals are expected to demonstrate the impacts listed below, using quantified indicators and targets wherever possible:

- A growing offer and up-take of services that combine energy efficiency with other energy services, technologies and non-energy benefits;
- A growing up-take of innovative data gathering and processing methods in the monitoring and verification of energy savings and flexibility;
- The application of methods and concepts to ensure that: (i) innovative energy services are reliable and verifiable, (ii) service providers are trustworthy and accessible.

Additional positive effects can be quantified and reported when relevant and wherever possible:

- Reduction of the greenhouse gases emissions (in tCO₂-eq/year) and/or air pollutants (in kg/year) triggered by the project;
- Increase of flexibility in the energy system.

Annexe 2

H2020 Key Performance Indicators (KPI)

	#	Key performance indicator ²	Definition of the indicator	Type of data required	Baseline at the start of Horizon 2020 (latest available) ³	Target at the end of Horizon 2020
SOCIETAL CHALLENGES	14	Societal Challenges – Publications in peer-reviewed high impact journals in the area of the different Societal Challenges	The percentage of publications published in the top 10% impact ranked journals by subject category	Publications from relevant funded projects (DOI: Digital Object Identifiers); Journal impact benchmark (ranking) data to be collected by commercially available bibliometric databases	[<u>new approach</u> under Horizon 2020]	[<u>On average, 20 publications per €10 million funding (for all societal challenges)</u>]
	15	Societal Challenges – Patent applications and patents awarded in the area of the different Societal Challenges	Number of patent applications by theme; Number of awarded patents by theme	Patent application number	[<u>new approach</u> under Horizon 2020]	On average, 2 per €10 million funding (2014 – 2020)
	16	Societal Challenges – Number of prototypes and testing activities	Number of prototypes, testing (feasibility/ demo) activities, clinical trials	Reports on prototypes, and testing activities, clinical trials	[<u>new approach</u> under Horizon 2020]	[<u>To be developed on the basis of first Horizon 2020 results</u>]
SOCIETAL CHALLENGES	17	Societal Challenges – Number of joint public-private publications	Number and percentage of joint public-private publications out of all relevant publications	Properly flagged publications data (DOI) from relevant funded projects	[<u>new approach</u> under Horizon 2020]	[<u>To be developed on the basis of first Horizon 2020 results</u>]
	18*	New products, processes, and methods launched into the market	Number of projects with new innovative products, processes and methods	Project count and drop down list allowing to choose the type processes, products and methods	[new approach under Horizon 2020]	[To be developed on the basis of first Horizon 2020 results]
	19*	Percentage of the overall Energy challenge funds allocated to the following research activities: renewable energy, end user energy-efficiency, smart grids and energy storage activities	Percentage of the overall Energy challenge funds allocated to the following research activities: renewable energy, end user energy-efficiency, smart grids and energy storage activities	Financial data related to the funds allocated to the mentioned activities under Societal Challenge “Secure, clean and efficiency energy”	[new approach under Horizon 2020]	85%

CSA Award criteria

	Excellence <i>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>	Impact	Quality and efficiency of the implementation
All types of action	Clarity and pertinence of the objectives; Soundness of the concept, and credibility of the proposed methodology;	The extent to which the outputs of the project would contribute to each of the expected impacts mentioned in the work programme under the relevant topic;	Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables; Appropriateness of the management structures and procedures, including risk and innovation management; Complementarity of the participants and extent to which the consortium as whole brings together the necessary expertise; Appropriateness of the allocation of tasks, ensuring that all participants have a valid role and adequate resources in the project to fulfil that role.
Coordination & support actions (CSA)	Quality of the proposed coordination and/or support measures.	Quality of the proposed measures to: • Exploit and disseminate the project results (including management of IPR), and to manage research data where relevant. • Communicate the project activities to different target audiences	

RIA Award criteria



Award criteria RIA and IA grants		
Excellence	Impact	Implementation
Clarity and pertinence of the objectives Soundness of the concept, and credibility of the proposed methodology	The extent to which the outputs of the project would contribute to each of the expected impacts mentioned in the work programme under the relevant topic	Quality and effectiveness of the work plan, including extent to which the resources assigned to work packages are in line with their objectives and deliverables Appropriateness of the management structures and procedures, including risk and innovation management Complementarity of the participants and extent to which the consortium as a whole brings together the necessary expertise Appropriateness of the allocation of tasks, ensuring that all participants have a valid role and adequate resources in the project to fulfil that role
Extent that proposed work is beyond the state of the art, and demonstrates innovation potential (e.g. ground-breaking objectives, novel concepts and approaches, new products, services or business and organisational models) Appropriate consideration of interdisciplinary approaches and, where relevant, use of stakeholder knowledge	Any substantial impacts not mentioned in the work programme, that would enhance innovation capacity, create new market opportunities, strengthen competitiveness and growth of companies, address issues related to climate change or the environment, or bring other important benefits to society Quality of the proposed measures to: • Exploit and disseminate the project results (including management of IPR), and to manage research data where relevant • Communicate the project activities to different target audiences	