

“Monitoring the FP7 contribution to the EU’s SD objectives – facts & figures”

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Summary

How does the FP7 contribute to sustainable development?

Overall, research carried out under the FP7 Specific Programme ‘Cooperation’ between 2007 and 2010 has a positive impact on the renewed EU Sustainable Development Strategy (EU SDS) and its 78 operational objectives. About 77 % of the topics, 66 % of the projects and 70 % of the funding (i.e. € 6 billion out of € 8.6 billion) provided by the SP ‘Cooperation’ live up to the programme’s objective of “contributing to sustainable development”.

How big is the EU financial contribution to SD across the FP7 research themes?

Among the ten Themes of the SP ‘Cooperation’, HEALTH is the one which comprises, over the four years, the largest number of topics having positive expected impacts on EU SDS objectives, closely followed by TRANSPORT and Agriculture (KBBE - ‘Knowledge based Bio-economy’). In budgetary terms (EC contribution to projects), the themes HEALTH, ICT, Materials (NMP) and TRANSPORT constitute the main sources for funding SD-relevant research.¹ In relation to the allocation of budget between the ten ‘Cooperation’ themes, the themes HEALTH, ENERGY and ENVIRONMENT contribute disproportionately high to the 78 EU SDS operational objectives.

Which FP7 themes contribute disproportionately high/low to EU SDS objectives?

How are the EU SDS operational objectives addressed by FP7?

Research carried out under the FP7 Specific Programme ‘Cooperation’ addresses well societal challenges. EU SDS objectives related to public health are addressed most prominently, mainly through research from the theme HEALTH, which gathers about 34 % of the overall EC contribution spent so far in FP7 Cooperation SP (€ 2.7 billion out of € 8.6 billion). Other important challenges addressed by FP7 research projects are related to climate change and energy as well as to natural resources.

How is the EC contribution distributed across EU SDS objectives?

The theme ICT stands out from the ten ‘Cooperation’ themes in two ways: First, projects funded in ICT since 2007 account for about one third of the total EC contribution to projects spent so far under the ‘Cooperation’ programme. Second, ICT – being a horizontal issue – addresses objectives from almost all EU SDS key challenges. Nevertheless, only 19 % of the overall EC contribution spent so far since 2007 to projects with impacts on EU SDS objectives is allocated under the ICT theme (compared to ICT’s share of 33 % in the overall SP ‘Cooperation’ budget).

¹ In this policy brief, terms such as “SD-relevant” or “contributing to sustainable development” are used synonymously for “contributing to at least one of the 78 objectives of the renewed EU SDS”.

How does the FP7 contribute to sustainable development?

More than two thirds of FP7-funded research contributes to EU SDS objectives

Overall, about **66 % of the projects** (i.e. 1626 out of 2463) that have been funded so far by FP7 under the 'Cooperation' Work Programmes 2007 to 2009² **contribute to at least one of the 78 EU SDS operational objectives**. The share is even higher when looking at the number of topics (called for the in annual Work Programmes) and the amount of funding provided by FP7 (total EC contribution), accounting for 77 % (i.e. 1496 out of 1943 topics) and 70 % (i.e. € 6 billion out of € 8.6 billion), respectively. This variation is due to differences in the number and size of projects funded by the individual 'Cooperation' themes.

In a nutshell: The FP7 'Cooperation' programme

1943 research topics called for since 2007 have resulted in 2463 research projects with an EU co-financing of € 8.6 billion

The Specific Programme (SP) 'Cooperation' is at the core of FP7, representing about two thirds of the overall FP7 budget (i.e. € 32 billion out of € 50 billion) over the period 2007-2013. It fosters collaborative research across Europe and other partner countries, through projects by transnational consortia of industry and academia, in ten thematic areas (see Table 1 below).

Since the start of FP7 in 2007, a total of 1943 topics have been called for so far in the annual Work Programmes (WPs). Under these topics, 2463 projects³ have been or are being carried out with a total EC contribution (that is, the co-financing provided by FP7) of € 8.6 billion. The EC contribution accounts for about two thirds of the total project costs (i.e. the co-financing provided by FP7 plus other funding sources) of € 12.3 billion.

Table 1: Overview of 'Cooperation' Work Programmes 2007-2010 by Theme

Theme	Number of topics	Number of projects	Number of project participants	Project costs (€ million)	Total EC contribution (€ million)
HEALTH	320	403	4232	2155.2	1604.6
Agriculture (KBBE)	287	147	1902	625.0	457.6
ICT	121	843	7802	4038.6	2812.2
Materials (NMP)	147	259	3253	1479.6	1028.7
ENERGY	202	149	1675	911.3	572.3
ENVIRONMENT	243	189	2657	793.4	595.2
TRANSPORT	368	266	3586	1497.7	986.8
Social Sciences (SSH)	105	125	1099	288.6	189.1
SPACE	37	29	504	235.9	160.4
SECURITY	113	53	601	254.2	174.2
Total	1943	2463	27311	12279.5	8581.1

² Projects from the Work Programme 2010 are not included as they are still under negotiation.

³ It is important to note that not all topics called for are being translated into action by funding of projects: in the Work Programmes 2007-2009, projects are being funded under some 1000 topics only (67 % of all topics called for). However, more than one project may be funded under one topic.

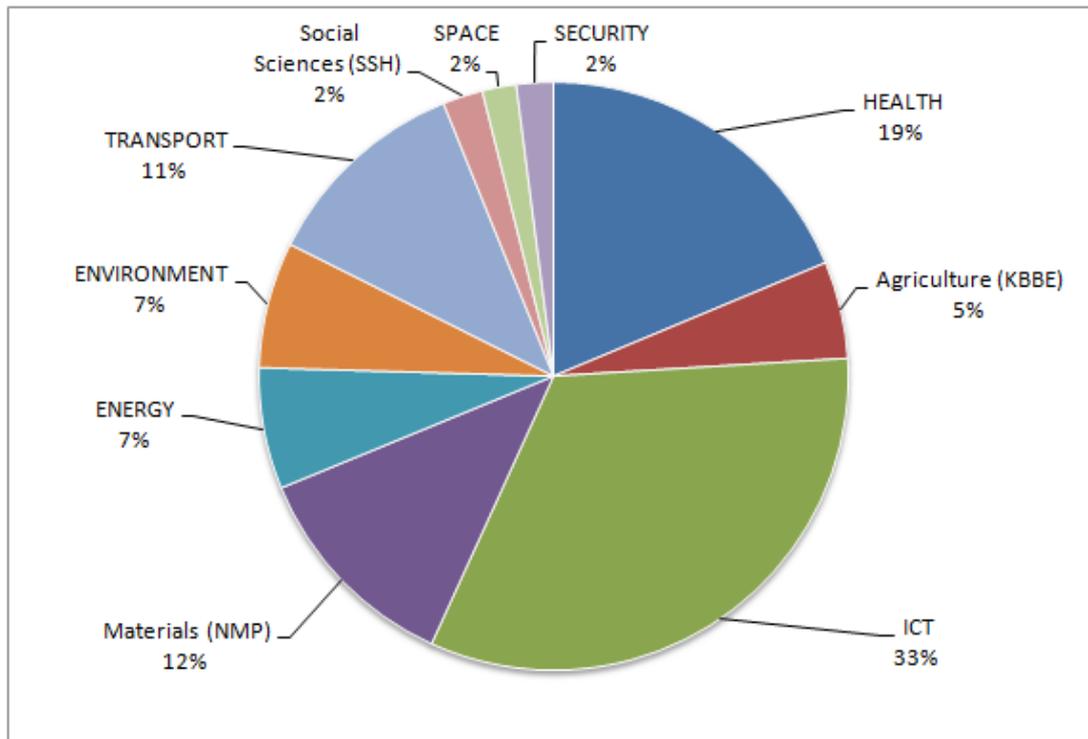


Figure 1: Share of total EC contribution (€) to the ten 'Cooperation' themes

How do the ten 'Cooperation' themes contribute to SD?

The themes HEALTH, TRANSPORT and KBBE comprise the largest number of topics with impacts on EU SDS objectives

The theme HEALTH comprises the largest number of topics (297 topics) with positive expected impacts on EU SDS objectives, closely followed by the themes TRANSPORT (262 topics) and Agriculture (KBBE; 224 topics). In relative terms, the themes HEALTH (93%), ENERGY (88%) and ENVIRONMENT (87%) show the highest share of SD-relevant topics. Themes with a share of SD-relevant topics below 50% are SPACE (49%), ICT (45%) and SECURITY (35%).

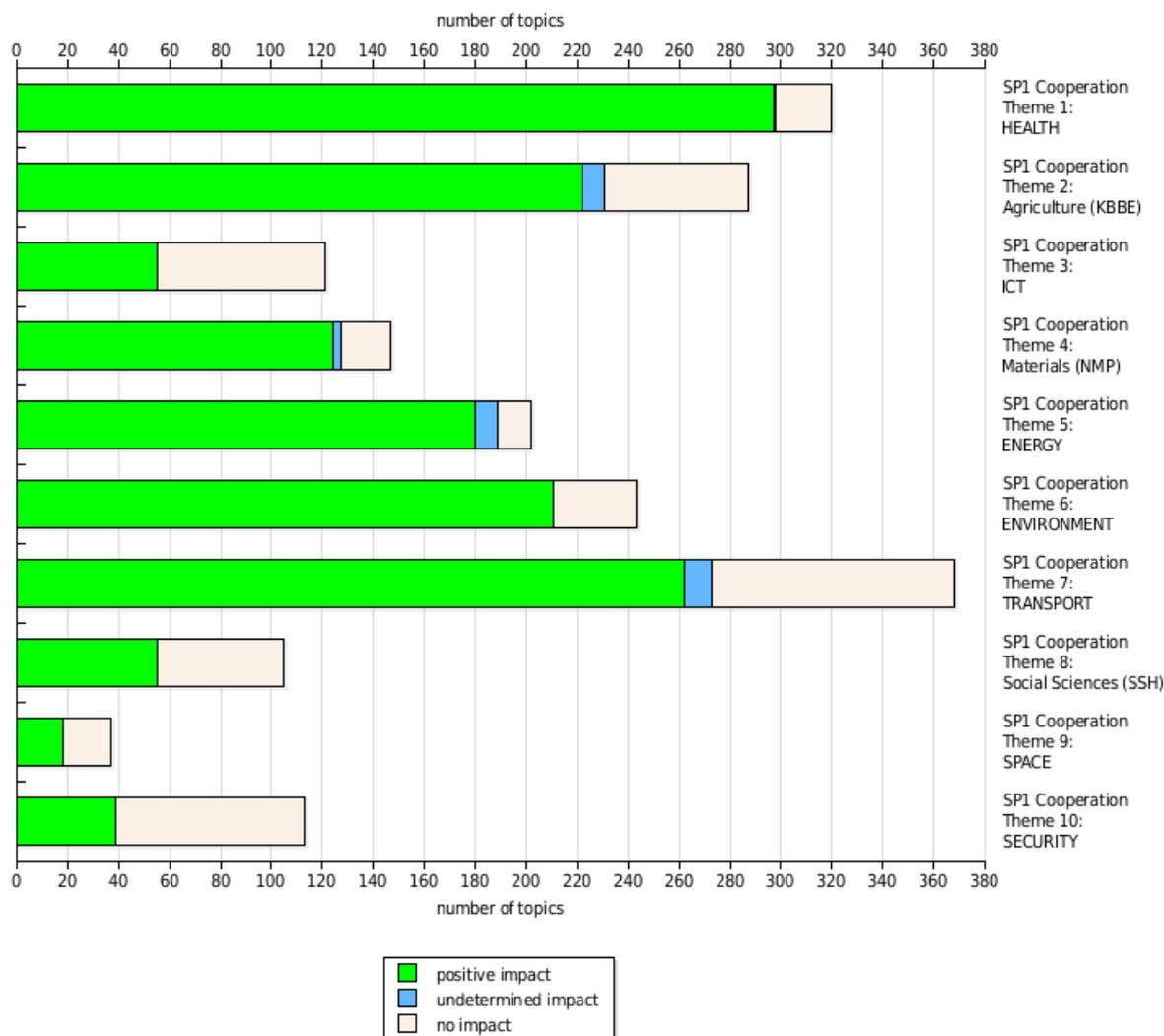


Figure 2: Number of topics with expected impacts in the ten "Cooperation" themes⁴

How big is the EU financial contribution to SD across the FP7 research themes?

The themes HEALTH, ICT, NMP and TRANSPORT provide the highest amount of EC contribution (€) to SD-relevant research

The picture presented in Figure 2 above changes when looking at the amount of co-financing ("total EC contribution") provided by FP7 (see Figure 3 below). Most striking is the fact that the theme ICT by far exceeds all other 'Cooperation' themes in terms of available budget. However, due to the rather moderate share of ICT topics having impacts on EU SDS objectives (about 45 %; see above), it is again the theme HEALTH that shows the highest EC contribution to projects contributing to EU SDS objectives (€ 1.5 billion). Besides ICT (ranking second with € 1.1 billion), a significant contribution comes from the themes Materials (NMP) and TRANSPORT, with € 840 million and € 780 million, respectively. On the other end of the scale, the themes Social sciences (SSH), SPACE and SECURITY are the ones with the lowest

⁴ Typology of impacts: "positive": supporting the EU SDS objectives; "undetermined": impacts that due to a lack of scientific evidence cannot yet be categorized as positive, negative or neutral. All bar graphs in this policy brief showing the FP7 contribution to SD by FP7 theme (Figures 2 and 3) or EU SDS key challenge (Figures 6 and 7) have been generated using the interactive database at www.fp7-4-sd.eu.

available total budgets and consequently the lowest amount of EC contribution to SD-relevant projects. Similar to above, the highest share of EC contribution dedicated to SD-relevant projects can be found in the themes HEALTH (95 %), ENERGY (93 %) and ENVIRONMENT (89 %).

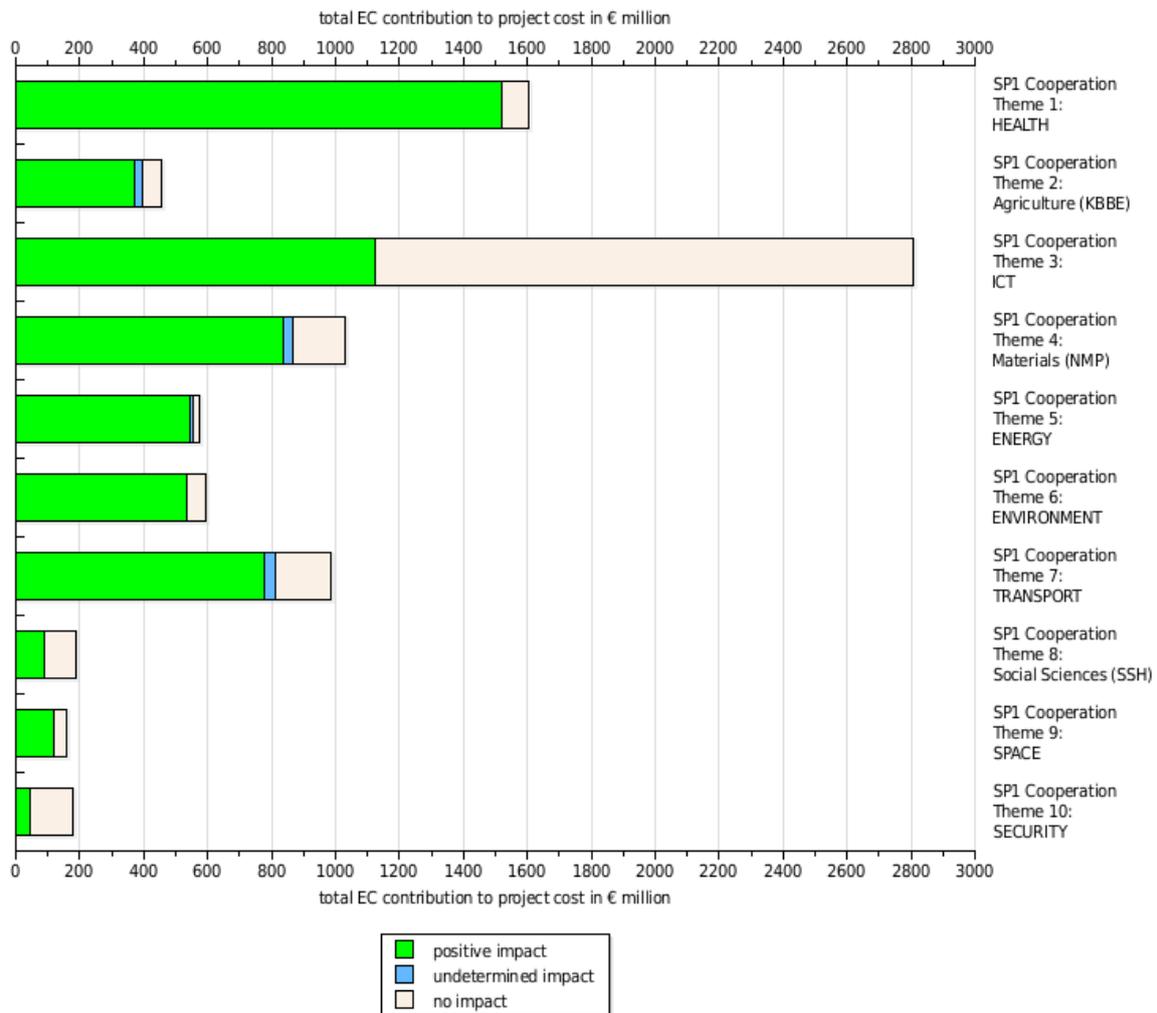


Figure 3: Total EC contribution to projects with expected impacts in the ten "Cooperation" themes

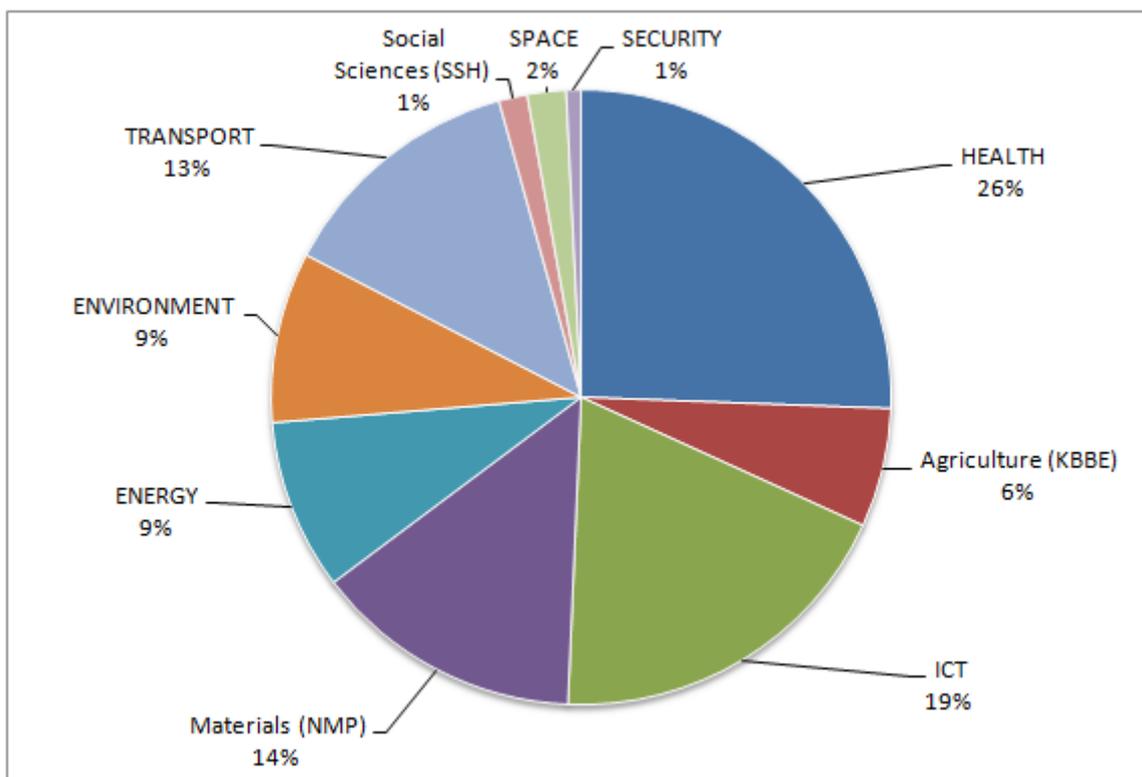


Figure 4: Share of total EC contribution (€) to projects with positive impacts on EU SDS objectives across the ten 'Cooperation' themes

Which FP7 themes contribute disproportionately high/low to EU SDS objectives?

The themes HEALTH, ENRGY and ENVIRONMENT contribute disproportionately high to EU SDS objectives

A comparison of the budget (total EC contribution) allocated to the ten 'Cooperation' themes (see Figure 1 above) with the budget (total EC contribution) spent on projects with positive impacts on the 78 EU SDS objectives (see Figure 4) reveals that seven 'Cooperation' themes, in particular the themes HEALTH, ENERGY and ENVIRONMENT, contribute disproportionately high to EU SDS objectives, that is, their share in the total EC contribution spent on projects with positive impacts on EU SDS objectives is higher than their share in the total EC contribution spent on all projects funded under SP 'Cooperation'. On the other hand, the three themes ICT, Social sciences (SSH) and SECURITY contribute disproportionately low in relation to their share in the 'Cooperation' budget, which can be explained by the rather low share of SD-relevant research (below 50 %) funded under these three themes.

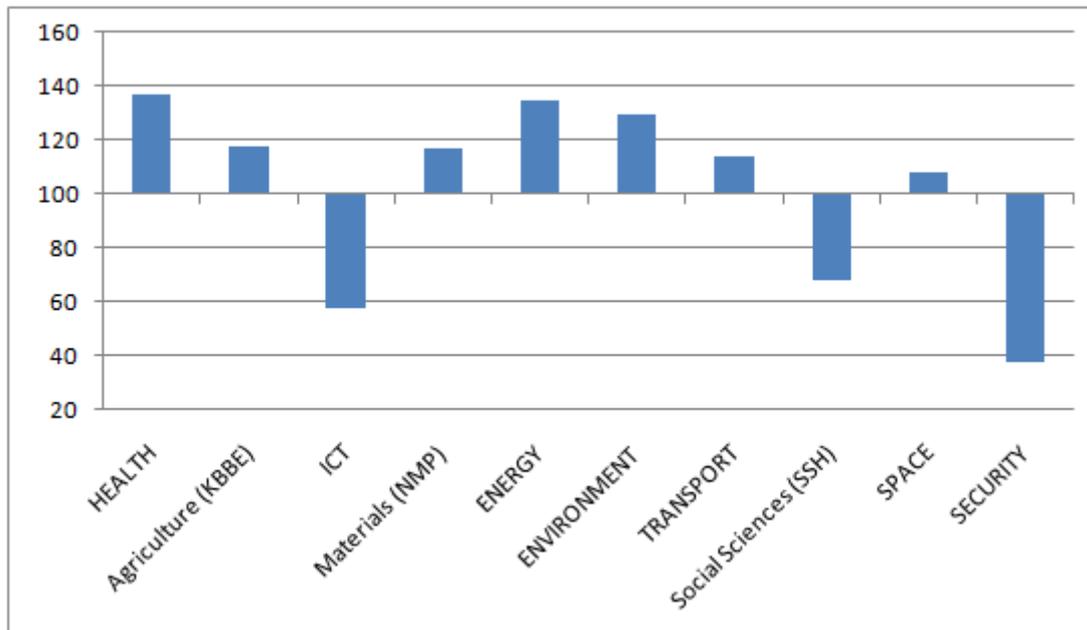


Figure 5: Analysis of total EC contribution (€) to projects with positive impacts on EU SDS objectives in relation to total EC contribution per theme (Index basis = 100)⁵

How are the EU SDS operational objectives addressed by FP7?

FP7-funded research mainly contributes to EU SDS objectives related to public health, climate change and natural resources

In order to complement the picture presented above, it is also interesting to “switch the view” in order to investigate on which of the seven EU SDS key challenges the FP7 topics actually have an impact on. As Figure 6 below shows, the key challenges “public health”, “conservation and management of natural resources” and “climate change and clean energy”⁶ are addressed most prominently by FP7 projects, with “public health” on top, accounting for 563 topics projects contributing to the strategy’s objectives related to health issues. The key challenges “conservation and management of natural resources” and “climate change and clean energy” are addressed by 473 and 451 topics, respectively.

Research on social issues receives lowest attention in terms of budget and topics

On the other end of the scale, the least number of impacts can be found in relation to the key challenges “social inclusion, demography and migration” and “global poverty and sustainable development challenges”, which are only addressed by 95 and 158 topics, respectively.

⁵ An index above 100 means that the share of a theme's budget spent on projects with positive impacts in relation to the total SP ‘Cooperation’ budget spent on projects with positive impacts is higher than the share of total budget allocated to the theme in general, or, in other words, that in relation to the theme’s budget its contribution to the EU SDS objectives is disproportionately high. Likewise, an index below 100 indicates a disproportionately low contribution to EU SDS objectives in relation to the budget allocated to the theme.

⁶ It has to be noted that the EU SDS key challenge “climate change and clean energy” mainly refers to energy-related objectives. The Europe 2020 strategy’s challenge of moving towards a “low carbon economy”, which will be dealt with in an upcoming policy brief, has a broader understanding of climate change, and is thus addressed even more by research under the FP7’s ‘Cooperation’ programme.

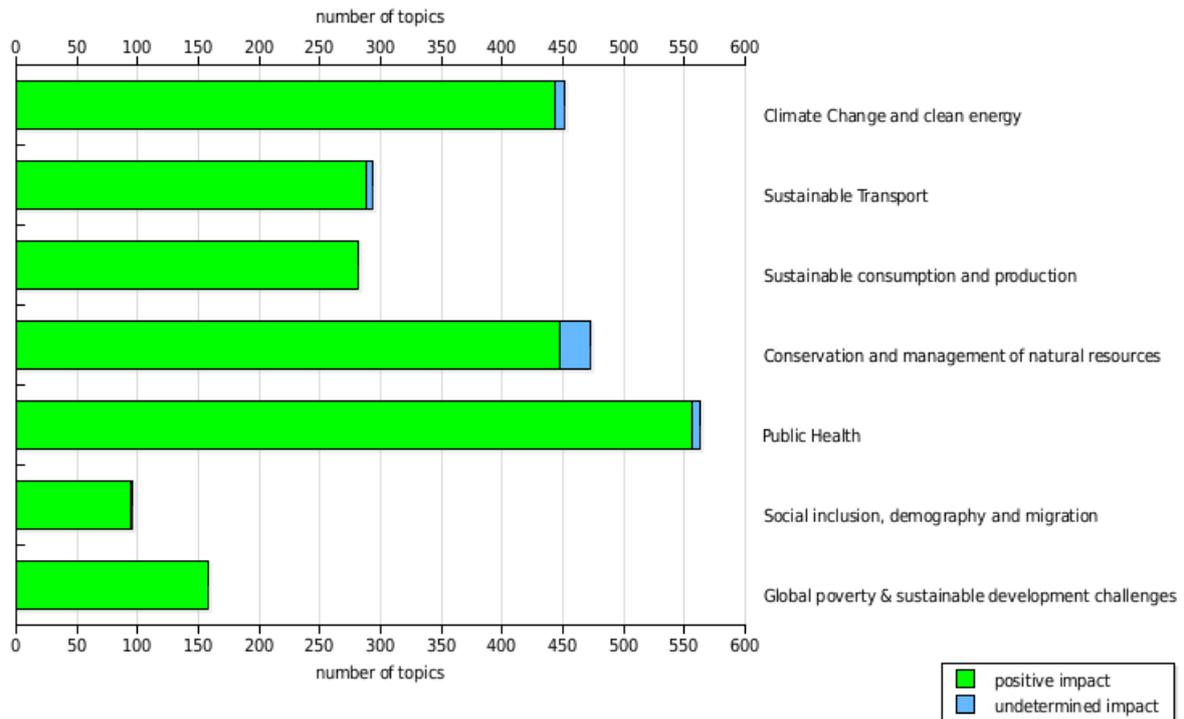


Figure 6: number of topics contributing to the EU SDS key challenges ⁷

How is the EC contribution distributed across the EU SDS key challenges?

The highest amount of FP7 funding is dedicated to the EU SDS objectives related to public health and climate change

In terms of funding provided to the research projects carried out under FP7’s ‘Cooperation’ programme, Figure 7 shows a similar picture as presented above. Projects contributing to the key challenge “public health” receive a funding of € 2.6 billion, followed the key challenge “climate change and energy” with a total EC contribution of € 2.1 billion.

Again, projects contributing to the key challenges “social inclusion, demography and migration” and “global poverty and sustainable development challenges” range at the lower end of the scale, with a total EC contribution of € 430 million and € 545 million, respectively.

⁷ Since each project may have impacts on more than one operational objective and/or key challenge, the sub-totals (number of projects and amount of funding per key challenge) should not be added up as this would result in potentially overestimated figures!

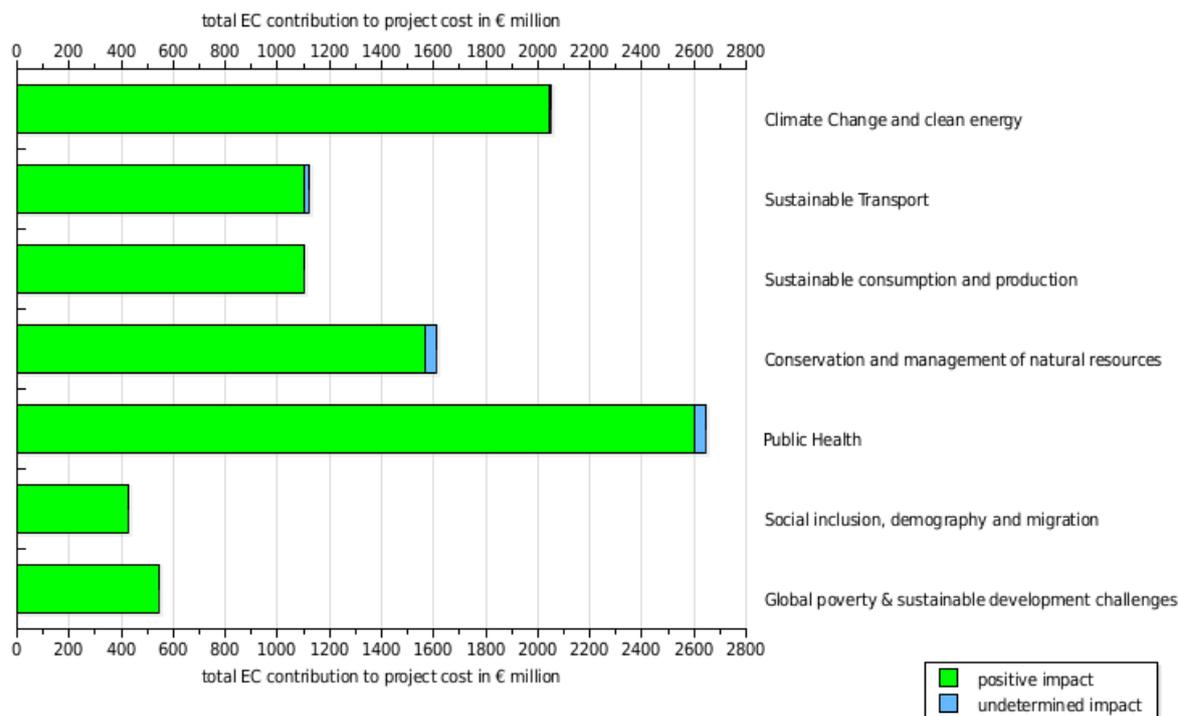


Figure 7: total EC contribution to projects contributing to the EU SDS key challenges (€ million)⁸

Concluding overview of FP7 impacts on the EU SDS key challenges

Similar thematic foci of FP7 and EU SDS in the areas of public health, sustainable transport and energy partly predetermines the number of impacts

To sum up, the following table provides an overview of how the ten themes of the Specific Programme ‘Cooperation’ impact on the 78 operational objectives of the EU SDS. It shows clearly how the distribution of impacts addressing these objectives is at least partly predetermined by the thematic structure of the ‘Cooperation’ programme. The most prominent links (in terms of expected impacts) can be found between the theme HEALTH and the key challenge “public health” (12.8 % of all topics), between the theme TRANSPORT and the key challenge “sustainable transport” (10.4 % of all topics), and between the theme ENERGY and the key challenge “climate change and clean energy” (7.9 % of all topics).

“Public health” addressed by one quarter of all topics

The key challenge “public health” is addressed by almost one quarter (24.8 %) of all ‘Cooperation’ topics, mainly from the themes HEALTH and Agriculture (KBBE). “Climate change and clean energy” and “conservation and management of natural resources” present other prominent key challenges, with expected impacts from 19.1 % and 19.8 % of all ‘Cooperation’ topics, respectively, both having an important part of expected impacts from the themes ENERGY and ENVIRONMENT.

⁸ Since each project may have impacts on more than one operational objective and/or key challenge, the sub-totals (number of projects and amount of funding per key challenge) should not be added up as this would result in potentially overestimated figures!

“Conservation and management of natural resources” is addressed in a cross-cutting way

While the key challenge “sustainable transport” is almost exclusively addressed by topics from the theme TRANSPORT, the key challenge “conservation and management of natural resources” is of a more cross-cutting nature by being related to a couple of FP7 themes, including Agriculture (KBBE), Materials (NMP), ENERGY and, in particular, ENVIRONMENT.

Table 2: Share of topics of the ten ‘Cooperation’ themes (1496 topics) with expected impacts on EU SDS objectives (%) ⁹

	Climate change and clean energy	Sustainable transport	Sustainable consumption and production	Conservation and management of natural resources	Public health	Social inclusion, demography and migration	Global poverty and sustainable development challenges
HEALTH	0.0%	0%	0.1%	0.1%	12.8%	1.4%	2.9%
Agriculture (KBBE)	1.3%	0.1%	1.0%	4.6%	5.2%	0.1%	1.0%
ICT	1.2%	0.3%	0.3%	0.3%	0.6%	0.3%	0.0%
Materials (NMP)	1.6%	0.4%	3.5%	3.0%	2.1%	0.1%	0.6%
ENERGY	7.9%	0.7%	3.6%	4.0%	0.2%	0.1%	0.5%
ENVIRONMENT	4.1%	0.2%	1.8%	5.7%	2.2%	0.2%	1.1%
TRANSPORT	2.0%	10.4%	1.5%	1.3%	0.6%	0.3%	0.1%
Social Sciences (SSH)	0.3%	0.1%	0.6%	0.2%	0.0%	1.3%	0.4%
SPACE	0.3%	0.1%	0.1%	0.5%	0.2%	0%	0.3%
SECURITY	0.3%	0.2%	0%	0.0%	0.8%	0.4%	0%
Total	19.1%	12.6%	12.6%	19.8%	24.8%	4.2%	6.9%

“Public health” is addressed by one third of the total EC contribution

Data in Table 3 re-emphasize the major role of the key challenge “public health”, accounting for more than one third (34.2 %) of the total EC contribution provided by the ten ‘Cooperation’ themes. Table 3 below presents the same analysis as Table 2 above, but from the perspective funding (total EC contribution) provided to projects in terms of € million.

ICT is outstripping ENERGY in terms of EC contribution dedicated to “climate change and clean energy”

Notably, while in terms of number of topics (see Table 2 above) the impact of the ICT theme was relatively low, the picture changes dramatically when looking at the amount of funding provided to ICT projects. Due to the large budget for the ICT theme (see Figure 3 above), its projects prominently contribute to the key challenges “climate change and clean energy” and “public health” as well as to “social inclusion, demography and migration”. It is quite surprising that the theme ICT – having in mind that only about 40 % of

⁹ A figure of „0%“ indicates “zero”, i.e. no topics with expected impacts, whereas values of „0.0%“ indicate a share of topics of less than 0.5 %.

its projects actually contribute to EU SDS key challenges¹⁰ – is allocating more project funding than the theme ENERGY in order to address the key challenge “climate change and clean energy”.

Similar to Table 2 above, the project funding allocated to “sustainable transport” is almost exclusively originating from the theme TRANSPORT, accounting for 9.4 % of the total EC contribution from SP ‘Cooperation’. Moreover, looking at the other end of the scale, the key challenges “social inclusion, demography and migration” and “global poverty and sustainable development challenges” are addressed equally low in terms of both number of topics and total EC contribution.

Table 3: Share of total EC contribution from the ten ‘Cooperation’ themes (€ 8.6 billion) to projects with expected impacts on EU SDS operational objectives¹¹

	Climate change and clean energy	Sustainable transport	Sustainable consumption and production	Conservation and management of natural resources	Public health	Social inclusion, demography and migration	Global poverty and sustainable development challenges
HEALTH	0.1%	0%	0.0%	0.0%	18.5%	1.3%	2.9%
Agriculture (KBBE)	0.4%	0%	0.5%	1.9%	3.3%	0.1%	0.1%
ICT	6.3%	1.6%	1.3%	0.8%	7.1%	2.6%	0.2%
Materials (NMP)	1.7%	0.1%	3.8%	5.4%	3.1%	0%	0.4%
ENERGY	4.7%	0.7%	1.9%	1.9%	0.1%	0.0%	0.1%
ENVIRONMENT	2.9%	0.1%	1.0%	3.7%	1.4%	0.0%	0.3%
TRANSPORT	2.0%	9.4%	0.9%	0.9%	0.1%	0.2%	0.0%
Social Sciences (SSH)	0.1%	0.0%	0.3%	0.1%	0%	0.9%	0.1%
SPACE	0.7%	0.4%	0%	0.4%	0.2%	0%	0.4%
SECURITY	0%	0%	0%	0%	0.5%	0.2%	0%
Total	19.0%	12.3%	9.7%	15.0%	34.2%	5.3%	4.6%

¹⁰ Despite the fact that ICT comprises about one third of total EC contribution (33 %, € 2.8 billion) within SP ‘Cooperation’, it only accounts for about 19 % (€ 1.1 billion) of the total EC contribution attributed to EU SDS key challenges.

¹¹ A figure of „0%“ indicates “zero”, i.e. no projects with expected impacts, whereas values of „0.0%“ indicate a share of total EC contribution to projects of less than 0.5 %.