SwissCore
Contact Office for European Research
Innovation and Education

Implementing the Agenda 2030

How can Research and Innovation contribute?

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Executive Summary

This report analyses the contribution of research and innovation (R&I) policy in the European Union (EU) and Switzerland to achieving the United Nation's (UN) Sustainable Development Goals. First, it gives an overview of the EUs general approach on SDG policy and then focuses on the R&I contribution to SDGs. The EU addresses SDGs through its next generation framework programme for R&I, Horizon Europe, with two main specific instruments: the thematic clusters and the R&I Missions. The analysis shows that the clusters (in top-down steering collaborative research towards certain areas) focus strongly on SDGs related to industry and the economic dimension of sustainable development. The R&I Missions seem to be a useful instrument to address most pressing SDGs, such as SDG 10 'Reduced Inequalities', SDG 13 'Climate Change' and SDG 14 'Land under Water', by facilitating collaboration between different sectors and actors. The report then compares the EU approach to the Swiss approach on sustainable development policy; especially concerning R&I. The Swiss Federal Sustainable Development Strategy (2016-2019) mostly mentions R&I contribution towards SDGs in third countries in the context of development cooperation. However, Switzerland supports research in SDG related topics through government research and other national funding schemes, e.g. National Research Programmes (NRP) and in addition, Swiss research institutions come up with their own strategies for addressing SDGs. The report ends in specific policy recommendations for R&I stakeholders, which include sharing of best practices between the EU and Switzerland in regards to their different SDG strategies, more trans-disciplinary research projects, open faculty projects and the importance of including more diverse stakeholders in research.

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1 Introduction

The 193 countries of the United Nations General Assembly have unanimously adopted the Agenda 2030 in September 2015. At the core of the agenda lie **17 Sustainable Development Goals** (SDGs) together with 169 sub-targets. The 17 SDGs have a broad range and concern the three dimensions of sustainable development i.e. environment, economy and society. These goals serve as a roadmap for the direction into which policy action within the years until 2030 has to go, in order to make our society more sustainable and address pressing global challenges. In November 2016, the 197 members of the United Nations Framework Convention on Climate Change (UNFCCC) signed **the Paris Agreement on Climate Change** (Paris Agreement). This agreement wants to limit the global rise of temperature to less than 2°C and pursue efforts to limit it to 1.5°C. Together with the Paris Agreement and the **Addis Ababa Action Agenda** (AAAA) of July 2015, which concerns financing development, the SDGs are a reflection of a global political consensus on taking action in order to provide a healthy planet for future generations. Table 1 of this report (see Chapter 2.2.1) displays the 17 SDGs.

The 17 SDGs, together with the 169 more concrete sub-targets, provide a framework for mapping the pressing global challenges. They demand holistic implementation strategies of national governments and supranational bodies, e.g. the European Union (EU). The challenge for policy makers is to find a good balance between branding their work with single SDGs to raise awareness, and at the same time addressing the three dimensions of sustainable development (environmental, societal and economic) in a coherent manner. It is not simple to address the SDGs, without 'SDG-washing' already existing policies and programmes. This means ex-post labelling and linking programmes and initiatives with SDGs. Since the SDGs are so broad in nature and address many sectors, (ex-post) branding single initiatives with one or more SDGs is easy, but not in the spirit of the original framework. The SDGs are only of transformative value, when addressed in their unity. The need for cross-sector collaboration and cross-actor partnerships lies in the nature of the goals.

This report is dedicated to outlining how research and innovation (R&I) policy can contribute to achieving the SDGs. The second chapter focuses on the EU and first outlines the general EU SDG policy approach before turning to R&I. Then, it analyses how SDGs are covered within the next generation EU framework programme for R&I, Horizon Europe, and how the Directorate-General for Research and Innovation (DG RTD) was re-organised according to SDGs. Lastly, the second chapter displays the reactions of European R&I stakeholders as well as their own actions towards achieving SDGs. The third chapter focuses on the Swiss approach. It outlines Switzerland's general SDG policy and then more specifically the contribution of education, research and innovation (ERI) towards SDGs. The fourth chapter concludes the findings of the previous chapters and gives specific recommendations for R&I stakeholders. This report is based on a thorough document analysis as well as on interviews conducted with relevant stakeholders (see Annex 1 for an exhaustive list).

2 A European Perspective

2.1 General Policy Overview (EU)

2.1.1 European Commission (EC) Action

Within the EU, the **European Commission** (EC) is responsible for developing a policy framework to address the implementation of the Agenda 2030 and the SDGs. The actions taken so far by the EC include a Communication, published in November 2016 (as a general EU reaction the UN adoption of the Agenda 2030), and a Reflection Paper, the EC's actual SDG implementation strategy, published in January 2019. The EC has set up a high-level multi-stakeholder platform, launched in May 2017, where representatives of the civil society, non-governmental organisations (NGO) and the private and corporate sector were consulted and thereby supported the EC in elaborating its SDG implementation strategy (i.e. the reflection paper). The EC's First Vice-President, Frans **Timmermans**, chaired the platform. Eurostat has published two reports on monitoring progress of the EU on the SDGs, the latest one has been published in September 2018.

The Communication of 2016 elaborates how already existing EU programmes incorporate the Agenda 2030 and how deeply intertwined the ten priorities of the Juncker-Commission are with all of the 17 SDGs (although 'Sustainable Development' is not explicitly mentioned in the ten points). It focuses on the external dimension of sustainable development, i.e. external policy action and development aid towards less developed countries, ensuring sustainable development in third countries. As a second work stream, the Reflection Paper, published in January 2019, focuses on the intra EU policy dimension. The EC presents four key areas of planned policy action, building on already existing/newly reformed EU programmes: 1) moving from a linear to a circular economy, 2) from farm to fork: reforming the food system, 3) future-proof energy, buildings and mobility and 4) a fair social transition. **The Reflection Paper mentions education, research and innovation as key enablers, which have to become stronger in the future, since they underlie almost all SDGs.** The paper ends with three potential scenarios of a European approach towards sustainable development. The first one describes an overarching SDG implementation strategy for the EU and its Member States (MS), positioning the EU as a global leader towards a more sustainable future. The second scenario suggests continued integration of SDGs in EU policies but without imposing MS' action, while the third scenario focuses on external European policy actions solely. The EC clearly favours the first scenario, but still thinks that providing alternative scenarios for the future is important to stimulate a debate.

2.1.2 Institutional Reactions

Reactions to the Reflection Paper, coming from different actors, were mostly the same: the general effort of the EC is appreciated but the timing is subject to criticism, since more than three years lie between the adoption of the Agenda 2030 and the publication of the paper. The reactions of the European Union Institutions are captured in Chapter 2.1.2, whereas reactions from R&I stakeholders are described in Chapter 2.3.

2.1.2.1 Council of the European Union (Council)

The Council has published several own Conclusions on the Agenda 2030, the latest one on 9 April 2019 as a response to the EC's Reflection Paper. The Council appreciates the EC's ambition of being a global frontrunner in sustainable development, but re-iterates its demand on coming up with a concrete implementation strategy, since they do not regard the recent Reflection Paper as concrete enough to serve as such a strategy. These demands were already uttered in the prior Council Conclusions on Sustainable Development in October 2018 and June 2017. The demands require the EC to establish timelines, objectives and concrete measures for an implementation plan of the Agenda

2030 and mainstream the SDGs in all relevant EU internal and external policies. Therefore, the Council clearly favours the first of the proposed scenarios by the EC in the Reflection Paper and wants SDGs to be tackled on a European level. The Council appreciates the EU's participation at the High-Level Political Forum (HLPF) organised by the UN in July 2019 and looks forward to the MS' voluntary national monitoring reports. The Council clearly favours the first of the three scenarios that were outlined in the EC's Reflection Paper.

During the inter-institutional negotiations (i.e. the negotiations between the EC, EP and the Council) on the ninth generation R&I framework programme, Horizon Europe, the Council managed to push through the demand that the **SDGs will serve as an impact indicator for the mid-term evaluation of the entire Horizon Europe programme.**

At the time the Reflection Paper was published, Romania held the Presidency of the Council of the European Union (Presidency). The Romanian Presidency had sustainability and environmental protection at its heart, since Romania is as a country rich in nature and biodiversity. Through the black sea initiative, Romania has contributed directly to an SDG related topic. With Danubius, the Romanian Presidency has taken the lead in a pan-European R&I infrastructure project. The goal of Danubius is to preserve river- and sea systems, using a trans-disciplinary approach and including researchers from 16 countries, including international partners from e.g. Vietnam. Danubius received funding under the current framework programme, Horizon 2020, and will be continued in the next generation framework programme, Horizon Europe.

2.1.2.2 The European Parliament (EP)

On 7 February 2019, a public hearing of the Committee on Development (DEVE) and the Committee on Environment, Public Health and Food Safety (ENVI), EP, took place to discuss a study[1], which was requested by the EP, on the integration of SDGs into national and European strategies. The study 'Europe's approach to implementing the Sustainable Development Goals: good practices and the way forward' highlights the importance of national parliaments and the EP for SDG implementation, since they have the power to **include SDGs in the budget**. Further, the EP released a strategic report on the implementation and delivery of the SDGs in March 2019. The EP welcomes the EC's approach but regrets that it has not outlined a concrete implementation strategy. It calls upon not only the MS, but also the EEA countries, **EU associated countries** and EU candidate countries to develop a **pan-European SDG implementation framework**. Lastly, the EP stresses the importance of the HLPF organised by the UN in September 2019, where members will present an in-depth review on SDGs 4 (Quality Education), 8 (Decent Work and Economic Growth), 10 (Reduced Inequalities), 13 (Climate Action), 16 (Peace, Justice and Strong Institutions) and 17 (Partnerships for the Goals).

2.1.2.3 The European Economic and Social Committee (EESC) and the Committee of the Regions (CoR)

Both institutions were already consulted by the EC throughout the process of drafting the Reflection Paper in the multi-stakeholder platform; nevertheless, they both published their own position papers after the publication of the EC Reflection Paper. The **EECS** published a paper "Listening to the citizens of Europe for a Sustainable Future" after adopting said paper on 13 March 2019. It sees the European Single Market as a core tool for European integration and as a driver for producing sustainable growth and innovation. The EESC highlights the **social dimension of**

[1] The authors of the study are: Authors: Ingeborg Niestroy, Managing Director, Public Strategy for Sustainable Development (ps4sd); Elisabeth Hege, Research Fellow, Institute for Sustainable Development and International Relations (IDDRI); Elizabeth Dirth, Social Scientist, Earth System Governance Project; Ruben Zondervan, Executive Director, Earth System Governance Project; Katja Derr, graphic design. The study was later published on the EP 'think tank'.

sustainable development, which has to be combined with new models of economic growth and sustainable investment. The **CoR** agrees with the first scenario proposed by the EC of having an overarching EU policy strategy for SDG implementation, but stresses the importance of a stronger inclusion of **sub-national** levels, as they take the discrepancies with European regions into account.

2.1.2.4 The European Court of Auditors (ECA)

On 12 June 2019, the **ECA** has published a press release, where it warns that the EU's reporting on SDGs is still lacking and that the EC does not monitor how the EU budget and EU policies contribute to achieving the SDGs. The ECA further states that this lack of reporting of the EC is due to the lack of a long-term implementation strategy on sustainable development (the ECA does not regard the Reflection Paper as an implementation strategy). Concerning the monitoring, several Eurostat reports have been published (the latest one in September 2018), which mostly rely on data provided by the MS. The ECA states that '(the Reflection Paper) does not include a gap analysis of what more the EU needs to do in terms of budget, policy and legislation; nor does it present the contribution of EU spending programmes towards implementing the SDGs.'

2.1.3 Other Reactions to the EC's SDG approach

CSR Europe, a European business network for corporate sustainability and responsibility, together with **GlobeScan**, a public opinion consultancy specialised in sustainable development, published a white paper on businesses and the SDGs. The paper concludes that SDG awareness in the EU and the MS is high and all EU MS are amongst the top 50 countries worldwide in the UN SDG index. On the other hand, however, the paper includes the results of a study, conducted by GlobeScan and SustainAbility (another think tank concerned with businesses and sustainable practices), which finds that there are many areas/SDGs, where the Union does not yet engage enough. The study uses **expert surveys**[2] to assess whether single SDGs receive too much/not enough attention, in relation to the urgency of the matter. The most neglected SDGs are SDG 14 (Life under Water), 10 (Inequality) and 15 (Life on Land). The assessment of the white paper and the mapping of urgency of action will serve as a framework for evaluation in Chapter 2.2, which addresses the SDG coverage under Horizon Europe.

Those findings (i.e. the lack of action taken on SDG 14/15 'Life under Water/Life on Land') correspond with the newly published report of **the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services** (IPBES), a UN organisation, identifying a huge threat to **global biodiversity,** caused by humans, happening at an accelerated rate. Similar to other policy papers published recently on sustainability in Europe ('Promoting sustainable and inclusive growth and convergence in the EU', policy contribution from Bruegel think-tank, 'Global trends to 2013', a policy paper by the European Strategy and Policy Analysis System (ESPAS), 'Europe's Sustainability Puzzle', a policy paper by the European Political Strategy Centre (EPSC)), the IPBES report concludes that our society needs a **new economic model with a shifting focus from economic growth towards economic sustainability**.

The Green Growth Knowledge Platform (GGKP) of UN Environment welcomes the high engagement of the DG International Cooperation and Development (DECVO) and DG Environment (ENVI) regarding the SDGs. The EC has managed to come up with the Reflection Paper, which included the input of civil society stakeholders. The SDGs have not yet fully been integrated into the work programmes of the EU, mostly because a **general assessment of the SDG framework is still lacking**. Further, non-academic stakeholders (e.g. leading global institutions, SDG experts

[2] Study conducted by Globescan and SustainAbility (2019): A global panel of sustainability experts based in business, NGOs, academia and government were asked to assess progress on all SDGs in Europe and further assess which SDGs receive most attention, compared to how urgent they are (within their own organisation).

and policy makers) should be included in the process of defining research targets i.e. the calls under the Horizon Europe programme. This approach is partly taken up by the EC within the strategic planning process of the programme, however, the outreach seems to be somewhat flawed, since it is not clear which stakeholders will be included.

2.2 Research and Innovation Framework Programmes of the European Union (EU)

The EC highlights R&I as important factors underlying and contributing towards almost all SDGs. Therefore, R&I have to be strengthened. The EC has reflected on how to address the SDGs in their proposal for the ninth generation R&I framework programme, Horizon Europe, starting in 2021. The EC has published its proposals for the Horizon Europe package on 7 June 2018. The proposal of the Horizon Europe package contains the following two legal documents:

- The Proposal for a Regulation of the European Parliament and of the Council establishing Horizon Europe, laying down its rules for participation and dissemination
- The Proposal for a Decision of the European Parliament and of the Council for a Specific Programme for implementing Horizon Europe

After the proposal of the EC, the EP and the Council have negotiated in inter-institutional negotiations (trilogue) and have reached a partial agreement on the legal documents (common understanding) after six trilogue sessions. The responsible Directorate General of the EC on the Horizon Europe file is **DG Research and Innovation (DG RTD)**. This chapter will analyse the SDG coverage within Horizon Europe and look at the re-organisation of DG RTD and its effects on SDGs.

2.2.1 SDG coverage in Horizon Europe

At the SDG Summit on 7 May 2019 in Brussels, organised by CSR Europe, a European business network for corporate sustainability and responsibility, Jean-Eric **Paquet,** Director General, DG RTD, EC, highlighted that Carlos **Moedas**, Commissioner for research, science and innovation, has made the **SDGs the overarching policy roadmap for the new R&I framework programme, Horizon Europe**. Paquet further mentioned the SDG stakeholder platform organised by the EC, which has shown the importance of including industry and civil society. With Horizon Europe, DG RTD wants to join up different sectors and departments within the EC, to ensure integrated solutions for the transition towards a sustainable future. For the first time, all R&I actions in the EC will be united under one overall budget, i.e. under Horizon Europe and not split into individual allocations between different DGs. In consequence, the DGs will have to coordinate their R&I efforts together, which is in line with the EC's approach to co-creation. Co-creation refers to the EC's approach of including stakeholders in the process of elaborating a strategic plan for R&I, which will lay the basis for the implementation of the Horizon Europe programme and the drafting of specific work programmes.

Like its predecessor programme, Horizon 2020, Horizon Europe is structured in three pillars, where **pillar II** (similar to pillar III under Horizon 2020) addresses **global challenges and industrial competitiveness**. Pillar II is designed to help deliver on the SDGs using a top-down approach to define areas, where research projects can have a positive impact on society (as opposed to 'curiosity-driven science' under pillar I 'open science'). Pillar II will be equipped with the largest budget of all pillars in Horizon Europe, in the EC proposal €52.7 billion, out of a total of €100 billion, are designated to pillar II. Further, at least 35% of the whole budget for the Horizon Europe programme shall be dedicated to tackling climate change, i.e. SDG 13 'Climate Change'.
Under pillar II, the main instrument to address the SDGs with R&I are the **six thematic clusters** (see Chapter 2.2.1.2). Those six clusters and their intervention areas specify fields, towards which the EC wants to steer

collaborative research efforts in order to contribute towards solving global challenges, including the SDGs. A second instrument are the **R&I Missions** (see Chapter 2.2.1.3), which shall create more visibility and impact, by connecting citizens to R&I. Missions are goal-oriented, large-scale research efforts that address global and societal challenges, and bring scientific results closer to the public to show the positive impact that R&I funding has. Table 1 gives an overview of the 17 SDGs and the columns four and eight reflect the coverage of the respective SDGs within the thematic clusters and R&I Missions. The coverage of the SDGs in the thematic clusters are listed in the Annex of the Decision Implementing Horizon Europe. The coverage of the SDGs under the R&I Missions are based on an assessment of SwissCore, which will be further specified in Chapter 2.2.1.3 on R&I Missions.

Table 1: SDG Framework (Source: UN website on SDGs & the Decision Implementing Horizon Europe)

SDG No°	Name	Icon	Mentioned in HE Clusters / Missions	SDG No°	Name	Icon	Mentioned in HE Clusters / Missions
1	No Poverty		1 / 0	10	Reduced Inequality		1 / 1
2	Zero Hunger		1 / 1	11	Sustainable Cities and Communities		3 / 0
3	Good Health and Well-Being		3 / 1	12	Responsible Consumption and Production		3 / 1
4	Quality Education		1 / 0	13	Climate Action		4 / 3
5	Gender Equality		1 / 1	14	Life below Water		1 / 1
6	Clean Water and Sanitation		2 / 1	15	Life on Land		1 / 0
7	Affordable and Clean Energy		1 / 0	16	Peace, Justice and strong Institutions		1 / 1
8	Decent Work and Economic Growth		3 / 0	17	Partnerships for the Goals		- / -
9	Industry, Innovation and Infrastructure		4 / 0				

Within the **thematic clusters**, every SDG is mentioned at least once, except for SDG 17 (Partnerships for the Goals), which is implicitly given, since pillar II addresses collaborative research. SDG 9 (Industry, Innovation and Infrastructure) and SDG 13 (Climate Action) are mentioned four times, and SDG 3 (Good Health and Well-Being), 6 (Decent Work and Economic Growth), 11 (Sustainable Cities and Communities) and 12 (Responsible Consumption and Production) are mentioned three times (see Table 5 in Annex 1). The SDGs that are addressed in **R&I Missions** (according to the SwissCore minimal assessment described in Chapter 2.2.1.2) are SDG 2 (Zero Hunger), 3 (Good Health and Well-Being), 5 (Gender Equality), 6 (Clean Water and Sanitation), 10 (Reduced Inequalities), 11 (Sustainable Cities and Communities), 12 (Responsible Consumption and Production), 13 (Climate Action), 14 (Life below Water) and 16 (Peace, Justice and Strong Institutions)(see Table 6 in Annex 1). SDG 13 (Climate Action) is covered within three mission areas, the others each in one area. The legal text of Horizon Europe specifies that at least 35% of the overall budget of Horizon Europe must be spent on research concerning climate actions, which is why this SDG is most prominently represented within both the clusters and the mission areas.

2.2.1.1 Clusters

The clusters are the main element in pillar II and they define and bundle prioritized research areas in a top-down manner in order to achieve maximal impact and contribute to solving global challenges. At least 50% of the pillar II budget has to be spent on collaborative research within these clusters. There are six clusters, each having designated areas of interventions. In the adopted text of the Decision Implementing Horizon Europe, there is a display of the SDGs that are addressed by the different clusters (see Table 2 below).

Table 2: The thematic Clusters (Source: Annex of the Decision Implementing Horizon Europe)

Clusters	Areas of Intervention	SDGs
Health	Health throughout the life course; Environmental and social health determinants; Non-communicable and rare diseases; Infectious diseases, including poverty-related and neglected diseases; Tools, technologies and digital solutions for health and care, including personalised medicine; Health care systems	**3** (Good Health and Well-Being), **13** (Climate Action) 
Culture, Creativity and Inclusive Society	Democracy and governance; Culture, cultural heritage and creativity; Social and economic transformations	**1** (No Poverty), **3** (Good Health and Well-Being), **4** (Quality Education), **5** (Gender Equality), **8** (Decent Work and Economic Growth), **9** (Industry, Innovation and Infrastructure), **10** (Reduced Inequality), **11** (Sustainable Cities and Communities), **16** (Peace, Justice and strong Institutions) 
Civil Security for Society	Disaster-resilient societies; Protection and security; Cybersecurity	**16** (Peace, Justice and strong Institutions) 

Digital, Industry and Space	Manufacturing technologies; Key digital technologies, including quantum technologies; Emerging enabling technologies; Advanced materials; Artificial intelligence and robotics; Next generation internet; Advanced computing and Big Data; Circular industries; Low carbon and clean industries; Space, including earth observation	**8** (Decent Work and Economic Growth), **9** (Industry, Innovation and Infrastructure), **12** (Responsible Consumption and Production), **13** (Climate Action), 
Climate, Energy and Mobility	Climate science and solutions; Energy supply; Energy systems and grids; Buildings and industrial facilities in energy transition; Communities and cities; Industrial competitiveness in transport; clean, safe and accessible transport and mobility; Smart mobility; Energy storage	**6** (Clean Water and Sanitation), **7** (Affordable and Clean Energy), **9** (Industry, Innovation and Infrastructure), **11** (Sustainable Cities and Communities), **12** (Responsible Consumption and Production), **13** (Climate Action) 
Food, Bioeconomy, Natural Resources, Agriculture and Environment	Environmental observation; Biodiversity and natural resources; Agriculture, forestry and rural areas; Seas, oceans and inland waters; Food systems; Bio-based innovation systems in the EU bioeconomy; Circular systems	**2** (Zero Hunger), **3** (Good Health and Well-Being), **6** (Clean Water and Sanitation), **8** (Decent Work and Economic Growth), **9** (Industry, Innovation and Infrastructure), **11** (Sustainable Cities and Communities), **12** (Responsible Consumption and Production), **13** (Climate Action), **14** (Life below Water), **15** (Life on Land) 

2.2.1.2 Missions

R&I Missions are a novelty under Horizon Europe. They are defined as 'high-ambition, high-profile initiatives with the aim to deliver a transformative impact for society, the economy, and/or environment, in relation to the challenges faced by European citizens.' Missions should have a **pan-European added value** and **impact,** should use '**SDGs as sources for their design and implementation** and have a clear research and innovation content'. Article 7 of the Regulation establishing Horizon Europe states that Missions are **integrated within pillar II,** but 'may also benefit from actions carried out within other parts of the programme**, as well as complementary actions carried out under other Union funding programmes**'. Their budget **cannot exceed 10% of the total budget of pillar II** and their 'objectives, budget, targets, scope, indicators and milestones' will be specified within the work programmes. The aim of the Missions is to connect citizens to the results of R&I and to make the impacts of R&I projects more visible to the public. A policy paper by Marianna **Mazzucato,** Professor for the Economics of Innovation and Public Value, University College London (UCL), in collaboration with Carlos **Moedas,** Commissioner DG RTD, EC, published in February 2018, first introduced the Mission-based approach (a second report on the governing of Missions has been published on 4 July). By defining a concrete goal (e.g. landing on the moon), it becomes easier for different sectors to allocate resources towards the achievement of this goal. **As the SDG framework requires the collaboration of different fields and sectors, a mission-based approach could be a useful instrument in finding solutions towards achieving SDGs.** Based on the mission areas that have been decided after the trilogue

negotiations, a preliminary assessment of the SDGs that are addressed by the Mission areas can be made. This minimal assessment[3] is displayed in Table 3.

Table 3: Mission Areas:

Mission Area N°	Mission Area	SDG
1	**Adaptation to Climate Change, including Societal Transformation**	**5** (Gender Equality), **10** (Reduced Inequalities), **13** (Climate Change), **16** (Peace, Justice and strong Institutions) 
2	**Cancer**	**3** (Good Health and Well-Being) 
3	**Healthy Oceans, Seas, Coastal and Inland Water**	**6** (Clean Water and Sanitation)**, 13** (Climate Change) **14** (Life below Water) 
4	**Climate-Neutral and Smart Cities**	**11** (Sustainable Cities and Communities), **13** (Climate Action) 
5	**Soil Health and Food**	**2** (Zero Hunger), **12** (Responsible Consumption and Production), **13** (Climate Action), 

Defining the five mission areas was a highly political process, since MS were involved and Missions can provide additional funding to MS action. In a next step, mission boards will be appointed that will propose the concrete Missions. The EC has launched a call for mission boards in May 2019 to recruit 15 high level experts from academia, industry, policy making, formal public figures and stakeholder organisations for each of the five areas (the chairs of the mission boards have been announced on 4 July 2019, see SwissCore Article). The concrete Missions suggested by the boards will have to be approved by the EC and the shadow strategic committee (i.e. the MS). In elaborating the concrete Missions, the boards have to engage with the public, since Missions ultimately serve the purpose of making the results of science visible to citizens and connect them to science.

Since the process of establishing concrete Missions is not yet finalised, it is also **not yet clear how the SDGs will be covered within the Missions**. The legislative text of the Regulation establishing Horizon Europe says that Mission shall '**use SDGs as sources for their design and implementation** and have a clear research and innovation content'. In the call for Mission boards, however, the SDGs were not mentioned. Therefore, only once the mission boards have proposed the concrete Missions and the EC and MS have agreed to them, a clear analysis of SDG

[3] Minimal assessment of SDGs in mission areas: based on the titles of the mission areas, the minimal number of SDGs that have to be addressed within these areas were selected, e.g. every Mission selected under the mission area on cancer must address (at least) SDG 3 (Good Health and Well-Being).

coverage can be made. **The EC can steer the SDG coverage under Missions in appointing suitable individuals to the Mission boards and in approving the concrete Missions**.

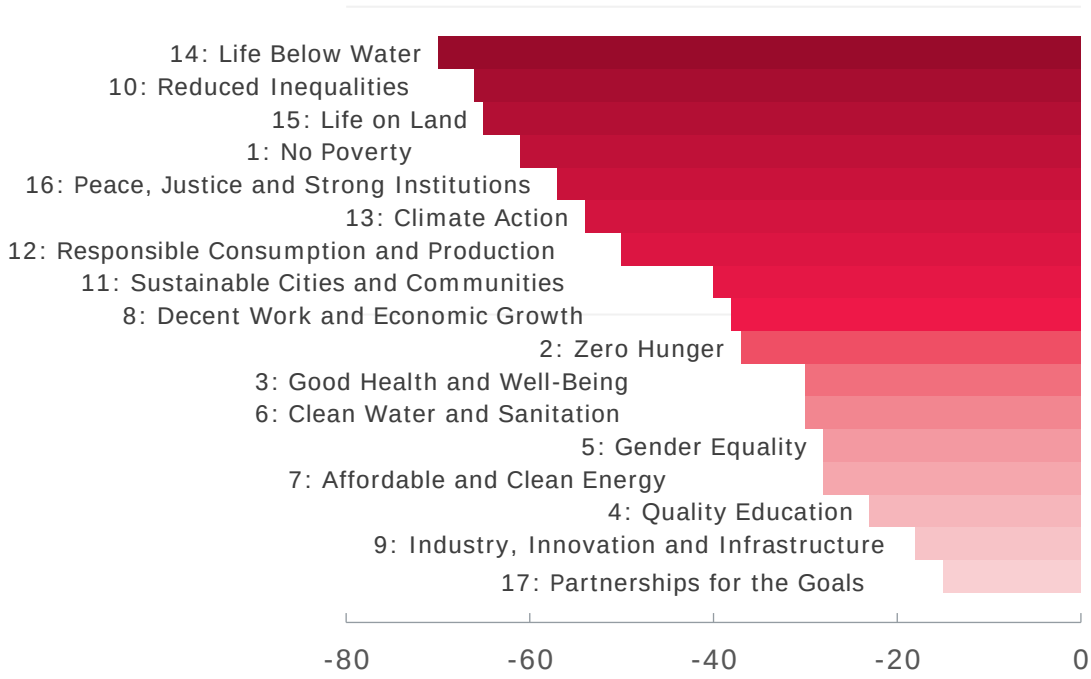
The European University Association (EUA) sees the selection process for the mission boards as a risk as well as an opportunity, since it can have a high influence on actual SDG coverage. The EUA sees the highest risk in MS taking advantage of Missions as an additional funding instrument towards areas, where they already have a strong national research focus. The Guild of European Research-Intensive Universities (the Guild) sees a risk in using Missions only to demonstrate the impact of R&I to the public, while not focusing on actually financing research. The Missions will go beyond R&I action towards facilitating collaboration between within the EC and among MS. This approach is in line with the EU's 2050 long-term strategy 'A Clean Planet for All', which states: 'the strategy shows how the Europe can lead the way to climate neutrality by investing into realistic technological solutions, empowering citizens, and **aligning action in key areas such as industrial policy, finance, or research** – while ensuring social fairness for a just transition'. Applying this 'aligning policy approach' to the Horizon Europe programme could be an advantage to solving global challenges, **but at the same time could be a risk of exploiting research policy as a funding instrument for collaboration between different sectors without clear R&I content.** This was a critique voiced by the Guild.

2.2.1.3 Analysis and Critique

The white paper (mentioned in Chapter 2.1.3) published by CSR Europe builds on a study[4] from GlobeScan and SustainAbility, where experts from different sectors in Europe had to assess progress on the SDGs in their respective institutions. Graph 1 shows the progress on each single SDG in Europe. The lower the score, the farther away society is from achieving one SDG. **SDG 14 (Life below Water), SDG 10 (Reduced Inequalities) and SDG 15 (Life on Land) received the most negative progress scores**. This corresponds with the report of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), published on 6 May, indicating an 'unprecedented' loss of biodiversity and 'accelerating species extinction rates' on a global scale.

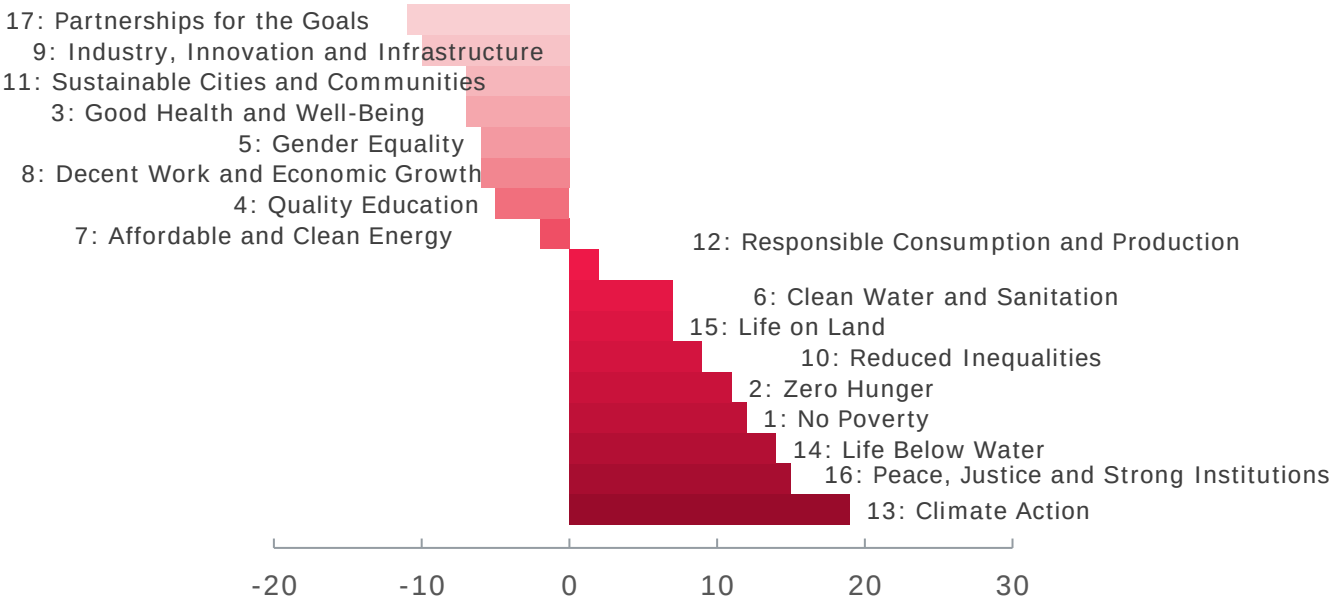
[4] GlobeScan and SustainAbility conduct regular surveys among a global panel of sustainability experts based in business, NGOs, academia and government, including many in Europe. Methodological approach displayed in Chapter 2.1.3 of this report.

Graph 1: Net Progress on SDGs in Europe (Source: GlobeScan and SustainAbility, 2018)



Secondly, GlobeScan and SustainAbility did a comparison of attention that SDGs get within organisations, to how urgent action on this SDG is. Graph 2 shows the gap between urgency and attention. A negative gap indicates that the SDG receives a lot of attention despite a low urgency. Correspondingly, a positive gap indicates that the SDG needs more urgent action but currently receives little attention.

Graph 2: Gap Analysis of urgency required and attention received (Source: GlobeScan and SustainAbility, 2018)



SDGs that get more attention than needed according to urgency are **SDG 17 (Partnerships for the Goals), SDG 8 (Decent Work and Economic Growth), SDG 9 (Industry, Innovation and Infrastructure), SDG 11 (Sustainable Cities and Communities) and SDG 3 (Good Health and Well-being).** SDG 13 (Climate Action) receives the most attention of all the SDGs, while also requiring the most urgent action.

Applying this analysis to the SDG coverage under the thematic clusters of Horizon Europe and the R&I Missions, shows that the thematic clusters address mostly those SDGs, where the urgency of action required is smaller compared to the attention they receive. SDG 9 (Industry, Innovation and Infrastructure), where net progress has been achieved and which already receives attention, is mentioned four times within the clusters. Meanwhile, the SDGs where progress is slow and urgency is needed, like SDG 10 (Reduced Inequalities), 14 (Life under Water), 15 (Life on Land) and 16 (Peace, Justice and strong Institutions), are only mentioned once within the thematic clusters. These findings correspond mostly to the critique of European R&I stakeholders and the UN assessment that especially **the loss of biodiversity does not receive enough attention yet**. The most mentioned SDGs under the thematic clusters are SDG 13 (Climate Change), 3 (Good Health and Well-Being), 8 (Decent Work and Economic Growth), 9 (Industry, Innovation and Infrastructure), 11 (Sustainable Cities and Communities) and 12 (Responsible Consumption and Production). Of these, SDGs 8, 9 and 11 were classified as getting more attention than needed according to urgency (see Table 5 in Annex 1). **Thus, the clusters may not address those SDGs, which need the most urgent action**.

According to the analysis of SDG reflection in mission areas above (see Table 3), R&I Missions seem to address those SDGs, which need more action compared to the attention they currently get. These are SDG 2 (Zero Hunger), 6 (Clean Water and Sanitation), 10 (Reduced Inequality), 12 (Responsible Consumption and Production) and 16 (Peace, Justice and strong Institutions) (see Table 6 in Annex 1). **Missions thus seem to be moving towards closing a SDG coverage gap**. Since this analysis is only based on the preliminary intervention areas, a clearer picture can only be achieved once the concrete Missions and actions therein are defined.

The Conference of European Schools for Advanced Engineering, Education and Research (CESAER) voiced the critique that the thematic clusters focus over proportionally on topics strengthening industry (see also Graph 1 and 2). The analysis further shows that many Social Sciences and Humanities (SSH) related SDGs (i.e. strong institutions, reduced inequalities and responsible consumption and productions) require urgent action. This further corresponds to the assessment of the Swiss Academies of Sciences (SAS), a member of the EUA, which are pleading for **more SSH integration in collaborative research projects**. According to the SAS, SSH could function as a bridge between science and society, since society esp. the consumers have not yet fully adopted many scientific facts i.e. climate change in their consumer behaviour. Therefore, **SSH has to be integrated within the whole process of a project, i.e. from the planning to the implementation**, and not just as a brand in the proposal writing. In the original proposal of potential mission areas by the EC there was a mission area called ‘reducing inequalities with skills and competences’, which would have been a purely SSH-based Mission. This mission area was highly favoured by the EC, however, after the trilogue negotiations it was integrated within mission area N°1, together with climate change.

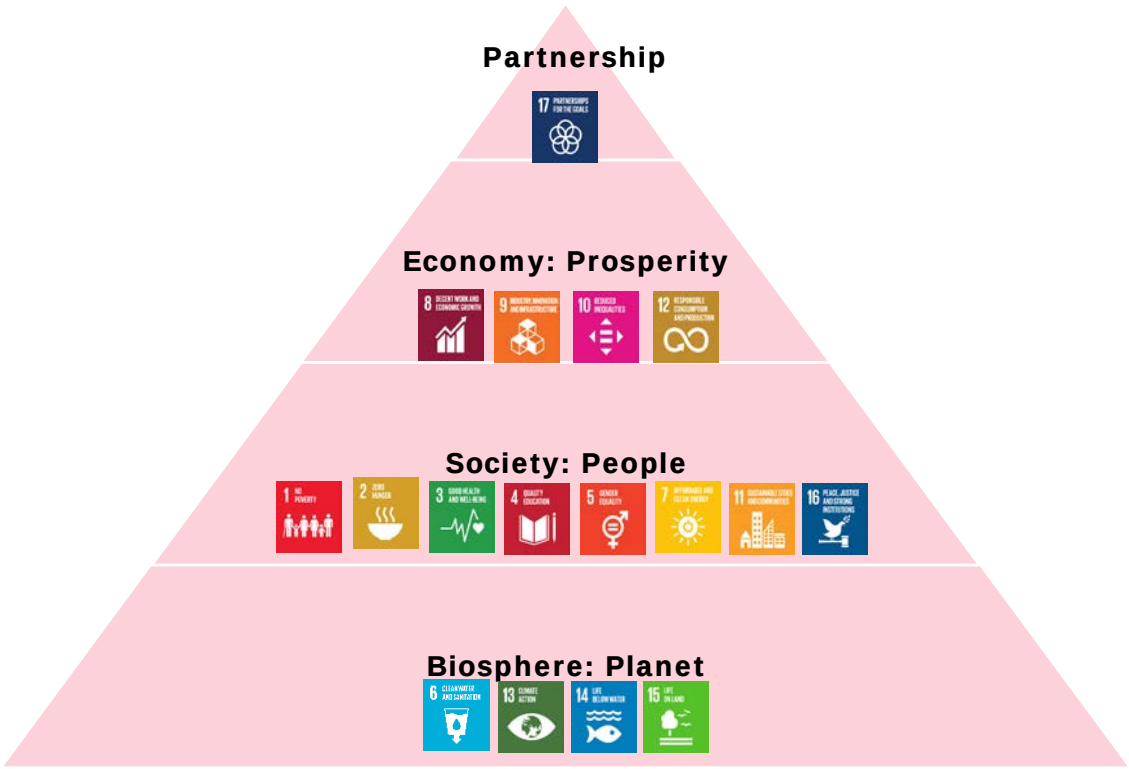
The European Political Strategy Centre (EPSC), the in-house think tank of the EC, published a report called ‘Europe’s Sustainability Puzzle’ on 8 April 2019, which i.a. mentions Horizon Europe, and highlights the role of innovation for a sustainable transformation of society. There is a consensus that disruptive and systemic innovation is key for a

transition to a sustainable society and requires investments into Europe's R&I sector. However, this transition demands innovation steered into the right direction, so the argument of EPSC, otherwise it can result in unsustainable outcomes, e.g. a higher rate of obsolescence of products and thus more waste. In conclusion, the **EPSC considers the mission-oriented approach of Horizon Europe as an adequate instrument to steer innovation**.

2.2.2 Re-Organizing DG RTD and Cooperation

Addressing SDGs extends to the organisational structure of the EC (form follows function). As of 1 June 2019, DG RTD has adopted a new organisational structure (see Annex for the new/old organigram). The old organigram of DG RTD was closely aligned with the societal challenges (SC) under Horizon 2020: e.g. the Directorate I 'Climate Action & Resource Efficiency' directly corresponded to SC5 'Climate action, environment, resource efficiency and raw materials'. The societal challenges were thereby treated isolated from each other. According to **Thomas Arnold**, Sustainable Development Goals Adviser, DG RTD, EC, the new organisation together with Horizon Europe is DG RTDs effort to modernize research policy, and address the pressing challenges that Europe faces (see slides of Thomas Arnold at the SwissCore IGLO Open on SDGs). **The new organigram of DG RTD has SDGs at its heart** and DG RTD has the ambition to serve as a compass for the entire EC in SDG implementation. In his new function, Arnold will advise the board of the DG on the SDGs. The graphical placement of his function in the organigram above the board further emphasizes DG RTD's high ambition with respect to SDGs. Apart from pushing the SDGs, the new organigram aims at **breaking down silos** (see ScienceBusiness publication) and facilitating **trans-disciplinary research** and the **co-creation** of work programmes together with all relevant stakeholders. The Directorates no longer correspond to the clusters under pillar II (as they did under Horizon 2020 to the SCs) but directly to the SDGs. DG RTD used the 'wedding cake'[5] model (Graph 3) for their organisational chart.

Graph 3: SDG "Wedding Cake" Model (Source: Stockholm Resilience Centre)



[5] Stockholm Resilience Centre, Stockholm University, June 2016

The wedding cake groups the SDGs according to the three dimensions of sustainable development: environment, society and economy. The lowest layer in the model is the biosphere, where SDGs concerning our **planet / planetary boundaries** are grouped. The next layer concerns society and groups the majority of SDGs, all concerned with **people**. The next level concerns the economy/economic well-being and groups SDGs related to **prosperity**. On top of these three layers are the **partnerships** that are essential for reaching all the other goals. The layers of this SDG model are reflected in the DGs new organigram, through Directorates C/D 'Healthy Planet'/'Clean Planet', Directorate E 'People', Directorate F 'Prosperity' and H 'International Cooperation'. There are interlinkages between the three sustainable development dimensions under the different Directorates, e.g. under 'Healthy Planet', unit C.3 addresses planetary boundaries, while unit C.2 includes a social/economic dimension by including consumption through 'food systems'. Further, some units serve as 'bridge builders' between the Directorates (and the dimensions):

- Unit C.5 'Ecological and Social Transformation' links the Directorates C/D 'healthy planet'/'clean planet' together with social transformation i.e. link layer one and two of the wedding cake.
- Unit E.6 'Economic and Social Transitions' links Directorates 'people' and 'prosperity', i.e. connecting layers two and three.

With the new organisation, DG RTD also wants to facilitate better collaboration with other DGs of the EC. This corresponds to the R&I Missions under Horizon Europe (see Chapter 2.2.1.3), the co-creation (see Chapter 2.2.1) in the strategic planning and the shared budget for research under Horizon Europe. In conclusion, breaking down the bureaucratic silos within the DG could lead to calls for projects, which address several SDGs, ideally stimulating collaborative and transdisciplinary research, solving societal/global challenges.

2.3 Involvement and own SDG approaches of European R&I Stakeholders

2.3.1 Strategic Planning

The EC wants R&I investment to become more strategic, and encourages other players to help setting the overall R&I agenda, with regards to which global and societal challenges can be addressed by R&I. For a first time since the existence of the EU R&I framework programmes, Horizon Europe will apply a strategic planning process, where different stakeholders together with the EC can co-create the implementation of the programme. **The strategic R&I plan will serve as a guidance for drafting the work programmes and will contain a list of all partnerships as well as identify the individual R&I Missions.** MS had the possibility of giving early feedback on the strategic R&I plan via a shadow programme committee 'strategic configuration'. In June 2019, the EC published a **first draft of the strategic R&I plan online** and anyone can give feedback to it through automated questions. This stage of the process aims to inform about Horizon Europe and prepare for the programme. After processing the feedback, the EC will present the outcome of this first public consultation in form of a **second draft** of the strategic R&I plan, which will be displayed at the **R&I days on 24-26 September** in Brussels. A third version of the strategic R&I plan will be published in October 2019 for feedback of cross-border umbrella organisations. In spring 2020, the College of Commissioners and the MS, i.e. the shadow programme committee 'strategic configuration', should then adopt the final document.

For European ERI Stakeholders, the strategic planning process is the **main instrument to get involved in the implementation of Horizon Europe**. Therefore, it is an important opportunity for stakeholders to make sure that the SDGs, mentioned in the original framework programme proposal, will find their way into implementation and finally the work programmes and the calls. According to an EC official, the SDGs serve as a useful framework to

define impact for the work programmes, when brought into a European context. The SDGs will prove useful in aligning the national science agendas of the MS by showing policy makers that science policy has to correspond to the needs of people, according to this official.

2.3.2 Stakeholder Opinions

European R&I stakeholders are taking their positions and at the same time, many of them pursue their own strategies when it comes to the SDGs. The following paragraphs gives an overview of what the position of stakeholders are on the SDG coverage under Horizon Europe and outlines some of their own actions about SDGs.

CESAER states that universities of science and technology are at the forefront of sustainable development and have to continue investing in the three key technologies **Artificial Intelligence (AI), biotech and quantum**. Further, when confronting society with those three key technologies, there is a demand for **integrating SSH on all levels.** Schools of science and technologies can further contribute in providing **scientific results for policy-making** (i.e. science for policy) through monitoring e.g. climate change. According to CESAER, a top-down approach in science policy regarding the SDGs would not be beneficial, because researchers have to do their own mapping of how to contribute to SDGs. A better way would be for policy-makers to have a bottom-up, competition driven incentive structure as e.g. the Helsinki Challenge. **CESAER does not see a sufficient coverage of SDGs under Horizon Europe**. Through the huge focus on SDG 13 (Climate Change), other important topics such as biodiversity and gender equality are neglected.

The EUA has published a briefing on 3 December 2018 on universities and their contribution to the SDGs. It states that universities can directly contribute towards the SDGs 4 (Quality Education), 9 (Industry, Innovation and Infrastructure), 16 (Peace, Justice and Strong Institutions) and 17 (Partnerships for the Goals). In strengthening these four areas directly through e.g. promoting local and global partnerships in research and education (SDG 17), universities can contribute to all of the SDGs. The EUA is a member of the International University Association (IUA), which, together with the Global University Network for Innovation (GUNi) launched a call for contribution to SDG. This call aims at SDGs in the topics of teaching, research, institutional policy, third mission (i.e. universities in a socio-economic context) and student initiatives, and has been launched in the context of their second **conference on R&I contribution to the SDGs on 5/6 March 2020 in Barcelona**. The EUA has no clear position yet whether universities can see Horizon Europe as a chance to contribute towards the SDGs. This will only be clear once the programme has been implemented and the calls are out.

The KU Leuven is a member of the League of European Research Universities (LERU). With respect to the SDGs, KU Leuven focuses mostly on cooperation with the global south. Activities include capacity building in partner countries and the exchange of academic staff and therefore knowledge. Their second main work stream is **education on SDGs**, using online classrooms i.e. Massive Open Online Course (MOOCs). One of the planned MOOCs will include lectures with Professor Jeffry **Sachs**, Director of the UN Sustainable Development Solutions Network, a commissioner of the UN Broadband Commission for Development, and an SDG Advocate for UN Secretary General Antonio Guterres. In general, LERU believes that the **university networks have to come up with their SDG implementation strategy** and should not solely rely on the EU R&I programmes to steer them into the right direction.

The Guild is content that the SDGs have gained momentum and believes that they are well covered within the legislative text of Horizon Europe. They are also content that the Council of the European Union pushed for using the

SDGs as an impact indicator for the mid-term evaluation of the Horizon Europe programme. The Guild has lobbied for both of these results. However, the Guild wants the EC to define clearly, where science can influence the SDGs and prioritise the SDG framework, according to that scope of influence. This would help DG RTD to act in a more targeted way, and would make the **impact of science more visible**. This would in turn further help future policy makers to make more science-based policy decisions. As mentioned above, the Guild is worried about the R&I missions, since they aim also at policy coordination between different DGs and MS besides actually funding research. They further fear that **the scientific community will not be sufficiently represented in the mission boards and in the priority setting of Horizon Europe**. The Guild is supportive of such non-R&I activities, but would rather see them funded via other channels e.g. structural funds. Another critique related to the undermining of the scientific community is that there will **no longer be scientific advisory boards under Horizon Europe.** Concerning their own action, the Guild is initiating brainstorming sessions with deans from universities to address the question, on which SDGs/societal challenges science can have an impact. The outcome of these sessions has been and will be published in form of a position paper for the Strategic Planning process. Further, the Guild supports dialogues between universities, sharing their experience with institutional strategies related to SDGs and best practices examples.

3 A Swiss Perspective

3.1 General Policy Overview (CH)

In September 2015, Switzerland, together with the other 192 UN MS, ratified the Agenda 2030 and the 17 SDGs. The Federal Council is responsible for implementing the SDGs. It has delegated this mandate to the Federal Office of Spatial Planning (ARE), which is responsible for sustainable development policy at federal level and the strategy for sustainable development. Further, there is an inter-departmental Sustainable Development Committee (ISDC), where 35 different federal agencies are represented. The first Federal Sustainable Development Strategy was established in 1997 and is renewed every four years. The current strategy will be in place until the end of 2019. It comprises **nine fields of domestic policy areas**, on which sustainable development policy will focus. Further, it gives an overview of the external policy actions that Switzerland will concentrate on in an international context (see also the Swiss Agency for Development and Cooperation (SDC) approach for SDGs). In order to come up with this strategy, the Federal Council has consulted representatives of all governmental levels (i.e. federal, cantonal and municipal), and established an advisory group including representatives of the science community, the economy, NGOs and the civil society (similar to the EC's high-level multi-stakeholder platform, although of smaller scale).

The Swiss Federal Statistical Office (FSO) is responsible for **monitoring** sustainable development in Switzerland. Using the newly developed MONET system, the FSO has come up with 23 key indicators measuring the progress on the SDGs. The results of this monitoring have been captured in a report, published in 2018. Switzerland presented its first national review in July 2018 at the annual ministerial conference of the High-Level Political Forum (HLPF) in New York. At the HLPF in 2019, where the heads of states will meet under the auspices of the UN General Assembly, Switzerland will not present a new monitoring report. The overall MONET system consists of 85 indicators, clustered in 12 areas. There are positive development trends on 39 indicators and Switzerland **has even reached some of the 169 sub-targets completely**, as e.g., Switzerland does not have extreme poverty and there is no hunger. According to the report, Switzerland has worsened the most on **SDG 12** (Responsible Consumption and Production). The consumption of inland resources has decreased, but at the same time, the consumption of unsustainable foreign products has increased. The majority of indicators suggest that there is a negative progress towards achieving SDG 15 (Life on Land). In addition to the federal strategy, many sub-federal levels have elaborated their own strategies

(e.g. the Canton of Berne has its own monitoring report, the Canton of Geneva its own action plan for SDGs and the city of Zurich its own sustainable development strategy).

3.2 Research and Innovation Activities with respect to SDGs in Switzerland

3.2.1 Federal Level

The **Federal Sustainable Development Strategy** (2016-2019) identifies nine areas of action, of which the sixth concerns **Education, Research and Innovation (ERI)**. It includes the following three goals, on how the ERI landscape in Switzerland should develop (as quoted directly from the strategy):

1. Sustainable Development has to become an integral component of the ERI-system. The ERI funding instruments shall strengthen sustainable development in a national- and international context.
2. Sustainable Development has to become an integral component of the common goals of the FC and the cantons for the education area Switzerland.
3. The people are empowered to contribute to the promotion of sustainable development.

In addition, the strategy mentions that the actions of ERI stakeholders concerning sustainable development must be carried out **based on individual responsibility** of the actors. In general, action field 6 focuses more on education for sustainable development than on research and innovation.

The **national review** (see Chapter 3.1) mentions that (amongst other actors) Swiss research institutions have committed to the Agenda 2030. In the national review the contribution of Swiss R&I actions towards single SDGs is shown. The results of a keyword search[6] are displayed in the list below and read as follows:

- SDG 2 (Zero Hunger): Switzerland can make use of its well-developed **research in plant breeding and cultivation methods**, to install systems of sustainable agriculture abroad.
- SDG 3 (Good Health and Well-Being): given the special position of Geneva in international health policy (i.e. the World Health Organisation (WHO) headquarters), Switzerland is an **important centre for research and innovation in health**.
- SDG 9 (Industry, Innovation and Infrastructure): the federal government supports the **cooperation between science and industry in Switzerland**, also through assisting the launch of new and innovative technologies on the market. Swiss Universities are leading in the field of IT and should develop more capacities in this field. 'Expenditure on research and development' is one of the indicators in the MONET framework for SDG 9.
- SDG 14 (Life below Water): Switzerland contributes to the conservation of oceans and seas through its participation **in polar- and climate research**.
- SDG 17 (Partnerships for the Goals): Switzerland shares its excellence and expertise in research through its **participation in partnership-based research programmes** 'in the fields of water, agricultural research, medical devices and green technologies, and is generally committed to establishing **favourable conditions for technology transfer**'.

The R&I actions mentioned within the national review mostly focus on **an international context and on development cooperation with third countries** and not on domestic R&I contribution to sustainable development.

[6] Key word search of 'Research' within the Swiss national review for the UN High Level Political Forum (2018)

The CSR/SustainAbility framework introduced in Chapter 2.1.3 (see Graph 1 and 2) can now be applied to the SDGs listed in the Swiss national review. Of the mentioned SDGs (2,3,9,14,17), SDG 14 (Life on Land) and SDG 2 (Zero Hunger) have the lowest net progress score and indeed require more attention. SDG 17, 9 and 3 are SDGs that are receiving more attention that their urgency requires. Similarly to the SDG coverage under Horizon Europe (see Chapter 2.2.1.4), the listed R&I activities in Switzerland also do only partially seem to address the SDGs, which require most action. The most striking difference appears for SDG 13 (Climate Change), which is highly mainstreamed under Horizon Europe and not explicitly mentioned in the Swiss R&I contribution (as outlined in the national review) even though Switzerland is a front runner in climate related research, see below.

Switzerland addresses SDG related fields also through the engagements of different Federal Offices in government research. Further, the Swiss National Science Foundation (SNSF) has three funding programmes through which research in SDG relevant fields can be steered in a coordinated way:

- National Research Programmes (NRPs): NRPs are coordinated research programmes, where the Federal Council selects topics that result from calls for proposals for research projects addressing current problems facing society, policymakers and the business community.
- National Centres of Competence in Research (NCCRs): fund researchers in consortia, who pursue a long-term research project on topics with strategic importance.

The SNSF, together with the Federal Office of Energy (SFOE) and Innosuisse, the Swiss innovation agency, established Swiss Competence Centres for Energy Research (SCCER), which Innosuisse is managing and financing. Research conducted under the SCCERs aims to find solutions for technical, societal and political challenges in the context of the Federal Energy Strategy 2050.
There is a lot of Swiss research engagement on SDG related topics, although those topics are often not explicitly SDG-branded.

3.2.2 Non-Federal ERI Actors and their SDG Action

The Federal Sustainable Development strategy mentions that the actions of ERI stakeholders concerning sustainable development must be carried out based on individual responsibility of the actors. Therefore, ERI institutions have taken on action in addressing the SDGs with their own initiatives.

The Swiss Academies of Arts and Sciences (the Academies) jointly organised a conference with UNESCO in January 2018, where possible engagements of the science community towards the Agenda 2030 were discussed. Further initiatives of the Academies are:

- U Change: supports students' initiatives in all higher education institutes in Switzerland through financing student projects in the field of sustainable development.
- Sustainable Development Solutions Network (SDSN) Switzerland: aims at mobilizing different science stakeholders in Switzerland to contribute to solutions for sustainable development.
- SCNAT initiative for sustainable development research: the Swiss Academy of Natural Science has formed a commission in order to develop a concept for research on sustainable development. In August 2019, two workshops are organised in order to identify research priorities (the results will be published in 2020). Further, the initiatives wants to establish a trans-disciplinary and international network of the scientific community. All together, this initiative aims to contribute to the public dialogue on sustainable development.

In their final report of 2017 on university engagement in sustainability, the Academies draw a positive conclusion on the engagement of Swiss universities in general (see below for a list of university engagement on SDGs).

The **swissuniversities** programme 'swissuniversities Development and Cooperation Network' (SUDAC) connects Swiss higher education institutes to partners in the global south. SUDAC has developed 10 'Consortia for Education and Research' (COFER) that are oriented towards the SDGs. In November 2018, results of the 10 COFER were presented at the annual SUDAC conference in Bern. These consortia were developed to **achieve excellence in education, research and innovation on global challenges** together with partners from the global south.

In addition, the following examples of Swiss research universities[7] have taken action in the field of sustainable development.

- University of Basel (unibas): The unibas offers a Master's degree in sustainable development with a strong focus on trans-disciplinarity.
- University of Bern (unibe): The unibe has established the Centre for Development and Environment (CDE), which has the task of mainstreaming sustainability within unibe's research and teaching. Its director, Prof. Dr. **Messerli**, is representing **the scientific community on a federal level** to elaborate the new federal strategy for sustainable development post 2019.
- University of Geneva (unige): The unige has launched a Master's degree in Innovation, Human Development and Sustainability and its content corresponds to the Agenda 2030 and the SDGs. It takes the three dimensions of sustainable development into account and was established in collaboration with the Tsinghua University in Beijing.
- University of Lausanne (unil): The unil offers a Master's degree in Foundations and Practices of Sustainability.
- University of Lucerne (unilu): The unilu organised a summer seminar on building a global network for sustainable responsibility. Further, unilu established the Centre for Law and Sustainability (CLS) in 2011. The CLS aims to connect research efforts in the area of law and sustainability, and to further connect those to other branches of social sciences, i.e. to economics, political sciences and philosophy.
- University of St.Gallen (HSG): HSG adopted a strategy on sustainable development and prioritises 7 SDGs for their engagements in research and teaching.
- University of Zurich (UZH): The UZH adopted its new sustainability policy in February 2019. It supports sustainable development on two levels, firstly through teaching and research topics and secondly through its long-term responsibility towards society.
- Swiss Federal Institute of Technology Lausanne (EPFL): EPFL adopted its new sustainable development strategy 2020. It foresees the following three special projects: 1) establish the student project platform 'act for change lab', 2) have a climate resilient EPFL campus and 3) urban farming. Further, the strategy includes efforts in teaching as well as in research (see link above).
- Swiss Federal Institute of Technology Zurich (ETHZ): The ETHZ has a designated unit for sustainability, which was established in 2008. ETH Sustainability made a detailed overview on how ETHZ actions contribute to all 17 SDGs in research and education. Further, five research areas are outlined, where the

[7] The following paragraph only focuses on Swiss universities and not on universities of applied science. The list contains examples and may not be complete.

ETHZ will engage in the field of sustainability in the period of 2017-2020. These are **future cities, world food systems, energy, climate change and risk**.

To conclude, in Switzerland there is no overarching strategy for RI and SDGs, institutes are responsible for implementing them, and activities in the field are manifold.

4 Policy Recommendations/Conclusions

Pillar II of Horizon Europe is the main instrument of the programme to address the SDGs. The thematic clusters have a strong focus on SDGs concerning industry and the economic dimension of sustainable development, and do not address those SDGs that have been ranked with lowest net progress score and the highest urgency/attention gap (according to experts). The Missions seem to address SDGs with a low net progress score and more urgent SDGs. However, it is not yet clear how the SDGs will be covered within the concrete Missions, which underlines **the importance of R&I stakeholders to participate in the strategic planning process** to ensure a substantive SDG coverage. Nevertheless, the mission-based approach, which wants to facilitate cross-sector and multiple actor collaboration, is very much in the spirit of the holistic nature of the SDG framework (taking into account all three dimensions of sustainable development) and therefore **Missions have the potential to be an important instrument of the EC to implement the Agenda 2030**. In general, **Horizon Europe and DG RTD have the SDGs at heart** and R&I is an important underlying driver for sustainable development. However, there is more action needed on **biodiversity** (SDG 14 'Life under Water' and 15 'Life on Land), on **SDG 13 (Climate Action)** and on **SDG 10 (Reducing Inequalities).**

Contrarily to the EU, the Swiss Federal Government does not specifically SDG brand strategic research on SDG related topics. Many Swiss ERI institutions have been active in the field of SDGs (see Chapter 3.2.2)and there are many opportunities to connect them with their European counterparts in Brussels, which would be beneficial to both sides.. This could lead to an exchange of best practices between Switzerland and the EU, of which both could profit, since they pursue different strategies when it comes to R&I policy contribution. This can be tackled by placing e.g. researchers working on SDG strategy topics (publication 'How can science support the 2030 Agenda for Sustainable Development? Four tasks to tackle the normative dimension of sustainability', Messerli et al. (2019)) in EU events and panels in Brussels to create visibility for the work done in Switzerland and generate synergies.

In general, R&I stakeholders mentioned the importance of the following points to address global challenges and SDGs, which should be taken on board by EU and Swiss players alike:

- **Transdisciplinary:** the importance of including expertise from different academic fields in collaborative research projects. Integrating SSH topics within every stage of the project phase, i.e. from selection to implementation of projects, is crucial to ensure for example that citizens will deploy newly developed technologies.
- **Open faculty projects**: they aim to connect different people within research institutions to work together and to raise awareness for global challenges.
- **Including a broader set of stakeholders**: Open the triple helix of science (i.e. the interaction between research institutions, governments and industry) to a quadruple helix by including civil society, e.g. relevant stakeholders and NGOs.
- **Prioritise SDG areas where R&I has the biggest impact**: The strategic plan will show which impact Horizon Europe shall achieve by 2030. This strategic plan will be drafted in co-creation with R&I stakeholders,

which gives them the possibility of defining their future vision of what R&I shall achieve. The strategic plan helps to priorities some areas of research over others in certain areas of global challenges. It is necessary for all the different sectors to define the areas where they can achieve the most, to ensure a good collaboration between them. The online consultation of the EC asks stakeholders to give input to how important R&I is for every SDGs in order to prioritize. It is important that stakeholders take the opportunities to engage that they are offered.

Annex 1: Additional Tables

Table 4: List of people interviewed as sources for the report

Name and Function	Organisation	Interview on this specific topic
Thomas **Arnold**, Special Adviser for SDGs	Directorate-General for Research and Innovation (DG RTD)	Re-organisation of DG RTD
Jean-Luc **Barras**, Head of Unit	International Cooperation, Swiss National Science Foundation (SNF)	General Swiss R&I engagement on SDGs
David **Bohmert**, Secretary-General	Conference of European Schools for Advanced Engineering Education and Research (CESAER)	Reaction to SDG coverage under Horizon Europe, contribution of schools of technology and science to SDGs, SDG action of CESAER
Thomas **Jørgensen**, Senior Policy Coordinator	European University Association (EUA)	Reaction to SDG coverage under Horizon Europe, contribution of R&I to SDGs, SDG action of the EUA
Iulia **Mihail**, Director	Romanian Office for Science and Technology (ROSTeu)	Contribution of Romanian Presidency to SDGs
Roger **Pfister**, Policy Officer	Swiss Academies of Arts and Sciences (SAS)	Explorative talk on SDGs in general, R&I contribution of SDGs, SAS
Caroline **Pottier**, Policy Officer Strategy	Directorate C 'Healthy Planet', DG RTD	Strategic planning process, implementation of Horizon Europe
Laurens **Rademakers**, Policy Officer	KU Leuven	Reaction to SDG coverage under Horizon Europe, contribution of R&I to SDGs, SDG action of KU Leuven/LERU
Benjamin **Simmons**, Head of the Green Growth Knowledge Platform	United Nation (UN) Environment	UN view on SDG action of the EU
Adam **Tyson**, Head of Unit	Unit G.3 'Research and Industrial Infrastructures', DG RTD	Strategic planning process, SDGs in European Context, Missions and Clusters
Sarika **Vij**, Head of Policy	The Guild of European Research-Intensive Universities (the Guild)	Reaction to SDG coverage under Horizon Europe, contribution of R&I to SDGs, SDG action of the Guild

Table 5: SDGs that are mentioned most within Clusters (colour code: red if urgency / attention gap is not addressed, green if urgency attention gap is addressed)

N° of times mentioned (within the legal text of HEU)	SDG	Icon
4	9 (Industry, Innovation and Infrastructure)	
4	13 (Climate Action)	
3	3 (Good Health and Well-Being)	
3	8 (Decent Work and Economic Growth)	
3	11 (Sustainable Cities and Communities)	
3	12 (Responsible Consumption and Production)	

Table 6: SDGs that could be addressed by Mission areas (colour code: red if urgency / attention gap is not addressed, green if urgency attention gap is addressed)

N° of times mentioned	SDG	Icon
3	13 (Climate Action)	
1	2 (Zero Hunger)	
1	3 (Good Health and Well-Being)	
1	5 (Gender Equality)	
1	6 (Clean Water and Sanitation)	
1	10 (Reduced Inequalities)	
1	11 (Sustainable Cities and Communities)	
1	12 (Responsible Consumption and Production)	
1	14 (Life below Water)	
1	16 (Peace, Justice and Strong Institutions)	

Annex 2: New / Old Organigram of DG RTD

Directorate-General for RESEARCH and INNOVATION

European Commission

REA
DIRECTOR OF THE AGENCY
PRINCIPAL ADVISER
M. TACHELET

ERCEA
DIRECTOR OF THE AGENCY
PRINCIPAL ADVISER
P. AMOR

HR BC **HR BUSINESS CORRESPONDENT TEAM**
HR BC - **A. D'ACUNTO**

UNIT 01 COORDINATION & INTERINSTITUTIONAL RELATIONS
HoU - **R. VAN DER VLIES**
DHoU - **A. NEVE DE MERVEGNIES**

UNIT 02 COMMUNICATION & CITIZENS
HoU - **M. WILKKI**
DHoU - **S. PARKER**

EUROPEAN INNOVATION COUNCIL[1]
TASK FORCE
J.-D. MALO

«EIC OUTREACH»
Adviser - **N. SABATIER**

TF.1 EIC GOVERNANCE & COORDINATION
HoU - **J.-D. MALO** (act)

TF.2 INNOVATION ECOSYSTEMS
HoU - **F. GAUTIER**
DHoU - **I. LASO BALLESTEROS**

TF.3 FINANCIAL INSTRUMENTS
HoU - **S. OUAKI**

REA A5 : FET-OPEN
EIC PATHFINDER
HoU - **T. HALLANTIE**
DHoU - **M. LANGE**

EASME A2: H2020 SME
EIC ACCELERATOR
HoU - **C. SCHMALTZ**
DHoU - **G. AMBROZIEWICZ**

ASSISTANT
P. MOMOLI

ASSISTANT
....

POLICY & PROGRAMMING CENTRE
DIRECTORATE A
K. VANDENBERGHE

A.1 CHIEF ECONOMIST - R&I STRATEGY & FORESIGHT
HoU - **R. ARJONA GRACIA**
DHoU - **J. LARSSON**

A.2 PROGRAMME ANALYSIS & REGULATORY REFORM
HoU - **F. CHIRICO**
DHoU - **A.- S. RONNLUND**

A.3 HORIZON STRATEGIC PLANNING & PROGRAMMING (CO-DESIGN & CO-CREATION)
HoU - **R. TOMELLINI**
DHoU - **P. BRENIER**

A.4 MISSIONS & PARTNERSHIPS
HoU - **R. TOMELLINI** (act)

A.5 HORIZON BUDGET & MFF SYNERGIES
HoU - **P. WEBB**

«INTEGRATION OF HORIZON PROGRAMMING & POLICY-MAKING»
Adviser - **B. HAWDON**

COMMON IMPLEMENTATION CENTRE
DIRECTORATE B
A. PANAGOPOULOU

B.1 COMMON LEGAL SUPPORT SERVICE
HoU - **R. SCHULTE**
DHoU - **T. LAMBECK**

B.2 COMMON AUDIT SERVICE
HoU - **G. FANTECHI**
DHoU - **S. ANTHIS**

B.3 COMMON SERVICE FOR BUSINESS PROCESSES
HoU - **P. HAERTWICH**
DHoU - **A. CROSS**

B.4 COMMON IT SERVICE
HoU - **A. LONCKE**
DHoU - **D. DVORSEK**

B.5 EXECUTIVE AGENCIES & FUNDING BODIES
HoU - **M. ZANCHI**

B.6 COMMON DATA AND KNOWLEDGE MANAGEMENT SERVICE
HoU - **S. N'DONG**
DHoU - **...**

HEALTHY PLANET
DIRECTORATE C
J. BELL

C.1 CIRCULAR ECONOMY & BIOBASED SYSTEMS
HoU - **P. MISIGA**
DHoU - **J. LUCAS**

C.2 BIOECONOMY & FOOD SYSTEMS
HoU - **W. KÜTT**
DHoU - **D. BENNINK**

C.3 CLIMATE & PLANETARY BOUNDARIES
HoU - **P. TULEJ**
DHoU - **P. TULKENS**

C.4 HEALTHY OCEANS & SEAS
HoU - **S. GRUBER**
DHoU - **J. SUOMINEN**

C.5 ECOLOGICAL AND SOCIAL TRANSITIONS
HoU - **A. KENTARCHOS** (act)
DHoU - **A. KENTARCHOS**

Head of unit functions seconded to EXECUTIVE AGENCIES under:

DIRECTORATE B

ERC.D.2 B. WASTIN	ERC.D G-E TE KOLSTE	ERC.C.4 N. CAR
REA.C M. BELLENS	REA.C.1 S. VARTIAINEN	REA.C.2 H. COUSIN
REA.C.3 R. BULTYNCK	INEA.R.1 DHoU A. KUCHARSKA	INEA.R.2 P. STALINS DHoU ...

DIRECTORATE D

INEA.H.1 DHoU P. PETROV
INEA.H A. HAIGH

DIRECTORATE C

EASME.B P. KOLAR
EASME.B.2 A. MILUKAS

CLEAN PLANET
DIRECTORATE D
C. DE LA TORRE

D.1 CLEAN ENERGY TRANSITION
HoU - **H. CHRAYE**
DHoU - **J. SCHUPPERS**

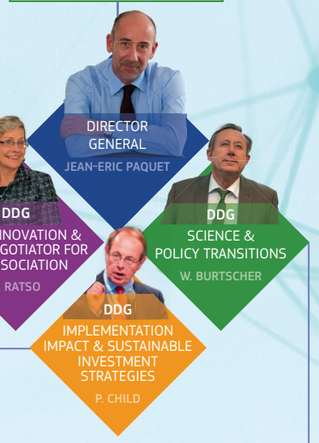
D.2 FUTURE URBAN & MOBILITY SYSTEMS
HoU - **J.-F. AGUINAGA**
DHoU - **P. FROISSARD**

D.3 LOW EMISSION FUTURE INDUSTRIES
HoU - **H. MARTIN**
DHoU - **A. GENTILI**

D.4 EURATOM RESEARCH
HoU - **E. RIGHI STEELE**
DHoU - **D. ROSSETTI DI VALDALBERO**

«FUTURE AIR TRANSPORT»
Adviser - ...

«SUSTAINABLE DEVELOPMENT GOALS»
Adviser - **T. ARNOLD**



UNIT 03 CHIEF SCIENTIFIC ADVISERS - SAM, EGE
HoU - **J. KLUMPERS**
DHoU - **J. BRAY**

«SCIENTIFIC CULTURE»
Adviser - **G. NAGY**

UNIT 04 R&I INVESTMENT AGENDAS
HoU - **G. JOLIFF-BOTREL**

«MISSION INNOVATION»
Adviser - ...

UNIT 05 HORIZON EUROPE ASSOCIATION
HoU - **A. CARIGNANI DI NOVOLI** (act)
DHoU - ...

«CITIZENS»
Adviser - **A. ARANA ANTELO**

PEOPLE
DIRECTORATE E
I. NORSTEDT (act)

E.1 HEALTHY LIVES
HoU - **A. LONNROTH**
DHoU - **C. BERENS**

E.2 COMBATTING DISEASES
HoU - **B. KERSTIENS**
DHoU - **K. BERKOUK**

E.3 HEALTH INNOVATIONS
HoU - **M.AGUAR FERNANDEZ**
DHoU - **C. LAPLAZA SANTOS**

E.4 FAIR SOCIETIES & CULTURAL HERITAGE
HoU - **H. HARTUNG**
DHoU - **M. KAYAMANIDOU**

E.5 DEMOCRACY & EUROPEAN VALUES
HoU - **H. HARTUNG** (act)

E.6 ECONOMIC & SOCIAL TRANSITIONS
HoU - **I. NORSTEDT**
DHoU - **H. VAN EIJL**

PROSPERITY
DIRECTORATE F
P. DROELL

F.1 INDUSTRIAL R&I AGENDAS & BUSINESS INTELLIGENCE
HoU - **D. SCHRÖCKER**
DHoU - ...

F.2 VALORISATION POLICIES & IPR
HoU - **K. HAAVISTO**

F.3 SUSTAINABLE INDUSTRY SYSTEMS
HoU - **J. TIEDJE**
DHoU - **S. O REAGAIN**

F.4 MATERIALS FOR TOMORROW
HoU - **B. VERACHTERT**
DHoU - **S. BOWADT**

F.5 INDUSTRY 5.0
HoU - **J. COTTA**

«TECHNOLOGY SOVEREIGNTY»
Adviser - ...

RESEARCH & INNOVATION OUTREACH
DIRECTORATE G
K. VANDENBERGHE (act)

G.1 ERA & COUNTRY INTELLIGENCE
HoU - **M. DE CARLI**
DHoU - **M. SURGEON**

G.2 ACADEMIC R&I AND RESEARCH ORGANISATIONS
HoU - **A. KARAMALI**

G.3 RESEARCH & INDUSTRIAL INFRASTRUCTURES
HoU - **A. TYSON**
DHoU - **R. ZOBBI**

G.4 OPEN SCIENCE
HoU - **K. GLINOS**
DHoU - **A. BJORNSSON**

«OPEN ACCESS ENVOY»
Adviser - ...

INTERNATIONAL COOPERATION
DIRECTORATE H
M.C. RUSSO

H.1 INTERNATIONAL COOPERATION I (EUROPE, AMERICAS & THEMATIC COHERENCE)
HoU - **R. LECBYCHOVA**
DHoU - ...

H.2 INTERNATIONAL COOPERATION II (ASIA, AFRICA, MIDDLE EAST & EXTERNAL RELATIONS)
HoU - **M.C. RUSSO** (act)
DHoU - **F. BOUGHANEMI**

INNOVATIVE ADMINISTRATION
DIRECTORATE I
P. FERNANDEZ-CANADAS

I.1 EFFICIENT OFFICE
HoU - **B. TUBBING**
DHoU - **F. COZZANI**

I.2 FINANCES, PUBLIC PROCUREMENT & COMPLIANCE
HoU - **M. ATIENZA MORALES**
DHoU - **A. ARABATZIS**

I.3 FINANCIAL MANAGEMENT & PROGRAM SUPPORT I[2]
HoU - **P. CID**
DHoU - **Y. DEJAEGERE**

I.4 FINANCIAL MANAGEMENT & PROGRAM SUPPORT II[3]
HoU - **M. BAS SANCHEZ**
DHoU - **A. IATROU**

I.5 FINANCIAL MANAGEMENT & PROGRAM SUPPORT III[4]
HoU - **J. VAN OOST**
DHoU - **V. MORELLI**

Head of unit functions seconded to EXECUTIVE AGENCIES under:

DDG «SCIENCE & POLICY TRANSITIONS»

ERC.A.1 T. PAPAZOGLOU	ERC.A.2 A. LOCKETT	ERC.B J. LABASTIDA	ERC.B.1 M. VANBIERVLIET	ERC.B.2 A. MARTIN HOBDEY	ERC.B.3 P. CUPERS	ERC.B.4 M. PENNY
ERC.B.5 A. LIBERATORE	ERC.C M. MAY	ERC.C.1 N. ATZOULATOU	ERC.C.2 A. ULCELUSE	ERC.C.3 T. PROST	ERC.D.1 D. COSTENS	ERC.D.3 L. MOREAU

DIRECTORATE E

REA.B.3 C. AMTING

DIRECTORATE G

REA.B.5 A. FIALA

[1] The **EIC TF** will consist of three DG RTD'units and and adviser. It will have specific relationships with 2 units established in Executive Agencies (EA), respectively REA A5 and EASME A2. All together the 5 units constitute the extended EIC TF that is governed by a Steering Committee respectively chaired and co-chaired by the DGs of DG CNECT and DG RTD.

[2] **Unit I3** in charge of Directorates A, B, G, H, TF EIC & Units 02, 03, 05 and experts management

[3] **Unit I4** in charge of Directorates E and D (without RFCS)

[4] **Unit I5** in charge of Directorates C, F and RFCS activity

01/07/2019

European Commission

Directorate-General for **RESEARCH and INNOVATION**

HR BC - HR BUSINESS CORRESPONDENT TEAM
HR BUSINESS CORRESPONDENT
A. D'ACUNTO

SCIENTIFIC CULTURE
ADVISER - **G. NAGY**

PRINCIPAL ADVISER
....

RTD. 01 INTERINSTITUTIONAL RELATIONS & INTERNAL COORDINATION
HoU - **R. VAN DER VLIES**
DHoU - **A. NEVE DE MEVERGNIES**

DIRECTOR GENERAL
Jean-Eric PAQUET

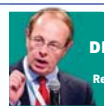
ASSISTANT
J. LARSSON

ASSISTANT
P. MOMOLI

ERCEA
DIRECTOR OF THE AGENCY
PRINCIPAL ADVISER RTD
P. AMOR

REA
DIRECTOR OF THE AGENCY
PRINCIPAL ADVISER RTD
M. TACHELET

DEPUTY DIRECTOR-GENERAL
W. BURTSCHER
Responsible for Directorates E, F & J



DEPUTY DIRECTOR-GENERAL
P. CHILD
Responsible for Directorates G, I & R

DEPUTY DIRECTOR-GENERAL
S. RATSO
Responsible for Directorates C, D & H

ADDED VALUE OF RESEARCH & INNOVATION OF THE EUROPEAN UNION
ADVISER - **P. VIGIER**

TASK FORCE:
RULES FOR PARTICIPATION OF FP9
ADVISER - ...

RTD. 02 SCIENTIFIC ADVICE MECHANISM
HoU - **J. KLUMPERS**
DHoU - **J. BRAY**

NEW ORGANISATIONAL STRUCTURES
ADVISER - **M. BOHLE**

DIRECTORATE A
POLICY DEVELOPMENT & COORDINATION
K. VANDENBERGHE

- **A.1** COMMUNICATION — HoU - **M. WILKKI**, DHoU - **S. PARKER**
- **A.2** OPEN DATA POLICY & SCIENCE CLOUD — HoU - **J.-C. BURGELMAN**, DHoU - **P. BRENIER**
- **A.3** HORIZON 2020 POLICY & FORESIGHT — HoU - **R. TOMELLINI**, DHoU - **A. CROSS**
- **A.4** ANALYSIS & MONITORING OF NATIONAL RESEARCH & INNOVATION POLICIES — HoU & DG's Chief Economist - **R. ARJONA GRACIA**, DHoU - **M. SURGEON**
- **A.5** BETTER REGULATION — HoU - **L. STIRBAT** (act), DHoU - **L. STIRBAT**

R&I POLICY DEVELOPMENT & COORDINATION
ADVISER - **B. HAWDON**

DIRECTORATE B
OPEN INNOVATION & OPEN SCIENCE
J.D. MALO

- **B.1** INNOVATION ECOSYSTEMS — HoU - **F. GAUTIER** (act), DHoU - ...
- **B.2** OPEN SCIENCE — HoU - **F. GAUTIER**, DHoU - **A. BJORNSSON**
- **B.3** SMES, FINANCIAL INSTRUMENTS & STATE AID — HoU - **S. OUAKI**, DHoU - **R. SAMSON**
- **B.4** RESEARCH INFRASTRUCTURES — HoU - **A. FIALA**, DHoU - **P. FROISSARD**
- **B.5** SPREADING OF EXCELLENCE & WIDENING PARTICIPATION — HoU - **M. DE CARLI**, DHoU - **S. WEIERS**
- **B.6** OPEN & INCLUSIVE SOCIETIES — HoU - **H. HARTUNG**, DHoU - **M. KAYAMANIDOU**
- **B.7** SCIENCE WITH & FOR SOCIETY — HoU - **A. ARANA ANTELO**
- **B.8** ADMINISTRATION & FINANCE* — HoU - **P. CID**, DHoU - **Y. DEJAEGERE**

EUREKA
ADVISER - **N. COMMEAU-YANNOUSSIS**

LEGAL ASPECTS OF NEW FINANCIAL INSTRUMENTS
ADVISER - **N. SABATIER**

DIRECTORATE E
HEALTH
I. NORSTEDT (act)

- **E.1** STRATEGY — HoU - **A. LONNROTH**, DHoU - **C. BERENS**
- **E.2** INNOVATIVE & PERSONALISED MEDICINE — HoU - **I. NORSTEDT**, DHoU - ....
- **E.3** FIGHTING INFECTIOUS DISEASES & ADVANCING PUBLIC HEALTH — HoU - **C. SCHMALTZ**, DHoU - ....
- **E.4** NON-COMMUNICABLE DISEASES & THE CHALLENGE OF HEALTHY AGEING — HoU - **B. KERSTIENS**, DHoU - **K. BERKOUK**
- **E.5** INNOVATIVE TOOLS, TECHNOLOGIES & CONCEPTS IN HEALTH RESEARCH — HoU - **M. AGUAR FERNANDEZ**, DHoU - **P. CUPERS**
- **E.6** ADMINISTRATION & FINANCE* — HoU - **M. BAS SANCHEZ**, DHoU - **A. IATROU**

DIRECTORATE F
BIOECONOMY
J.BELL

- **F.1** STRATEGY — HoU - **W. KÜTT**, DHoU - **J. SUOMINEN**
- **F.2** BIOBASED PRODUCTS & PROCESSING — HoU - **G. FANTECHI**, DHoU - **J. LUCAS**
- **F.3** AGRI-FOOD CHAIN — HoU - **B. VERACHTERT**, DHoU - **D. BENNINK**
- **F.4** MARINE RESOURCES — HoU - **S. GRUBER**, DHoU - **E. BALZI**

SUSTAINABLE BIOECONOMY
ADVISER - **T. ARNOLD**

DIRECTORATE J
COMMON SUPPORT CENTRE
A. PANAGOPOULOU

- **J.1** COMMON LEGAL SUPPORT SERVICE — HoU - **R. SCHULTE**, DHoU - **T. LAMBECK**
- **J.2** COMMON AUDIT SERVICE — HoU - **M. ZANCHI**, DHoU - ....
- **J.3** COMMON SERVICE FOR BUSINESS PROCESSES — HoU - **P. HAERTWICH**
- **J.4** COMMON IT SERVICE — HoU - **S. N'DONG**, DHoU - **D. DVORSEK**
- **J.5** COMMON SERVICE FOR HORIZON 2020 INFORMATION & DATA — HoU - **K. HAAVISTO**, DHoU - **C. LENARDUZZI**

DIRECTORATE C
INTERNATIONAL COOPERATION
M.C. RUSSO

- **C.1** STRATEGY, EFTA & ENLARGEMENT COUNTRIES, RUSSIA, ASIA & PACIFIC — HoU - **K. GLINOS**, DHoU - ...
- **C.2** NORTH AMERICA, LATIN AMERICA & CARIBBEAN — HoU - **A. TYSON**, DHoU - **P. VENTURI**
- **C.3** EUROPEAN NEIGHBOURHOOD, AFRICA & GULF — HoU - **A. CARIGNANI DI NOVOLI**, DHoU - **F. BOUGHANEMI**

RELATIONS WITH INTERNATIONAL ORGANISATIONS
ADVISER -...

DIRECTORATE D
INDUSTRIAL TECHNOLOGIES
P. DROELL

- **D.1** STRATEGY — HoU - **D. SCHRÖCKER**, DHoU - **N. DELIYANAKIS**
- **D.2** ADVANCED MANUFACTURING SYSTEMS & BIOTECHNOLOGIES — HoU - **J. TIEDJE**, DHoU - **S. O REAGAIN**
- **D.3** ADVANCED MATERIALS & NANOTECHNOLOGIES — HoU - **H. CHRAYE**, DHoU - **S. BOWADT**
- **D.4** COAL & STEEL — HoU - **H. MARTIN**, DHoU - **D. ROSSETTI DI VALDALBERO**
- **D.5** ADMINISTRATION & FINANCE* — HoU - **V. FAVREL**, DHoU - **J. BRODERSEN**

DIRECTORATE H
TRANSPORT
C. DE LA TORRE

- **H.1** STRATEGY — HoU - **T. JÜRIMÄE**, DHoU - **R. ZOBBI**
- **H.2** SURFACE TRANSPORT — HoU - **J-F. AGUINAGA**
- **H.3** AVIATION — HoU - **S. FUMERO**, DHoU - **A. GENTILI**

DIRECTORATE G
ENERGY
P. CHILD (act)

- **G.1** STRATEGY — HoU - **G. JOLIFF-BOTREL**, DHoU - **P. TULKENS**
- **G.2** ADVANCED ENERGY PRODUCTION — HoU - **J. COTTA**, DHoU - **J. SCHUPPERS**
- **G.3** RENEWABLE ENERGY SOURCES — HoU - **P. TULEJ**, DHoU - **A. ESCARDINO**
- **G.4** FISSION ENERGY — HoU - **R. LECBYCHOVA**, DHoU -
- **G.5** FUSION ENERGY — HoU - **E. RIGHI STEELE**

DIRECTORATE I
CLIMATE ACTION & RESOURCE EFFICIENCY
J.BELL (act)

- **I.1** STRATEGY — HoU - **J.-F. HULOT**, DHoU - **M. TAMBORRA**
- **I.2** ECO-INNOVATION — HoU - **P. MISIGA**, DHoU - **P. BALABANIS**
- **I.3** SUSTAINABLE MANAGEMENT OF NATURAL RESOURCES — HoU - **C. FRAGAKIS** (act), DHoU - **C. FRAGAKIS**
- **I.4** CLIMATE ACTION & EARTH OBSERVATION — HoU - **A. TILCHE**, DHoU - **A. KENTARCHOS**

RESEARCH, INNOVATION & ENVIRONMENT
ADVISER - **M. DELPRAT**

DIRECTORATE R
RESOURCES
P. FERNÁNDEZ-CAÑADAS

- **R.1** KNOWLEDGE & INFORMATION SERVICES — HoU - **B. TUBBING**, DHoU - **F. COZZANI**
- **R.2** BUDGET — HoU - **J. VAN OOST**
- **R.3** STRATEGIC PROGRAMMING, PLANNING & COMPLIANCE — HoU - **P. WEBB**
- **R.4** NEW MANAGEMENT MODES — HoU - **M. ATIENZA MORALES**, DHoU - **A. ARABATZIS**

Head of unit functions seconded to EXECUTIVE AGENCIES under DIRECTORATE B

EASME.A.2 B. REICHERT, DHoU G. AMBROZIEWICZ	**REA.B.3** C. AMTING	**REA.B.5** P. VAN DER ZANDT

Head of unit functions seconded to EXECUTIVE AGENCIES under DIRECTORATE A

ERC.A.1 T. PAPAZOGLOU	**ERC.A.2** A. LOCKETT	**ERC.B.1** M. VANBIERVLIET	**ERC.B.2** A. MARTIN HOBDEY	**ERC.B.3**	**ERC.B.4** M. PENNY	**ERC.B.5** A. LIBERATORE
ERC.C.1 N. ATZOULATOU	**ERC.C.2** A. ULCELUSE	**ERC.C.3** T. PROST	**ERC.C.4** N. CAR (at disposal)	**ERC.D.1** D. COSTENS	**ERC.D.2** B. WASTIN	**ERC.D.3** L. MOREAU

Head of unit functions seconded to EXECUTIVE AGENCIES under

DIRECTORATE G

INEA.H.1 DHoU P. PETROV

DIRECTORATE I

EASME.B.2 A. MILUKAS

DIRECTORATE R

INEA.H A. HAIGH	**EASME.B** P. KOLAR
REA.C M. BELLENS	**ERC.B** J. LABASTIDA
ERC.C M. MAY	**ERC.D** G-E TE KOLSTE
INEA.R.1 DHoU A. KUCHARSKA	**INEA.R.2** P. STALINS DHoU ...
REA.C.1 S. VARTIAINEN	**REA.C.2** H. COUSIN
REA.C.3 R. BULTYNCK	

* Unit B8 serves also Directorates A and C, Unit E6 serves also Directorates G and I, Unit D5 serves also Directorates F and H

01/09/2018