



**Work Programme 2016-2017  
du Programme Cadre de Recherche et Innovation Horizon 2020**

*Sélection de volets et topics concernant l'environnement, le changement climatique, l'énergie et les sujets associés*

Les "drafts définitifs" complets (incluant, pour chaque topic, les types d'actions, budgets et dates de dépôt des propositions) des workprogrammes 2016-2017 d'Horizon 2020 sont disponibles à l'adresse <https://ec.europa.eu/programmes/horizon2020/en/draft-work-programmes-2016-17>

**Défi sociétal (societal challenge) « Climate action, environment, resource efficiency and raw materials » - SC5**

**Appel : Verdir l'économie (Greening the Economy)**

- Services climatiques – 5 topics parmi lesquels
  - o Exploiting the added value of climate services (2016 et 2017)
  - o Climate services market research (2016)
- Vers une Europe à faible émissions de carbone – 2 topics
  - o Pathways towards the decarbonisation and resilience of the European economy in the time frame 2030-2050 and beyond (2016 et 2017)
  - o Coordinating and supporting research and innovation actions on the decarbonisation of the EU economy (2017)
- Nature-based solutions for territorial résilience – 3 topics parmi lesquels
  - o Large scale demonstrators on nature-based solutions for hydro-meteorological risk reduction (2017)
  - o Multi-stakeholder dialogue platform to promote innovation with nature to address societal challenges (2016)
- Eau – 2 topics
  - o Supporting international cooperation activities on water (2016)
  - o Food systems and water resources for the development of inclusive, sustainable and healthy Euro-Mediterranean societies (2016)
- Matières premières (Raw materials) – 5 topics parmi lesquels
  - o News solutions for sustainable production of raw materials (2016-2017)
  - o Raw materials innovation action (2016-2017)
  - o Raw materials Policy support actions (2016-2017)
  - o Raw materials international co-operation (2016-2017)

**Défi sociétal « Secure, Clean and Efficient Energy »- SC3**

**Appel : Efficacité énergétique (EE)**

- Chauffage et refroidissement – 5 topics
- Engager les consommateurs vers une énergie durable – 4 topics
- Constructions – 5 topics
- Industrie, services et produits – 7 topics
- Financements innovants for l'investissement dans l'efficacité énergétique – 4 topics

**Appel : Une énergie compétitive à faible émission de carbone (LCE)**

- Vers un système énergétique européen intégré – 5 topics
- Technologies en énergie renouvelable

- Developing the next generation of renewable energy technologies -3 topics
  - New knowledge and technologies (2017)
  - Developing the next generation technologies of renewable electricity and heating/cooling (2016-2017)
  - Development of next generation biofuel technologies (2016-2017)
- Demonstrating innovative renewable energy technologies - 12 topics parmi lesquels
  - Demonstration of large wind turbine (+ 10MW) (2017)
  - Scaling up in the ocean energy sector to arrays (2016)
  - Demonstration of the most promising advanced biofuel pathways (2016-2017)
- Supporting the market uptake of renewable energy technologies – 1 topic
  - Market uptake of renewable energy technologies (2017)
- Fostering international cooperation in the area of renewable energy – 2 topics
- Permettre la décarbonisation de l'utilisation des carburants fossiles pendant la transition vers une économie à faible émission de carbone, 7 topics parmi lesquels
  - Utilisation of captured CO2 as feedstock for process industry (2016)
  - Highly flexible and efficient fossil fuel power plants (2017)
  - CCS in industry, including bio-CCS (carbon capture and storage) (2017)
  - Geological storage plants (2017)
- Social economic and human aspects of the energy system – 2 topics
- Soutenir le développement de l'Europe de la recherche dans le champ de l'énergie – 3 topics
- Questions transversales (cross-cutting issues)

A noter le très grand nombre d'études et de services développés dans la partie « autres actions »

<b>Défi sociétal « Transport » – SC4</b>
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**Appel Mobilité pour la croissance (Mobility for Growth - MG)**

- Aviation - 5 topics parmi lesquels « Reducing energy consumption and environmental impact of aviation » et « Reducing aviation noise » (2016)
- Voies navigables (Waterbone) – 4 topics parmi lesquels « Innovation for energy efficiency and emission control in waterbone transport » (2017) et « New and improved transport concept in waterbone transport » (2016)
- Sécurité (Safety) – 6 topics
- Mobilité urbaine – 5 topics parmi lesquels « Supporting smart electric mobility in cities » et « Increasing the take up and scale up of innovative solutions to achieve sustainable mobility in urban areas » (en 2017), « « Facilitating public procurement of innovative sustainable transport and mobility in urban areas » et « New ways of supporting development and implementation of neighbourhood-level and urban-district-level transport innovations » (en 2016)
- Logistique – 4 topics dont « Promoting the deployment of green transport towards eco-labels for logistics » (2016)
- Systèmes de transport intelligents – 3 topics parmi lesquels « Innovative concepts, systems and services towards mobility as a service » (2016)
- Infrastructure - 3 topics parmi lesquels « Resilience to extreme (natural and man-made) events » et « Port of the future » (2017)
- Recherche socio-économique et comportementale – 6 topics.

**Défi sociétal « Sécurité alimentaire, agriculture et foresterie durables, Eau et Bioéconomie » - SC2**

**Appel « Sécurité alimentaire durable » (Sustainable Food Security - SFS)**

- More resilient and resource efficient value chains - 25 topics parmi lesquels
  - o Teaming for goods : Exploring the benefits of species diversity in cropping systems (2016)
  - o Testing and breeding for sustainability and resilience in crops (2016)
  - o Breeding livestock for resilience and efficiency (2016-2017)
  - o Bee health and sustainable pollination (2017)
  - o Smart fisheries technologies for an efficient, compliant and environmentally friendly fishing sector (2017)
- Environment-smart and climate-smart primary production - 7 topics parmi lesquels
  - o Fonctionnal biodiversity – productivity gains through fonctionnal biodiversity effective interplay of crop pollinators and pest predators (2017)
  - o Socio-economics in ecological approaches (2017)
  - o Closing loops at farm and regional levels to mitigate GHG émissions and environmental contamination – focus on carbon, nitrogen and phosphorus cycling in agro-ecosystems (2017)
  - o Farming for tomorrow : developping and enabling environment for resilient ans sustainable agricultural systems (2016)
  - o Promoting and supporting the eco-intensification of aquaculture production systems : inland (including fresh water), coastal zone and offshore (2017).
- A competitive food industry – 3 topics dont « Innovative solutions for sustainable food packaging » (2017)
- Healthy and safe foods and diets for all – 5 topics
- Support to the implementation of the EU-Africa partnership on food and nutrition security and sustainable agriculture – 3 topics
- Implementation of the EU-China FAB flagship initiative – 5 topics.

**Appel « Croissance bleue » (Blue Growth – BG – Demonstrating an ocean of opportunities)**

- Boosting innovation for emerging Blue Growth activities - 5 topics dont « Large scale algae biomass integrated biorefineries » (2016)
- Linking healthy oceans and seas for healthy people - 3 topics dont « Blue green innovation for clean coasts and seas » (2017)
- The Arctic dimension - 3 topics dont « The effect of climate change on Arctic permafrost and its socio-economic impact with a focus on coastal areas » (2017)
- Valorising the Mediterranean sea bassin – 2 topics

**Appel « Renaissance rurale » (Rural Renaissance - RUR – Fostering innovation ans business opportunities)**

- New approaches towards policies and governance – 5 topics
  - o Consolidated Policy Framework and governance models for synergies in rural-urban linkages (2016)
  - o Coastal-rural interactions : Enhancing synergies between land and sea-based activities (2017)
  - o Towards 2030 – Policies and decision tools for an integrated management of natural resources (2017)
  - o Water farms – improving farming and its impact on the supply of drinking water (2016)
  - o Novel public policies, business models and mechanisms for the sustainable supply of and payment for forest ecosystem services (2017)
- New value chains and business models - 4 topics parmi lesquels « Ressource-efficient and profitable industrial crops on marginal Island » (2016) et « Business models for modern rural économies » (2017)
- Innovation and skill development - 7 topics

**Appel « Bio-based innovation for sustainable goods and services – Supporting the development of a European Bioeconomy » - BB**

- Securing sustainable biomass supply for bio-based goods and services - 4 topics parmi lesquels « Sustainability schemes for bio-based economy » (2016), « Adaptative tree breeding strategies and tools for forest production systems resilient to climate change and natural disturbances » (2017) et « Intelligent solutions and tools in forest production systems, fostering a sustainable supply of quality wood for the growing bioeconomy » (2016)
- Building the « bio-based markets of the future - mobilising stakeholders engagement » - 2 topics

<b>Cross-cutting activities</b>
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**Appel « Industry 2020 in the Circular Economy » dont les volets**

- Pilots (PILOTS) – 5 topics
- Factories of the future (FOF)- 10 topics parmi lesquels
  - o Novel design and predictive maintenance technologies for increased operating life of production systems (2017)
  - o New technologies and life cycle management for reconfigurable and reusable customised products (2017)
- Process industriels durables (SPIRE sustainable process industries) – 12 topics parmi lesquels, en 2016
  - o Systematic approaches for resource-efficient water management systems in process industries
  - o Plant-wide monitoring and control of data-intensive processes
  - o Industrial technologies for the valorisation of European bio-resources into high added value process streams
  - o Potential use of carbon dioxide/carbon monoxide and non-conventionnal fossil natural resources in Europe as feedstock for the process industry
  - o Business models for flexible and delocalised approaches for intensified processing
 Et en 2017
  - o Integrated approach to process optimisation for raw materials resources efficiency, excluding recovery technologies of waste streams
  - o Carbon dioxide utilisation to produce added value chemicals
  - o Pilot line based on more flexible and down-scaled high performance processing
- Economie circulaire (CIRC) – 5 topics
  - o Systemic, eco-innovative approaches for the circular economy : large-scale demonstration projects (2016-2017)
  - o Water in the context of the circular economy (2016-2017)
  - o Smart specialisation for systemic eco-innovation/circular economy business (2016)
  - o New models and economic incentives for circular economy (2016)
  - o Unlocking the potential of urban organic water (2016)

**Appel « Smart and Sustainable Cities » (SCC)**

- Smart Cities and Communities – 1 topic
  - o Smart Cities and Communities lighthouse projects (2016-2017)
- Sustainable cities through nature-based solutions – 3 topics
  - o Demonstrating innovative nature-based solutions in cities (2016-2017)
  - o New gouvernance, business, financing models and economic impact assessment tools for sustainable cities with nature-based solutions (urban re-naturing) (2016)
  - o Sustainable urbanisation (2016)



**LEIT NMBP (Leadership in enabling and industrial Technologies – Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing)**

**Appel Energy Efficient Buildings (EEB) – 8 topics parmi lesquels, en 2016**

- Highly efficient insulation materials with improved properties
- Performance indicators and monitoring techniques for energy-efficiency and environment quality at building and district level
- Integration of Advanced technologies for heating and cooling at building and district level
- New technologies and stratégies for the development of pre-fabricated elements through the reuse and recycling of construction materials and structures

**Et, en 2017**

- Development of near zero energy building renovation
- Highly efficient hybrid storage solutions for power and heat in residential buildings and district areas, balancing the supply and demand conditions
- Integration of energy harvesting at building and district level
- New business models for energy-efficient buildings through adaptable refurbishment solutions

**Voir aussi les appels**

- Advanced materials and nanotechnologies for high added value products and process industries - 7 topics
- Green vehicles - 1 topic
- Advanced materials and nanotechnologies for energy applications - 4 topics dont « High-performance materials for optimizing carbon dioxide capture »
- Eco-design and new sustainable business models - 2 topics dont « Business models and industrial stratégies supporting model supply chains for innovative product-services »
- Biotechnology - 8 topics parmi lesquels « Bioconversion of non-agricultural waste into biomolecules for industrial applications » et « Microbial platform for CO<sub>2</sub>-reuse processes in the low-carbon economy ».

**Défi sociétal « Science et Société » (Science with and for Society - SwafS)**

- Institutional change to support responsible research and innovation in research performing and funding organisations – 8 topics
- Embedding responsible research and innovation in horizon 2020 research & innovation – 2 topics
- Strengthening the Science with and for Society knowledge-base – 4 topics
- Developing inclusive, anticipatory governance for research & innovation - 11 topics dont « Responsible research and innovation support of sustainability and governance taking account of the international context » (2017).

Paris, le 18 septembre 2015.