HORIZON 2020 - Societal Challenges

A lista de sub-desafios pode não reflectir ainda os documentos mais recentes, não públicos, da Comissão
Os desafios assinalados a amarelo devem todavia estar próximos da forma definitiva

1. HEALTH, DEMOGRAPHIC CHANGE AND WELLBEING

1.1. Understanding health, wellbeing and disease
> 1.1.1. Understanding the determinants of health, improving health promotion and disease prevention
> 1.1.2. Understanding disease
> 1.1.3. Improving surveillance and preparedness

1.2. Preventing disease
> 1.2.1. Developing effective prevention and screening programmes and improving the assessment of disease susceptibility
> 1.2.2. Improving diagnosis and prognosis
> 1.2.3. Developing better preventive and therapeutic vaccines

1.3. Treating and managing disease
> 1.3.1. Treating disease, including developing regenerative medicine
> 1.3.2. Transferring knowledge to clinical practice and scalable innovation actions

1.4. Active ageing and self-management of health
> 1.4.1. Active ageing, independent and assisted living
> 1.4.2. Individual awareness and empowerment for self-management of health

1.5. Methods and data
> 1.5.1. Improving health information and better use of health data
> 1.5.2. Improving scientific tools and methods to support policy making and regulatory needs
> 1.5.3. Using in-silico medicine for improving disease management and prediction

1.6. Health care provision and integrated care
> 1.6.1. Promoting integrated care
> 1.6.2. Optimising the efficiency and effectiveness of healthcare provision and reducing inequalities by evidence based decision making and dissemination of best practice, and innovative technologies and approaches

1.7. Specific implementation aspects

2. EUROPEAN BIOECONOMY CHALLENGES: FOOD SECURITY, SUSTAINABLE AGRICULTURE AND FORESTRY, MARINE, MARITIME AND INLAND WATER RESEARCH

2.1. Sustainable agriculture and forestry
> 2.1.1. Increasing production efficiency and coping with climate change, while ensuring sustainability and resilience
> 2.1.2. Providing ecosystem services and public goods
> 2.1.3. Empowerment of rural areas, support to policies and rural innovation
> 2.1.4. Sustainable forestry

2.2. Sustainable and competitive agri-food sector for a safe and healthy diet
> 2.2.1. Informed consumer choices
> 2.2.2. Healthy and safe foods and diets for all
> 2.2.3. A sustainable and competitive agri-food industry

2.3. Unlocking the potential of aquatic living resources
> 2.3.1. Developing sustainable and environmentally-friendly fisheries
> 2.3.2. Developing competitive and environmentally-friendly European aquaculture
> 2.3.3. Boosting marine innovation through biotechnology

2.4. Sustainable and competitive bio-based industries and supporting the development of a European bio-economy
> 2.4.1. Fostering the bio-economy for bio-based industries
> 2.4.2. Developing integrated biorefineries
> 2.4.3. Supporting market development for bio-based products and processes

3. SECURE, CLEAN AND EFFICIENT ENERGY

3.1. Reducing energy consumption and carbon footprint through smart and sustainable usage
> 3.1.1. Bring to mass market technologies and services for a smart and efficient energy use
> 3.1.2. Unlock the potential of efficient and renewable heating-cooling systems
> 3.1.3. Foster European Smart cities and Communities

3.2. Low-cost, low-carbon electricity supply
> 3.2.1. Develop the full potential of wind energy
> 3.2.2. Develop efficient, reliable and cost-competitive solar energy systems
> 3.2.3. Develop competitive and environmentally safe technologies for CO_2 capture, transport and storage
> 3.2.4. Develop geothermal, hydro, marine and other renewable energy options

3.3. Alternative fuels and mobile energy sources
> 3.3.1. Make bio-energy competitive and sustainable
> 3.3.2. Reducing time to market for hydrogen and fuel cells technologies
> 3.3.3. New alternative fuels

3.4. A single, smart European electricity grid

3.5. New knowledge and technologies

3.6. Robust decision making and public engagement

3.7. Market uptake of energy innovation, empowering markets and consumers

3.8. Specific implementation aspects

4. SMART, GREEN AND INTEGRATED TRANSPORT

4.1. Resource efficient transport that respects the environment

    4.1.1. Making aircraft, vehicles and vessels cleaner and quieter will improve environmental performance and reduce perceived noise and vibration

    4.1.2. Developing smart equipment, infrastructures and services

    4.1.3. Improving transport and mobility in urban areas

4.2. Better mobility, less congestion, more safety and security

    4.2.1. A substantial reduction of traffic congestion

    4.2.2. Substantial improvements in the mobility of people and freight

    4.2.3. Developing and applying new concepts of freight transport and logistics

    4.2.4. Reducing accident rates and fatal casualties and improving security

4.3. Global leadership for the European transport industry

    4.3.1. Developing the next generation of transport means as the way to secure market share in the future

    4.3.2. On board, smart control systems

    4.3.3. Advanced production processes

    4.3.4. Exploring entirely new transport concepts

4.4. Socio-economic research and forward looking activities for policy making

4.5. Specific implementation aspects

5. CLIMATE ACTION, RESOURCE EFFICIENCY AND RAW MATERIALS

5.1. Fighting and adapting to climate change

    5.1.1. Improve the understanding of climate change and the provision of reliable climate projections

    5.1.2. Assess impacts, vulnerabilities and develop innovative cost-effective adaptation and risk prevention measures:

    5.1.3. Support mitigation policies

5.2. Sustainably managing natural resources and ecosystems

    5.2.1. Further our understanding of the functioning of ecosystems, their interactions with social systems and their role in sustaining the economy and human well-being.

    5.2.2. Provide knowledge and tools for effective decision making and public engagement

5.3. Ensuring the sustainable supply of non-energy and non-agricultural raw materials

    5.3.1. Improve the knowledge base on the availability of raw materials

    5.3.2. Promote the sustainable supply and use of raw materials, covering exploration, extraction, processing, recycling and recovery

    5.3.3. Find alternatives for critical raw materials

    5.3.4. Improve societal awareness and skills on raw materials

5.4. Enabling the transition towards a green economy through eco-innovation

    5.4.1. Strengthen eco-innovative technologies, processes, services and products and boost their market uptake.

    5.4.2. Support innovative policies and societal changes

    5.4.3. Measure and assess progress towards a green economy

    5.4.4. Foster resource efficiency through digital systems

5.5. Developing comprehensive and sustained global environmental observation and information systems

5.6. Specific implementation aspects

6. EUROPE IN A CHANGING WORLD – INCLUSIVE, INNOVATIVE AND SECURE REFLECTIVE SOCIETIES

6.1. Inclusive societies

    6.1.1. Mechanisms to promote smart, sustainable and inclusive growth;

    6.1.2. Trusted organisations, practices, services and policies that are necessary to build resilient and, inclusive, participatory, open and creative societies in Europe;, in particular taking into account migration, integration and demographic change;

    6.1.3. Europe's role as a global actor notably regarding human rights and global justice;

    6.1.4. Processes and practices to close the research and innovation divide in Europe.;

    6.1.5. Promotion of sustainable and inclusive environments through innovative spatial and urban planning and design.

6.2. Innovative societies

    6.2.1. Strengthening the evidence base and support for the Innovation Union and European Research Area

    6.2.2. Explore new forms of innovation, with special emphasis on social innovation and creativity; and understand how all forms of innovation are developed, succeed or fail

    6.2.3. Make use of the innovative, creative and productive potential of all generations

    6.2.4. Ensure societal engagement in research and innovation;

    6.2.5. Promote coherent and effective cooperation with third countries

6.3. Reflective societies – cultural heritage and European Identity

    6.3.1. Study European heritage, memory, identity, integration and cultural interaction and translation, including its representations in cultural and scientific collections, archives and museums, to better inform and understand the present by richer interpretations of the past

    6.3.2. Research into European countries' and regions' history, literature, art, philosophy and religions and how these have informed contemporary European diversity

    6.3.3. Research on Europe's role in the world, on the mutual influence and ties between the world regions, and a view from outside on European cultures.

7. SECURE SOCIETIES – PROTECTING FREEDOM AND SECURITY OF EUROPE AND ITS CITIZENS

    7.1. Fight crime, illegal trafficking and terrorism, including understanding and tackling terrorist ideas and beliefs;

    7.2. Protect and improve the resilience of critical infrastructures, supply chains and transport modes;

    7.3. Strengthen security through border management;

    7.4. Improve cyber security;

    7.5. Increase Europe's resilience to crises and disasters;

    7.6. Ensure privacy and freedom, including in the Internet and enhance the societal legal and ethical understanding of all areas of security, risk and management;

    7.7. Enhance standardisation and interoperability of systems, including for emergency purposes.