

ORGANISATION EUROPÉENNE POUR LA RECHERCHE NUCLÉAIRE
CERN EUROPEAN ORGANIZATION FOR NUCLEAR RESEARCH

Voting procedure

| | | |
|-----------------|--|---|
| For information | FINANCE COMMITTEE 334th Meeting 15 December 2010 | — |
| For information | COUNCIL 157th Session 16 December 2010 | — |

Budget
of the Organization
for the fifty-seventh financial year

2011

The Budget for 2011 is expressed in 2011 prices, i.e. it includes the 0% indexation of the regular Member States' contributions and the cost-variation indices applying to the expenses proposed in document CERN/FC/5494-CERN/2936, which the Finance Committee is asked to recommend to the Council and the Council is invited to approve under a separate item of their respective December 2010 agendas.

The Finance Committee and the Council are invited to take note of this document.

Table of contents

| | |
|--|----|
| I. Executive Summary | 1 |
| 1. Observations of the Director General..... | 2 |
| 2. Variations with respect to the Revised 2010 Budget and the Draft 2011 Budget..... | 2 |
| 3. Overview of Revenues and Expenses | 4 |
| II. Revenues for the 2011 Financial Year | 5 |
| 1. Total Revenues..... | 7 |
| 2. Scale of Contributions of the Member States for 2011 | 8 |
| III. Operating Expenses for the 2011 Financial Year | 11 |
| Expenses by Scientific and Non-Scientific Programmes | 12 |
| IV. Summary of Expenses by Nature..... | 19 |
| V. Financial Position of the Organization..... | 25 |

I. Executive Summary

1. Observations of the Director General

Following the Council's approval of the proposed Medium-Term Plan (MTP) for the years 2011-2015 and the Draft 2011 Budget in September 2010¹, the Management presents the final 2011 Budget in 2011 prices in this document.

The final 2011 Budget is therefore a simple translation of the Draft Budget without changes in objectives for the scientific and non-scientific programmes. The 2011 goals are presented together with the expenses estimates and personnel strengths in Figures 5 to 10.

The final 2011 Budget presents the 2010 probable revenues and expenses including the carry-forward in line with CERN's financial rules and its impact on the 2011 Budget. The details of the variations are shown and explained in Figure 1.

The appreciation of the Swiss franc with respect to other currencies has made it possible to reduce some expenses in 2010, which has a positive impact on the budget balance.

The final 2011 Budget is expressed in 2011 prices following application of the cost-variation indices² presented to Council and its Committees for approval as separated agenda item. The reduced Member States' contributions with respect to 2010 are indexed with 0%; the overall cost-variation index is -2.49%. The positive impact on the overall budgetary deficit is shown in Figure 2.

Furthermore, Romania has signed an Agreement with CERN to become a Candidate for Accession. As a Candidate of Accession, Romania contributes in 2010 25% of its theoretical annual Member State contribution and will contribute 35% of its theoretical annual contribution in 2011. As decided by the Council in December 2008³, these contributions are added to the budget.

The 2011 figures include the outcome of the 2010 Five-Yearly Review and the first set of measures aimed at restoring full funding of the Pension Fund⁴, including the first 60 MCHF annual instalment by the Organization. In line with these proposals, the previous provision of 25 MCHF within the centralised expenses is cancelled and the 2011 estimated costs of 16.5 MCHF

¹ CERN/SPC/948/Rev.-CERN/FC/5450/Rev.-CERN/2915/Rev.

² CERN/FC/5494-CERN/2936

³ CERN/2829

⁴ CERN/FC/5497-CERN/2946 and CERN/FC/5498-CERN/2947

are allocated to the various headings concerned. The difference is reallocated to take account of the second phase of salary adjustments in 2012 as well as the increasing contributions to CHIS in the years 2012 to 2015. It should be noted that the estimated social security costs for the next five years are about 25 MCHF per annum on average as announced.

2. Variations with respect to the Revised 2010 Budget and the Draft 2011 Budget

The variations are shown in Figure 1 and are broken down as follows:

Changes in revenues:

- Contributions by Romania as a Candidate for Accession;
- EU contributions;
- Other revenues (KTT, sales, OpenLab, third party paid personnel).

Changes in expenses:

- Indexation of Member States' contributions by 0%, application of an overall CVI of -2.49% to expenses:
 - 0.33% for personnel and the impact of the 2010 Five-Yearly Review salary adjustments, and the increased CHIS and Pension Fund contributions for the Organization,
 - -5.39% for the materials budget;
- Cancellation of the provision for the 2010 Five-Yearly Review and Pension Fund restoration measures (due to the allocations to the headings concerned);
- Carry-forward of committed operation budgets in 2010;
- Savings in the 2010 materials budget by programme;
- Multi-annual project re-profiling and carry-forwards respecting the Cost-to-Completion estimates;
- The reallocations of operational savings within the 2010 budget year, notably for additional LHC reliability (nQPS and Magnet Rescue Facility), the renovation of the main building complex, the CERN share of the amendment with AMS for a new control room and outreach (Visit-points and Library reading room);
- Additional revenues with corresponding expenses for EU, OpenLab and KTT projects in 2010 and 2011 with respect to the situation in June.

Figure 1: Variations with respect to the Revised 2010 Budget and the Draft 2011 Budget (p.46, CERN/SPC/948/Rev.-CERN/FC/5450/Rev.- CERN/2915/Rev.)

| (in MCHF, rounded off) | Variations between 2010 Probable Revenues and Expenses and 2010 Revised Budget (2010 prices) | Variations between 2011 Budget (2011 prices) and 2011 Draft Budget (2010 prices) |
|--|--|--|
| Variations on REVENUES | 10.2 | 7.9 |
| Indexation of total regular contributions (subject to the Council vote*) | | 0.0 |
| Additional contribution from Romania as Candidate for Accession** | 3.2 | 4.2 |
| EU contributions | 1.5 | 3.1 |
| Other revenues | 5.5 | 0.6 |
| <i>Personnel paid on team accounts</i> | -0.3 | 0.6 |
| <i>Knowledge and technology transfer</i> | 0.3 | |
| <i>Sales and miscellaneous</i> | 5.0 | |
| <i>OpenLab revenues</i> | 0.5 | |
| Variations on OPERATING EXPENSES | -29.7 | -22.9 |
| Indexation to 2011 prices, Five-Yearly Review and Pension Fund | | -9.0 |
| <i>Personnel</i> | | 18.1 |
| <i>Materials</i> | | -27.1 |
| Cancellation of Five-Yearly provision in Centralised personnel expenses | | -25.0 |
| Operation | -16.2 | 2.5 |
| <i>Committed carry-forward</i> | -2.5 | 2.5 |
| <i>Savings on LHC Programme</i> | -2.9 | |
| <i>Savings on Other Programmes</i> | -5.1 | |
| <i>Savings on Infrastructure and Services</i> | -5.7 | |
| Projects | -22.7 | 2.6 |
| <i>Savings</i> | -13.5 | -1.2 |
| <i>Reprofiling</i> | -9.2 | 3.8 |
| Allocation to new or existing projects | 7.0 | 2.9 |
| <i>Magnet Rescue Facility</i> | 1.0 | 1.5 |
| <i>Renovation Main Building (incl amphitheatre)</i> | 2.4 | 0.5 |
| <i>AMS Control Room</i> | 1.0 | 0.9 |
| <i>Visitpoint</i> | 1.1 | |
| <i>Library new reading room</i> | 0.7 | |
| <i>CLIC Beam delivery system (collaboration with UK)</i> | 0.8 | |
| Expenses related to external revenues | 2.3 | 3.1 |
| <i>From EU contributions</i> | 1.5 | 3.1 |
| <i>From KTT and OpenLab</i> | 0.8 | |
| Variations on OTHER EXPENSES | -0.3 | 0.6 |
| Personnel paid on team accounts | -0.3 | 0.6 |
| IMPACT ON BALANCE | 40.1 | 30.2 |

* CERN/FC/5494-CERN/2936.

** Romania as Candidate for Accession will pay 35% of its calculated total contribution of 2011 as defined in the Council Resolution CERN/2829 and updated by the Agreement signed by CERN and Romania on 11 February 2010.

Explanations on Figure 1:

Figure 1 shows the variations for 2010 and 2011 with respect to the Revised 2010 Budget and Draft 2011 Budget approved in September. The totals for the 2010 probable revenues and expenses as well as the final 2011 Budget in 2011 prices are given in Figure 2.

In line with the statements of the Director-General to the Council and its Committees in June and September, the appreciation of the Swiss franc has made it possible to realise savings that are used to reduce the cumulative budget deficit. The 0% indexation of the Member States' contributions combined with the application of the overall negative cost-variation index to the foreseen expenses in 2011 also has a positive impact on the budget deficit. Together with the higher revenues, both items make it possible to reduce the overall budget deficit by almost 70 MCHF by the end of 2011 from an estimated -340 MCHF to some -270 MCHF.

3. Overview of Revenues and Expenses

Figure 2: Overview of Revenues and Expenses

| (in MCHF, rounded off) | 2010 Probable Revenues and expenses (2010 prices) | 2011 Budget (2011 prices) | Variations of 2011 Budget with respect to 2010 Probable Revenues and Expenses |
|--|---|---------------------------|---|
| REVENUES | 1,215.5 | 1,199.0 | -1.4% |
| Member States' contributions | 1,112.2 | 1,097.2 | -1.3% |
| Additional contributions from Host States | 22.4 | 29.1 | 29.9% |
| Additional contribution from Romania as Candidate for Accession* | 3.2 | 4.2 | |
| EU contributions | 17.3 | 12.4 | -28.6% |
| Additional contributions (for LINAC 4, HIE-ISOLDE) | 0.7 | 3.3 | 371.4% |
| Personnel paid on team accounts | 13.0 | 11.1 | -14.5% |
| Personnel on detachment | 1.0 | 0.8 | -12.0% |
| Internal taxation | 24.0 | 25.0 | 4.2% |
| Knowledge and technology transfer | 1.6 | 2.5 | 59.2% |
| Other revenues (including other in-kind, housing fund, sales) | 20.2 | 13.4 | -33.8% |
| OPERATING EXPENSES | 989.6 | 1,042.8 | 5.4% |
| Running of scientific programmes and support | 883.4 | 912.4 | 3.3% |
| Scientific programmes | 483.1 | 497.5 | 3.0% |
| <i>LHC (including spares and new initiatives support to detectors)</i> | <i>307.6</i> | <i>308.7</i> | <i>0.4%</i> |
| <i>Non-LHC physics and scientific support</i> | <i>59.2</i> | <i>64.0</i> | <i>8.3%</i> |
| <i>Accelerators and areas</i> | <i>116.4</i> | <i>124.7</i> | <i>7.2%</i> |
| Infrastructure and services | 400.3 | 414.9 | 3.6% |
| <i>General infrastructure and services</i> | <i>213.3</i> | <i>209.8</i> | <i>-1.6%</i> |
| <i>Infrastructure consolidation, buildings and renovation</i> | <i>29.7</i> | <i>28.6</i> | <i>-3.5%</i> |
| <i>Centralised personnel expenses</i> | <i>31.1</i> | <i>33.0</i> | <i>6.1%</i> |
| <i>Internal taxation</i> | <i>24.0</i> | <i>25.0</i> | <i>4.2%</i> |
| <i>Personnel internal mobility</i> | | <i>1.0</i> | |
| <i>Personnel on detachment</i> | <i>1.0</i> | <i>0.8</i> | <i>-12.0%</i> |
| <i>Insurances and postal charges, energy and water</i> | <i>80.7</i> | <i>97.4</i> | <i>20.7%</i> |
| <i>Housing fund</i> | <i>4.3</i> | <i>4.3</i> | <i>0.7%</i> |
| <i>Interest and financial costs</i> | <i>16.4</i> | <i>14.8</i> | <i>-9.3%</i> |
| Projects (including R&D) | 106.2 | 130.4 | 22.7% |
| <i>CLIC / Linear collider</i> | <i>25.0</i> | <i>26.6</i> | <i>6.5%</i> |
| <i>Linear collider detector R&D</i> | <i>2.2</i> | <i>3.2</i> | <i>42.4%</i> |
| <i>LINAC 4</i> | <i>34.7</i> | <i>38.1</i> | <i>9.8%</i> |
| <i>HIE-ISOLDE</i> | <i>2.9</i> | <i>8.8</i> | <i>200.2%</i> |
| <i>R&D and studies</i> | <i>11.6</i> | <i>14.3</i> | <i>23.7%</i> |
| <i>High luminosity machine upgrade</i> | <i>19.6</i> | <i>26.2</i> | <i>34.0%</i> |
| <i>High luminosity detectors upgrade</i> | <i>6.2</i> | <i>7.4</i> | <i>20.1%</i> |
| <i>High energy LHC studies / High field magnets</i> | <i>4.0</i> | <i>5.7</i> | <i>41.7%</i> |
| OTHER EXPENSES | 34.7 | 32.8 | -5.4% |
| Personnel paid on team accounts | 13.0 | 11.1 | -14.5% |
| Various | 21.7 | 21.7 | |
| <i>In-kind</i> | <i>4.6</i> | <i>4.6</i> | |
| <i>Stores activity</i> | <i>0.2</i> | <i>0.2</i> | |
| <i>Budget amortization of staff benefits accruals</i> | <i>17.0</i> | <i>17.0</i> | |
| TOTAL EXPENSES | 1,024.3 | 1,075.6 | 5.0% |
| BALANCE | | | |
| Annual balance | 191.2 | 123.4 | -35.5% |
| Capital repayment allocated to the budget (Fortis, FIPOI 1 and 2) | -15.1 | -21.2 | 40.6% |
| Recapitalising the Pension Fund | | -60.0 | |
| -Cumulative Balance - | - 488.7 | -270.4 | -13.5% |
| For information: | | | |
| Capital repayment to FIPOI 3 | | 0.2 | 0.2 |

II. Revenues for the 2011 Financial Year

1. Total Revenues

Figure 3: Total Revenues

| (in kCHF) | 2010 Probable Revenues (2010 prices) | 2011 Budget (2011 prices) | Variations of 2011 Budget with respect to 2010 Probable Revenues |
|--|---|------------------------------|--|
| REVENUES | 1,215,540 | 1,198,965 | -1% |
| Member States' contributions | 1,112,155 | 1,097,155 | -1% |
| Additional contributions from Host States | 22,375 | 29,060 | 30% |
| <i>Cash</i> | 16,675 | 19,575 | 17% |
| <i>In-kind</i> | 5,700 | 9,485 | 66% |
| Additional contribution from Romania as Candidate for Accession* | 3,230 | 4,210 | 30% |
| EU contributions | 17,345 | 12,385 | -29% |
| Additional contributions (for LINAC 4, HIE-ISOLDE) | 685 | 3,310 | 383% |
| Personnel paid on team accounts | 13,000 | 11,120 | -14% |
| Personnel on detachment | 955 | 840 | -12% |
| Internal taxation | 24,015 | 25,015 | 4% |
| Knowledge and technology transfer | 1,570 | 2,500 | 59% |
| Other revenues | 20,210 | 13,370 | -34% |
| <i>Sales and miscellaneous</i> | 7,960 | 2,000 | -75% |
| <i>OpenLab revenues</i> | 1,435 | 555 | -61% |
| <i>Financial revenues</i> | 200 | 200 | |
| <i>In-kind **</i> | 4,560 | 4,560 | |
| <i>Housing fund</i> | 6,055 | 6,055 | |

* Romania as Candidate for Accession will pay 35% of its calculated total contribution of 2011 as defined in the Council Resolution CERN/2829 and updated by the Agreement signed by CERN and Romania on 11 February 2010.

** The theoretical interest of the FIPOI loan and advantage from free use of land.

Explanations on Figure 3:

The Member States' contributions reduce in line with the 15 MCHF reduction requested and approved by the Council in September 2010. Following the Council Resolution of December 2008, the Romanian contribution as Candidate for Accession is added to the budget.

In spite of the additional revenues since June, EU revenues will reduce in 2011 with respect to 2010, notably due to the end of the EGEE 3 project. CERN has submitted new proposals aimed at obtaining additional support for new EU projects.

The heading "Other revenues" for 2010 includes actual sales. The 2011 amount corresponds to a conservative assumption. The headings 'Personnel paid on team accounts', 'Housing fund' and 'Personnel on detachment' have corresponding headings under the headings "Other expenses" and "Operating expenses" as shown in Figure 2. The OpenLab revenues in 2011 will be adjusted as a function of actual revenues as was done in 2009 and 2010.

2. Scale of Contributions of the Member States for 2011

The Member States' contributions for 2011 at 2011 prices amount to 1130.4 MCHF, a further 19.6 MCHF as a special contribution from the Host States, 9.5 MCHF as an in-kind contribution from France and an amount of 4.2 MCHF from Romania as its 2011 contribution as a Candidate for Accession. The percentage distribution of the scale of contributions for 2011 is presented to the Council for approval in document CERN/FC/5493-CERN/2935, and the cost-variation index proposals in document CERN/FC/5494-CERN/2936.

Figure 4: Scale of Contributions of the Member States for the Financial Year 2011

| Member States | Weighted Average Net National Income at factor costs* Average 2007 to 2009 (in million national currency) | Exchange rates | | | | | Weighted Average Net National Income at factor costs Average 2007 to 2009 (in MCHF) | 2011 Contribution in % |
|-------------------------|--|--|----------|----------|--------------|-------------------|---|--|
| | | 100 units of national currencies in Swiss francs | | | | | | |
| | | Jul-10 | Aug-10 | Sep-10 | Oct-10 | AVERAGE | | |
| 1 | 2 | 3 | 4 | 5 | 6= Av (2..5) | TOTAL | % | |
| | | | | | | | 7 = (1 * 6)/100 | 8 |
| Austria | 197 609 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 264 030 | 2.1771% |
| Belgium | 252 208 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 336 981 | 2.7787% |
| Bulgaria | 56 780 | 68.8761 | 68.6563 | 66.9025 | 68.8250 | 68.3150 | 38 789 | 0.3198% |
| Czech Republic | 2 547 008 | 5.3157 | 5.4115 | 5.3017 | 5.4825 | 5.3779 | 136 974 | 1.1295% |
| Denmark | 1 214 334 | 18.0727 | 18.0223 | 17.5655 | 18.0486 | 17.9273 | 217 697 | 1.7951% |
| Finland | 114 735 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 153 300 | 1.2641% |
| France | 1 399 273 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 1 869 604 | 15.4162% |
| Germany | 1 764 583 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 2 357 703 | 19.4409% |
| Greece | 172 573 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 230 579 | 1.9013% |
| Hungary | 17 137 331 | 0.4746 | 0.4773 | 0.4634 | 0.4903 | 0.4764 | 81 642 | 0.6732% |
| Italy | 1 015 674 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 1 357 067 | 11.1900% |
| Netherlands | 388 490 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 519 071 | 4.2801% |
| Norway | 1 894 184 | 16.7677 | 16.9200 | 16.5173 | 16.5919 | 16.6992 | 316 314 | 2.6082% |
| Poland | 1 140 870 | 33.0155 | 33.6718 | 33.0691 | 34.0381 | 33.4486 | 381 605 | 3.1466% |
| Portugal | 113 977 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 152 288 | 1.2557% |
| Slovak Republic | 49 529 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 66 177 | 0.5457% |
| Spain | 800 681 | 134.7100 | 134.2800 | 130.8500 | 134.6100 | 133.6125 | 1 069 810 | 8.8213% |
| Sweden | 2 094 029 | 14.1723 | 14.2436 | 14.1750 | 14.5057 | 14.2742 | 298 905 | 2.4647% |
| Switzerland | 460 017 | 100.0000 | 100.0000 | 100.0000 | 100.0000 | 100.0000 | 460 017 | 3.7932% |
| United Kingdom | 1 148 713 | 161.1100 | 162.8500 | 155.9400 | 153.4900 | 158.3475 | 1 818 958 | 14.9986% |
| Total | | | | | | 12 127 514 | 100.0000% | |
| Candidate for Accession | | | | | | | | |
| Romania** | 424 325 | 31.5965 | 31.6491 | 30.7107 | 31.4453 | 31.3504 | 133 027 | Total: 1.0969% Due in 2011: 0.3839% |

* Based on OECD.stat on 14.10.2010

** Romania as Candidate for Accession will pay 35% of its calculated total contribution of 1.0969% for 2011 as defined in the Council Resolution CERN/2829 and updated by the Agreement signed by CERN and Romania on 11 February 2010.

| | 2011 Annual Contributions including additional contribution | 2011 Annual Contributions | Contribution in % |
|--|--|--|------------------------------|
| | (2010 prices) | (2011 prices) | |
| | in CHF | in CHF | % |
| | 9 | 10 | 8 |
| Austria | 23 886 350 | 23 886 350 | 2.1771% |
| Belgium | 30 486 100 | 30 486 100 | 2.7787% |
| Bulgaria | 3 509 150 | 3 509 150 | 0.3198% |
| Czech Republic | 12 391 850 | 12 391 850 | 1.1295% |
| Denmark | 19 694 650 | 19 694 650 | 1.7951% |
| Finland | 13 868 800 | 13 868 800 | 1.2641% |
| France | 169 139 750 | 169 139 750 | 15.4162% |
| Germany | 213 297 300 | 213 297 300 | 19.4409% |
| Greece | 20 860 100 | 20 860 100 | 1.9013% |
| Hungary | 7 386 050 | 7 386 050 | 0.6732% |
| Italy | 122 771 550 | 122 771 550 | 11.1900% |
| Netherlands | 46 959 450 | 46 959 450 | 4.2801% |
| Norway | 28 616 400 | 28 616 400 | 2.6082% |
| Poland | 34 523 150 | 34 523 150 | 3.1466% |
| Portugal | 13 777 150 | 13 777 150 | 1.2557% |
| Slovak Republic | 5 986 900 | 5 986 900 | 0.5457% |
| Spain | 96 783 850 | 96 783 850 | 8.8213% |
| Sweden | 27 041 400 | 27 041 400 | 2.4647% |
| Switzerland | 41 616 950 | 41 616 950 | 3.7932% |
| United Kingdom | 164 558 000 | 164 558 000 | 14.9986% |
| Total | 1 097 154 900 | 1 097 154 900 | 100.0000% |
| Additional special contribution from the Host States * | 19 575 000 | 19 575 000 | |
| Additional special in-kind contribution from France * | 9 485 000 | 9 485 000 | |
| Additional contribution from Romania as Candidate for Accession** | 4 212 150 | 4 212 150 | |
| Total including additional contributions | 1 130 427 050 | 1 130 427 050 | |

* The Host States agreed to the following payment profile for the additional special contribution:

Switzerland in-cash: 12.375 MCHF (2009), 5.175 MCHF (2009), 5.275 MCHF (2010), 4.775 MCH (2011).

France in-cash: 11.8 MCHF (2009), 11.4 MCHF (2009), 11.4 MCHF (2010), 14.8 MCHF (2011) and 17.1 MCHF in-kind contribution for 2009-2011.

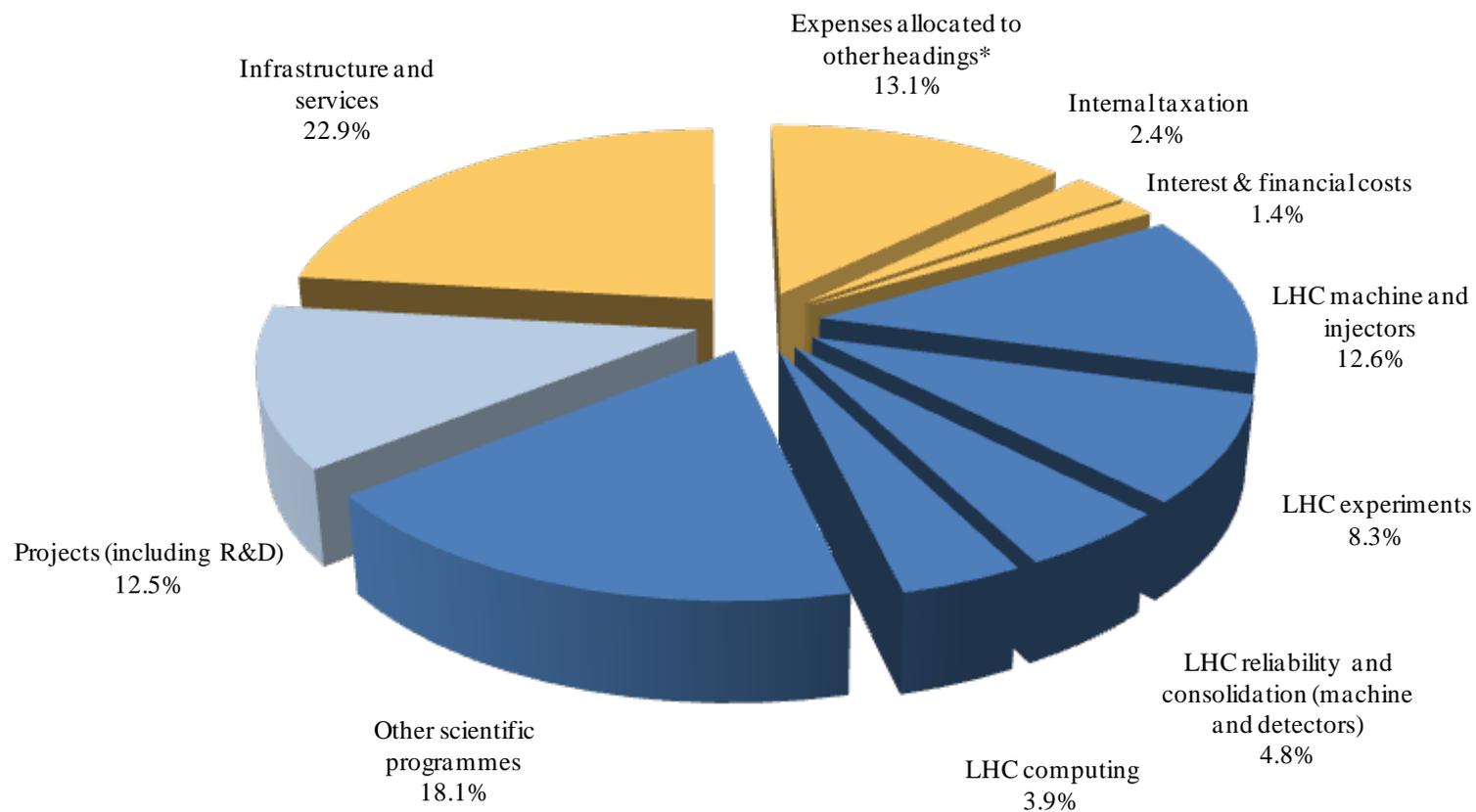
** Romania as Candidate for Accession will pay 35% of its calculated total contribution of 2011 as defined in the Council Resolution CERN/2829 and updated by the Agreement signed by CERN and Romania on 11 February 2010.

III. Operating Expenses for the 2011 Financial Year

Expenses by Scientific and Non-Scientific Programmes⁵

Figure 5: 2011 Budget (Personnel, Materials and Interest & financial costs)

* Including Centralised personnel expenses, Social security, Internal mobility, Personnel on detachment (3.3%), Energy and water (8.7%), Insurances and postal charges (0.7%), Housing Fund (0.4%)



⁵ Please note that this Section only details the operating expenses. Other expenses are not linked to the scientific and non-scientific programmes and are summarized in Figure 2.

Figure 6: Scientific Programme

| 2010 Probable expenses (2010 prices, rounded off) | | | | Fact sheet as in Rev MTP 2010 | Activity | 2011 goals | 2011 Budget (2011 prices, rounded off) | | | | Variations of 2011 Budget with respect to 2010 Prob. Exp. |
|--|----------------|----------------|----------------|---|--|--|---|----------------|----------------|----------------|--|
| FTE | kCHF | | | | | | FTE | kCHF | | | |
| Personnel | Personnel | Materials | Total | | | | Personnel | Personnel | Materials | Total | |
| 984.0 | 170,935 | 136,635 | 307,570 | | LHC programme (incl. projects) | | 983.2 | 176,525 | 132,200 | 308,725 | 0.4% |
| 444.5 | 74,175 | 59,655 | 133,830 | 1 | LHC machine and injectors | Progressive luminosity increase, with the aim of accumulating 1 fb ⁻¹ of integrated luminosity by the end of 2011. | 442.0 | 76,310 | 54,960 | 131,270 | -1.9% |
| 430.8 | 71,740 | 47,370 | 119,110 | | LHC machine and experimental areas | | 431.2 | 74,395 | 44,625 | 119,020 | -0.1% |
| 4.2 | 710 | 11,975 | 12,685 | | Spares | Continue to build up a full stock of spare parts for the LHC machine | | | 9,585 | 9,585 | -24.4% |
| 9.5 | 1,725 | 310 | 2,035 | | LHC injectors (for heavy Ions) | Preparation of the nominal LHC Lead ion beam for injection into the LHC | 10.8 | 1,915 | 750 | 2,665 | 31.0% |
| 403.0 | 72,065 | 22,320 | 94,385 | | LHC experiments | | 386.1 | 71,910 | 14,680 | 86,590 | -8.3% |
| 125.3 | 22,230 | 3,985 | 26,215 | 2 | ATLAS detector | Data-taking, first measurements of Standard Model physics processes. | 109.3 | 21,135 | 4,680 | 25,815 | -1.5% |
| 119.9 | 21,240 | 4,035 | 25,275 | 3 | CMS detector | Achieve high data-taking efficiency. Measure Standard Model processes. | 108.1 | 20,140 | 3,890 | 24,030 | -4.9% |
| 47.1 | 8,770 | 2,080 | 10,850 | 4 | ALICE detector | pp physics data-taking and 2nd Pb-Pb physics data-taking. Physics analysis. | 49.3 | 9,485 | 2,245 | 11,730 | 8.1% |
| 50.8 | 9,405 | 1,695 | 11,100 | 5 | LHCb detector | Data-taking, improvement on the world limits for Br(Bs → μ ⁺ μ ⁻) and fs. | 54.2 | 10,235 | 2,050 | 12,285 | 10.7% |
| 34.8 | 5,760 | 2,735 | 8,495 | 6 | Common items, other experiments (inc. Totem, LHCf) | Totem: global commissioning. LHCf: physics run at the highest possible energy. | 39.0 | 5,510 | 1,350 | 6,860 | -19.2% |
| 25.1 | 4,660 | 7,790 | 12,450 | | Detectors re-scoping | Installation of Beryllium beam pipe for LHCb and termination of White Paper activities | 26.3 | 5,405 | 465 | 5,870 | -52.9% |
| 40.9 | 6,825 | 27,295 | 34,120 | 7 | LHC machine and areas reliability and consolidation | Consolidation old LEP infrastruct. prep. splices, collimation enh., radiation to electronics | 57.2 | 9,435 | 33,285 | 42,720 | 25.2% |
| | | | | 8 | LHC detectors consolidation | Procure all the necessary equip. for the consolid. in 2012 shutdown and prepare for it. | | | 7,050 | 7,050 | |
| 95.6 | 17,870 | 27,365 | 45,235 | 9 | LHC computing | Sustained transfer of LHC data to tape at 1.5 GB/s, data exp. to Tier 1 of up to 2 GB/s | 97.9 | 18,870 | 22,225 | 41,095 | -9.2% |
| 620.9 | 106,775 | 68,730 | 175,505 | | Other programmes (LHC support and non-LHC programmes) | | 591.1 | 106,775 | 81,980 | 188,755 | 7.5% |
| 18.5 | 2,980 | 3,895 | 6,875 | 10 | Non-LHC physics | Reach goals defined in the experiment proposals and approved by Research Board. | 19.8 | 3,880 | 7,615 | 11,495 | 67.2% |
| 68.3 | 10,615 | 1,940 | 12,555 | 11 | Theory | Support experiments and TH community. | 55.1 | 8,950 | 3,105 | 12,055 | -4.0% |
| | | 1,300 | 1,300 | 12 | LHC physics centre | Coordinate and optimize resources for the best possible exploitation of the LHC data. | | | 670 | 670 | -48.5% |
| 166.9 | 30,575 | 7,845 | 38,420 | 13 | Scientific support | Assure a safe, efficient and reliable operation of the experiments. Support to users. | 150.7 | 29,335 | 10,490 | 39,825 | 3.7% |
| 33.7 | 5,680 | 4,110 | 9,790 | 14 | Low and medium energy accelerators | Delivery of beams to all users with the maximum overall efficiency. All of the non-LHC physics programmes are done in parallel with operation for LHC injection. The total beam to each user will be limited to by the overall scarcity of protons | 33.9 | 5,945 | 3,980 | 9,925 | 1.4% |
| 197.2 | 33,755 | 21,885 | 55,640 | 14 | PS and SPS complexes | | 204.7 | 36,615 | 22,500 | 59,115 | 6.2% |
| 116.0 | 19,845 | 14,750 | 34,595 | 14 | Accelerator technical services | | 107.9 | 18,925 | 13,220 | 32,145 | -7.1% |
| 20.2 | 3,325 | 13,005 | 16,330 | 15 | Accelerator consolidation | Continuation of the existing accelerator consolid. to ensure reliable LHC operation. | 19.1 | 3,125 | 20,400 | 23,525 | 44.1% |
| 1,604.8 | 277,710 | 205,365 | 483,075 | | Grand Total | | 1,574.3 | 283,300 | 214,180 | 497,480 | 3.0% |
| | 22.85% | 16.89% | 39.74% | | % of total revenues | | | 23.63% | 17.86% | 41.49% | |

Explanations to Figure 6:

The LHC machine and injectors expenses for operation will reduce from 2010 to 2011 due to a reduced pace of spares procurement whereas the LHC detectors allocation reduces due to the end of the detector re-scoping for materials.

The overall increase on the LHC Programme stems from the activity LHC detectors consolidation introduced in the 2010 MTP and Draft 2011 Budget.

Non-LHC physics is increased to allow CERN to contribute its share for projects such as NA61 and NA62.

Following the discussion in the SPC, the heading LHC physics Centre includes only the allocations for the new centre whereas the previous white paper manpower heading is now included under detector re-scoping.

The ongoing support activities, such as for Theory with its large fellowship and visiting scientists programme, the scientific support, low- and medium-energy accelerators and PS and SPS complexes and accelerator technologies are similar in 2010 and 2011. Please note that associates are accounted for under materials from 2011 onwards.

Accelerator consolidation increases in 2011 with respect to 2010 notably for the injectors but with a less ambitious plan (as a function of time) with respect to June due to manpower constraints and funding limitation. Overall, this heading assumes continued use of the existing injector chain for the next 25 years for reliable LHC operation.

Figure 7: Infrastructure and services

| 2010 Probable expenses (2010 prices, rounded off) | | | | Fact sheet as in Rev MTP 2010 | Activity | 2011 goals | 2011 Budget (2011 prices, rounded off) | | | | Variations of 2011 Budget with respect to 2010 Prob. Exp. | |
|--|-----------|-----------|---------|---|---|---|---|-----------|-----------|---------|--|-------|
| FTE | kCHF | | | | | | FTE | kCHF | | | | |
| Personnel | Personnel | Materials | Total | | | | Personnel | Personnel | Materials | Total | | |
| 773.4 | 181,285 | 219,020 | 400,305 | | Infrastructure and services | | 779.2 | 194,535 | 220,350 | 414,885 | 3.6% | |
| 79.8 | 13,325 | 2,510 | 15,835 | 16 | Manufacturing facilities (workshops, etc.) | Avoid any delays in projects where the design/production is on the critical path. | 84.5 | 14,680 | 2,355 | 17,035 | 7.6% | |
| 137.8 | 20,775 | 42,080 | 62,855 | 17 | General facilities and logistics (site maintenance, transport) | Further improve services to the users and staff and the maintenance of the site. | 138.2 | 23,675 | 32,855 | 56,530 | -10.1% | |
| 154.8 | 25,605 | 17,705 | 43,310 | 18 | Informatics | Ensure adequate level of availability of the Informatics services including protection against accidental data loss | 147.0 | 26,355 | 14,725 | 41,080 | -5.1% | |
| 146.7 | 21,090 | 9,860 | 30,950 | 19 | Safety, health and environment | Safe operation of CERN beam facilities, reduce environmental impact, radiat. prot. | 146.9 | 21,815 | 13,540 | 35,355 | 14.2% | |
| 191.4 | 32,575 | 9,815 | 42,390 | 20 | Administration | Balance cent./non-cent. admin., final impl. of KPIs, review in-house vs outsourcing. | 193.7 | 34,595 | 7,785 | 42,380 | 0.0% | |
| 39.7 | 8,645 | 9,265 | 17,910 | 21 | Outreach and KTT | | 36.7 | 8,680 | 8,770 | 17,450 | -2.6% | |
| 17.4 | 2,810 | 26,860 | 29,670 | 22 | Infrastructure consolidation, buildings and renovation | Grouping of surface treatment (build 107), bld. 867 refurb (radiation workshop), roofs, etc. | 27.0 | 4,460 | 24,185 | 28,645 | -3.5% | |
| 5.9 | 56,460 | 84,555 | 141,015 | 23 | Centralised expenses | | 5.3 | 60,275 | 101,290 | 161,565 | 14.6% | |
| | 31,095 | | 31,095 | | Centralised personnel expenses (inc. social sec.) | | | 33,005 | | 33,005 | 6.1% | |
| | 24,015 | | 24,015 | | Internal taxation | | | 25,015 | | 25,015 | 4.2% | |
| | | | | | Personnel internal mobility | Enhance internal mobility | | 1,000 | | 1,000 | | |
| 3.5 | 955 | | 955 | | Personnel on detachment | | 2.8 | 840 | | 840 | -12.0% | |
| | | 73,400 | 73,400 | | Energy and water | | | | 90,125 | 90,125 | 22.8% | |
| | | 7,275 | 7,275 | | Insurances and postal charges | | | | 7,275 | 7,275 | | |
| 2.4 | 395 | 3,880 | 4,275 | | Housing fund | | 2.5 | 415 | 3,890 | 4,305 | 0.7% | |
| | | 16,370 | 16,370 | 23 | Interest and financial costs | Reduce short term loans. | | | | 14,845 | 14,845 | -9.3% |
| | 14.91% | 18.02% | 32.93% | | % of total revenues | | | 16.23% | 18.38% | 34.60% | | |

Explanations to Figure 7:

The baseload of the ongoing infrastructure and services results in an overall constant budget allocation. The reduction in general facilities and logistics is offset by an increase for manufacturing facilities and safety, health and environment.

As in previous years, the radioactive waste management project was delayed. The increase for safety, health and environment is notably due to enhanced radiation monitoring during the LHC operation.

Following the re-profiling of the multiannual infrastructure consolidation headings and probable KTT revenues and expenses, these headings are almost constant.

The overall increase from 2010 to 2011 in this programme is mainly due to a higher estimate for energy consumption (shorter technical stop in 2011 than in 2010).

It should be noted that the draft budget contained 25 MCHF under centralised expenses for the outcome of the Five-Yearly Review and Pension Fund discussions. The corresponding 2011 amount is now included under the corresponding personal headings. The CERN share of the pensioners' increased CHIS contribution rate explains the increase in the centralised personnel expenses.

Interest and financial costs reduce due to an expected reduction of short-term loans by the end of 2011.

Figure 8: Projects

| 2010 Probable expenses (2010 prices, rounded off) | | | | Fact sheet as in Rev MTP 2010 | Activity | 2011 goals | 2011 Budget (2011 prices, rounded off) | | | | Variations of 2011 Budget with respect to 2010 Prob. Exp. |
|--|---------------|---------------|----------------|---|--|--|---|---------------|---------------|----------------|--|
| FTE | kCHF | | | | | | FTE | kCHF | | | |
| Personnel | Personnel | Materials | Total | | | | Personnel | Personnel | Materials | Total | |
| 279.7 | 45,585 | 60,645 | 106,230 | | Projects | | 306.5 | 53,145 | 77,245 | 130,390 | 22.7% |
| 79.0 | 12,870 | 12,115 | 24,985 | 24 | CLIC / Linear collider | Complete CTF3, complete final version of Conceptual Design of a 3 TeV Lin. Collider. | 91.0 | 14,850 | 11,755 | 26,605 | 6.5% |
| 9.9 | 1,590 | 650 | 2,240 | 25 | Linear collider detector R&D | Detector simulation studies; technical design of detector elements and concepts. | 16.8 | 2,695 | 495 | 3,190 | 42.4% |
| 52.7 | 8,700 | 26,025 | 34,725 | 26 | LINAC 4 | Complete the first series of acceler. struct. Commiss. the 3 MeV inj. on the test stand. | 54.3 | 10,190 | 27,950 | 38,140 | 9.8% |
| 13.1 | 2,200 | 725 | 2,925 | 27 | HIE-ISOLDE | Launching of CE work. Start prep series prod. of high-beta superconduct. RF cavities. | 23.8 | 4,005 | 4,775 | 8,780 | 200.2% |
| 46.1 | 7,265 | 4,330 | 11,595 | | R&D | | 41.1 | 7,480 | 6,865 | 14,345 | 23.7% |
| 20.1 | 2,775 | 3,505 | 6,280 | 28 | R&D accelerators | Launching of High Power SPL study. | 17.5 | 2,850 | 4,405 | 7,255 | 15.5% |
| 26.0 | 4,490 | 825 | 5,315 | 29 | Other R&D (computing supported by EU, detectors) | | 23.6 | 4,630 | 2,460 | 7,090 | 33.4% |
| 49.5 | 8,170 | 11,415 | 19,585 | 30 | High luminosity machine upgrade | Detailed analysis of SPS and PSB upgrades. Detailed design of subsystems and components. | 56.2 | 9,970 | 16,270 | 26,240 | 34.0% |
| | | | | | PSB upgrade | Preparation and launch of an energy upgrade project for the PSB from 1.4 GeV to 2 GeV. | 6.5 | 1,100 | 4,065 | 5,165 | |
| | | | | | SPS upgrade | Prep. and launch of an upgrade project to provide the future beam needed for the high lum. LHC | 10.9 | 1,970 | 7,790 | 9,760 | |
| 18.1 | 3,155 | 1,630 | 4,785 | | LHC machine upgrade | Prep. and launch of an upgrade project for high luminosity operation of the LHC from 2021. | 16.8 | 3,170 | 1,150 | 4,320 | -9.7% |
| 18.4 | 2,765 | 7,885 | 10,650 | | LHC inner triplet | Complete the prot. MQXC low-beta quadrupole. Merge with High Field Magnets. | 13.4 | 2,225 | 2,525 | 4,750 | -55.4% |
| 13.0 | 2,250 | 1,900 | 4,150 | | Low power SPL and PS2 studies | Complete the reports on the studies for an alternative injector complex by early 2011. | 8.7 | 1,505 | 740 | 2,245 | -45.9% |
| 16.5 | 2,690 | 3,465 | 6,155 | 31 | High luminosity detectors upgrade | Continue R&D and start some procur. and construct. of comp. to be inst. in 2014-16. | 9.7 | 1,670 | 5,725 | 7,395 | 20.1% |
| 16.5 | 2,690 | 2,515 | 5,205 | | LHC detectors R&D | Continue R&D and in some cases start procurements and construction of components | 9.7 | 1,670 | 3,685 | 5,355 | 2.9% |
| | | 950 | 950 | | LHC detectors upgrade | DAQ and ITS for ALICE, IBL for ATLAS, 4th forward muon station YE4 for CMS, new 40 MHz trigger for LHCb. | | | 2,040 | 2,040 | 114.7% |
| 12.9 | 2,100 | 1,920 | 4,020 | 32 | High energy LHC studies / High field magnets | Small length of prototype 1 nm Nb3Sn conductor; First Short Model Coil test. | 13.6 | 2,285 | 3,410 | 5,695 | 41.7% |
| | 3.75% | 4.99% | 8.74% | | % of total revenues | | | 4.43% | 6.44% | 10.88% | |

Explanations to Figure 8:

As approved in the MTP in September, the pace of the projects is reduced with respect to the original plan, such that the CLIC / linear collider headings increase only slightly in 2011.

LINAC 4 follows the baseline plan without a change in the Cost-to-Completion.

The R&D activities increase, notably for the generic R&D on High-Power SPL studies and as a consequence of the EUCARD project, whereas other R&D reduces, mainly due to the ending of EU-supported IT R&D programmes such as EGEE-3.

Following the new baseline to upgrade the existing injectors instead of replacing them, the PS Booster and SPS upgrades start in 2011 with the amounts foreseen in the Draft Budget expressed in 2011 prices. The LHC machine upgrade R&D (including the EU project S-LHCPP) is almost constant

whereas the original inner triplet project is ending with the completion of a prototype to be merged with the High-Field Magnets R&D (which therefore increases).

The Low-Power SPL and PS2 studies are completing activities scheduled in the 2006 long-term plan (former White Paper activities).

The first estimated requirements are earmarked to start the R&D for a major machine and detector upgrade towards 2020 (HL-LHC) and for high-field magnets for the purposes of a possible high-energy LHC upgrade (HE-LHC). This is included in the headings High luminosity detectors upgrade and High-energy LHC studies / high-field magnets.

Energy and water

Figure 9: Expenses – Energy and water

(in MCHF, rounded off)

| Activity | 2010 Probable Expenses (2010 prices) | 2011 Budget (2011 prices) | Variations of 2011 Budget with respect to 2010 Prob. Exp. |
|-------------------------------------|---|------------------------------|---|
| Energy and water (baseload) | 23.5 | 27.6 | 17.5% |
| Electricity | 11.8 | 13.7 | 16.6% |
| Heating oil and gas | 4.2 | 5.8 | 38.1% |
| Water and miscellaneous | 7.5 | 8.1 | 7.3% |
| Energy for basic programmes | 49.9 | 62.5 | 25.3% |
| Experimental areas ¹⁾ | 11.0 | 11.1 | 0.7% |
| Data handling | 1.3 | 1.3 | 3.3% |
| Accelerators: | 18.1 | 27.9 | 53.9% |
| <i>AD</i> | 0.9 | 0.6 | -36.2% |
| <i>PS</i> | 4.0 | 5.5 | 38.3% |
| <i>SPS (including CNGS)</i> | 13.3 | 21.8 | 64.8% |
| LHC | 19.5 | 22.2 | 14.1% |
| Grand Total Energy programme | 73.4 | 90.1 | 22.8% |

1) This includes particle physics (PS and SPS fixed target), ISOLDE, LHC Experiments and LHC test beam into East, West and North Area.

Explanations to Figure 9:

With respect to 2010, the amount for 2011 takes due account of the estimated electricity consumption throughout the 2011 luminosity run (i.e. shorter technical stop). As mentioned in the 2009 Annual Progress Report, the distribution of the expenses for electrical power circuits has been redefined, resulting in a larger share for the LHC and fixed-target experiments, which is now grouped under the heading “Experimental Areas”. This heading also includes the energy for LHC test beams. With respect to the past distribution between the accelerators, the PS and SPS complexes now have higher power consumption due to LHC needs.

Multiannual projects and fixed assets

Figure 10: Expenses – Details of projects included in the activity headings

(in kCHF)

| 2010 Probable Expenses * | | | Activity | Project | 2011 Budget * | | | Variations of 2011 Budget with respect to 2010 Prob. Exp. |
|----------------------------|----------------|----------------|--|--|----------------------------|----------------|----------------|---|
| (2010 prices, rounded off) | | | | | (2011 prices, rounded off) | | | |
| Personnel | Materials | Total | | | Personnel | Materials | Total | |
| 44,690 | 173,221 | 217,911 | Programme | Projects | 59,640 | 190,700 | 250,340 | 14.9% |
| 0 | 12,135 | 12,135 | LHC programme Included in figure 6 | LHC machine and injectors | 120 | 10,255 | 10,375 | -14.5% |
| 0 | 5,400 | 5,400 | | LHC spares | 0 | 7,270 | 7,270 | 34.6% |
| 0 | 6,445 | 6,445 | | Rebuilding Spares Stock after 3-4 incident | 0 | 2,315 | 2,315 | -64.1% |
| 0 | 290 | 290 | | LHC injectors | 120 | 670 | 790 | 172.4% |
| 6,650 | 27,015 | 33,665 | | LHC machine and areas reliability and consolidation | 9,270 | 33,125 | 42,395 | 25.9% |
| 5,035 | 15,100 | 20,135 | | LHC consolidation | 6,310 | 14,640 | 20,950 | 4.0% |
| 170 | 1,590 | 1,760 | | Induced consolidation following 3-4 incident | 395 | 925 | 1,320 | -25.0% |
| 0 | 5,700 | 5,700 | | Liquid helium additional storage tanks | 0 | 0 | 0 | -100.0% |
| 1,445 | 1,790 | 3,235 | | Collimation system enhancements | 2,155 | 8,680 | 10,835 | 234.9% |
| 0 | 2,135 | 2,135 | | Radiation to electronics (R2E) | 295 | 8,060 | 8,355 | 291.3% |
| 0 | 700 | 700 | | Splice consolidation and repair | 115 | 820 | 935 | 33.6% |
| 0 | 0 | 0 | | LHC detectors consolidation | 0 | 7,050 | 7,050 | |
| 4,660 | 7,790 | 12,450 | | LHC experiments | 5,405 | 465 | 5,870 | -52.9% |
| 4,660 | 7,790 | 12,450 | | Detectors re-scoping | 5,405 | 465 | 5,870 | -52.9% |
| 0 | 22,425 | 22,425 | | LHC computing | 0 | 18,065 | 18,065 | -19.4% |
| 0 | 22,425 | 22,425 | | LHC Computing Grid | 0 | 18,065 | 18,065 | -19.4% |
| 0 | 925 | 925 | | Other programmes Included in figure 6 | AEGIS | 120 | 255 | 375 |
| 0 | 1,440 | 1,440 | NA62 | | 0 | 4,675 | 4,675 | 224.7% |
| 0 | 415 | 415 | Isolde robots | | 0 | 1,670 | 1,670 | 302.4% |
| 635 | 4,000 | 4,635 | Magnet rescue facility | | 375 | 1,390 | 1,765 | -61.9% |
| 0 | 940 | 940 | AD consolidation | | 0 | 1,040 | 1,040 | 10.6% |
| 3,325 | 12,065 | 15,390 | Accelerator consolidation | 3,125 | 19,360 | 22,485 | 46.1% | |
| 170 | 8,060 | 8,230 | Infrastructure and services Included in figure 7 | Extension building 40 | 185 | 0 | 185 | -97.8% |
| 0 | 500 | 500 | | Radio infrastructure upgrade for firefighters | 0 | 1,390 | 1,390 | 178.0% |
| 0 | 770 | 770 | | High radiation material test facility ** | 0 | 155 | 155 | -79.9% |
| 30 | 120 | 150 | | Isolde robots ** | 115 | 450 | 565 | 276.7% |
| 0 | 2,595 | 2,595 | | Ramses II light | 0 | 910 | 910 | -64.9% |
| 440 | 60 | 500 | | Radioactive waste management | 495 | 1,375 | 1,870 | 274.0% |
| 0 | 1,076 | 1,076 | | Visitpoint | 0 | 0 | 0 | -100.0% |
| 2,810 | 26,160 | 28,970 | | General and technical infrastructure consolidation | 4,460 | 24,190 | 28,650 | -1.1% |
| 0 | 2,400 | 2,400 | | Renovation auditorium & ground floor main bldg | 0 | 465 | 465 | -80.6% |
| 0 | 4,300 | 4,300 | | Building 867 (radiation workshop) | 0 | 8,900 | 8,900 | 107.0% |
| 0 | 0 | 0 | | Building 107 (surface treatment) | 120 | 2,860 | 2,980 | |
| 580 | 12,735 | 13,315 | | Surface infrastructure consolidation (roofs, facades, etc) | 1,755 | 8,530 | 10,285 | -22.8% |
| 0 | 1,060 | 1,060 | | AMS payload operations control center | 0 | 870 | 870 | -17.9% |
| 2,230 | 5,665 | 7,895 | Technical infrastructure consolidation (heating, electricity, etc) | 2,585 | 2,565 | 5,150 | -34.8% | |
| 12,315 | 11,930 | 24,245 | Projects Included in figure 8 | CLIC | 14,265 | 11,685 | 25,950 | 7.0% |
| 1,540 | 395 | 1,935 | | Linear collider detector R&D | 2,645 | 295 | 2,940 | 51.9% |
| 7,905 | 26,025 | 33,930 | | LINAC 4 | 9,885 | 27,950 | 37,835 | 11.5% |
| 2,200 | 725 | 2,925 | | HIE-ISOLDE | 4,005 | 4,775 | 8,780 | 200.2% |
| 0 | 2,040 | 2,040 | | High radiation material test facility | 60 | 2,015 | 2,075 | 1.7% |
| 0 | 0 | 0 | | PS Booster upgrade | 1,100 | 4,065 | 5,165 | |
| 0 | 0 | 0 | | SPS upgrade | 1,970 | 7,790 | 9,760 | |
| 185 | 1,045 | 1,230 | | RF 200 MHz system | 210 | 1,145 | 1,355 | 10.2% |
| 0 | 950 | 950 | | LHC detectors upgrade | 0 | 2,040 | 2,040 | 114.7% |
| 1,825 | 1,620 | 3,445 | | High field magnets (HFM) | 1,830 | 3,120 | 4,950 | 43.7% |

* Excluding EU projects.

** Refers to the Radioactive waste management activities of the project.

Figure 10 details the amounts for 2010 and 2011 of the non-recurrent expenses for multiannual projects and fixed assets (such as research facilities, consolidation, upgrades and buildings, etc) in line with the fixed assets policy⁶. 2011 will be the start for the upgrade projects of the existing injectors, LHC detectors consolidation and the new surface treatment building (building 107).

⁶ CERN/FC/5210

IV. Summary of Expenses by Nature

Figure 11: Materials expenses by nature (including interest and financial costs).

(in kCHF)

| Nature | 2010 Probable Expenses (2010 prices) | 2011 Budget (2011 prices) | Variations of 2011 Budget with respect to 2010 Prob. Exp. |
|--|---|------------------------------|---|
| <u>Materials expenses</u> ¹⁾ | 471,485 | 499,755 | 6.00% |
| Goods, consumables and supplies | 232,600 | 246,630 | 6.03% |
| Electricity, heating gas and water ²⁾ | 73,590 | 90,360 | 22.79% |
| Industrial services (service contracts) | 60,875 | 57,030 | -6.32% |
| Repair and maintenance (other indus. services contracts) | 36,570 | 35,985 | -1.60% |
| Third party payments and consultants | 30,495 | 32,600 | 6.90% |
| Other overheads ³⁾ | 37,355 | 37,150 | -0.55% |
| <u>Interest and financial costs</u> | 18,270 | 16,745 | -8.35% |
| Fortis bank | 14,120 | 13,585 | -3.79% |
| In-kind (FIPOI interest 0%) ⁴⁾ | 1,900 | 1,900 | |
| Short-term interest | 1,590 | 595 | -62.58% |
| Ppbar indexation ⁵⁾ | 410 | 415 | 1.22% |
| Bank charges | 250 | 250 | |
| TOTAL MATERIALS | 489,755 | 516,500 | 5.46% |

1) Previously this heading referred only to the operating expenses, excluding housing fund and stores activity. Since the 2009 Out-Turn (CERN/FC/5412), this heading includes housing fund, stores activity and reflects also the in-kind expenses.

2) This heading comprises also the expenses for Housing Fund whereas the line "Energy and water" in the figures 4, 10, 12 refers to the Energy programme.

3) Including insurances and postal charges, CERN contributions to collaborations.

4) Theoretical interest at market rate for FIPOI 1 and 2 loans at 0%. This heading is compensated by the corresponding revenue heading "In-kind".

5) Previously, this amount was included under short-term interest. We assume the indexation rate of 2% p.a.

Figure 12: Breakdown of materials expenses by nature

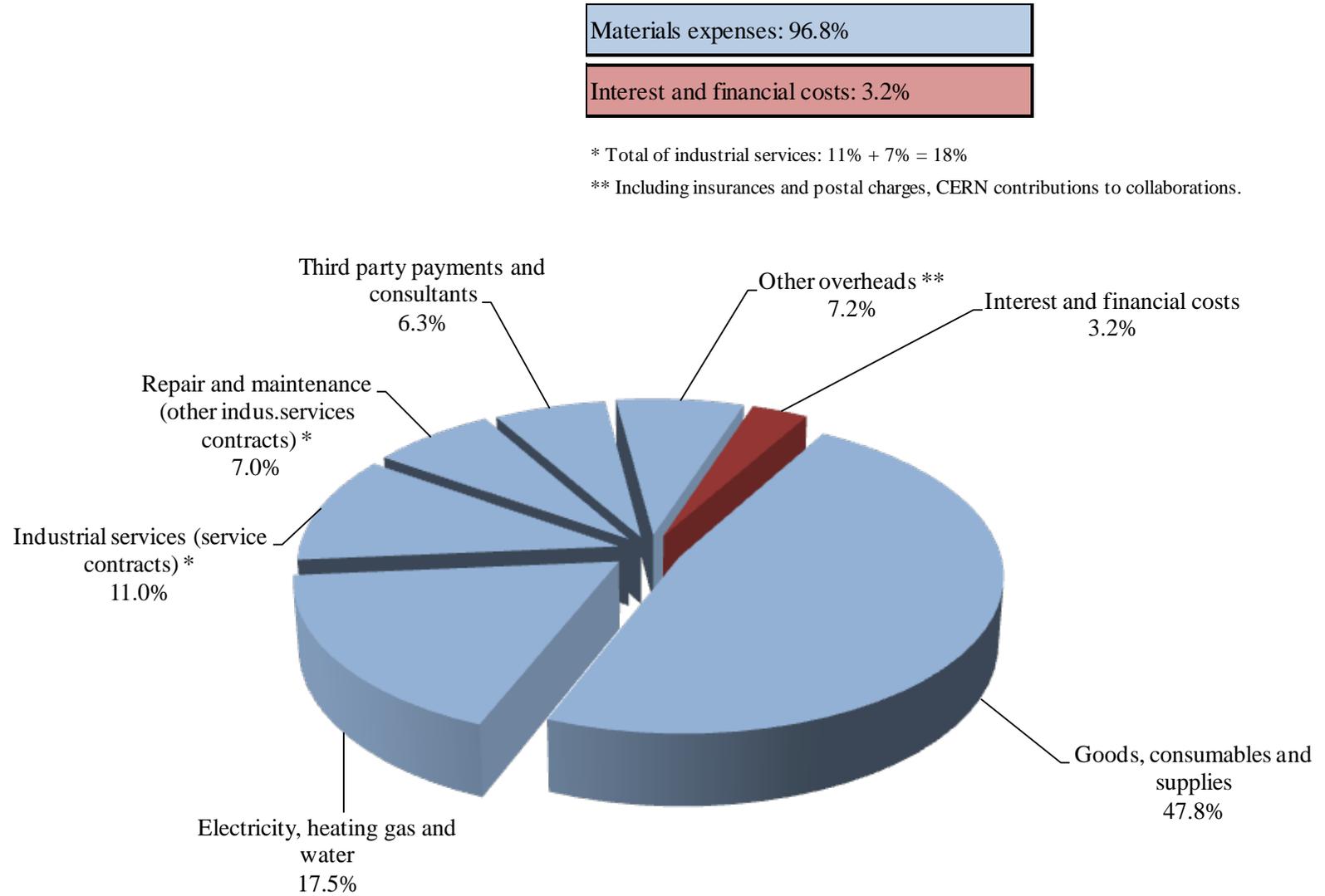


Figure 13: Personnel Expenses by Nature

(in kCHF)

| Nature | 2010 Probable Expenses (2010 prices) | 2011 Budget (2011 prices) | Variations of 2011 Budget with respect to 2010 Probable Expenses |
|---|---|------------------------------|---|
| <u>Staff members</u> ¹⁾ | 464 600 | 493 520 | 6.22% |
| <i>Basic salaries</i> ²⁾ | 263 720 | 277 010 | 5.04% |
| <i>Allowances</i> | 57 795 | 60 750 | 5.11% |
| Non-residence | 19 365 | 19 885 | 2.69% |
| Family allowances | 22 380 | 22 920 | 2.41% |
| Special allowances | 3 460 | 4 090 | 18.21% |
| Overtime | 2 180 | 2 720 | 24.77% |
| Various allowances | 10 410 | 11 135 | 6.96% |
| <i>Social contributions</i> | 87 975 | 97 740 | 11.10% |
| Pension Fund | 68 620 | 77 135 | 12.41% |
| Health insurance | 19 355 | 20 605 | 6.46% |
| <i>Centralised personnel expenses</i> | 31 095 | 33 005 | 6.14% |
| Installation, recruitment and termination of contracts | 6 975 | 6 355 | -8.89% |
| Additional periods of membership in the Pension Fund for shift work | 2 935 | 1 900 | -35.26% |
| Contribution to health insurance for pensioners | 21 185 | 24 750 | 16.83% |
| <i>Internal taxation</i> | 24 015 | 25 015 | 4.16% |
| <u>Fellows (including overhead for students)</u> ³⁾ | 52 555 | 48 155 | -8.37% |
| <u>Apprentices</u> | 425 | 425 | |
| TOTAL PERSONNEL | 517 580 | 542 100 | 4.74% |
| Budget Amortization of staff benefit accruals | 17 000 | 17 000 | |
| TOTAL PERSONNEL incl bud. amort. of staff benefit accruals | 534 580 | 559 100 | 4.59% |

1) Including staff paid on team accounts. For 2010 staff paid on Team Accounts is 10.14MCHF, for 2011 9.4 MCHF.

2) Including the withheld salary for short-term.SLS participations.

3) Including fellows and paid associates paid on team accounts. For 2010 fellows and paid associates paid on Team Accounts is 2.7 MCHF, for 2011 1.8 MCHF. From 2011 onwards, the paid associates will be part of the materials budget.

Overall complement: The 2011 budget will cover 2,339 FTEs staff (active 2,260 FTEs on CERN's core budget, 21 FTEs on EU projects, 58 FTEs on team accounts) and 393 FTEs fellows (310 FTEs on CERN's core budget, 63 FTEs on EU projects, 5 FTEs on OpenLab activities and 15 FTEs on team accounts).

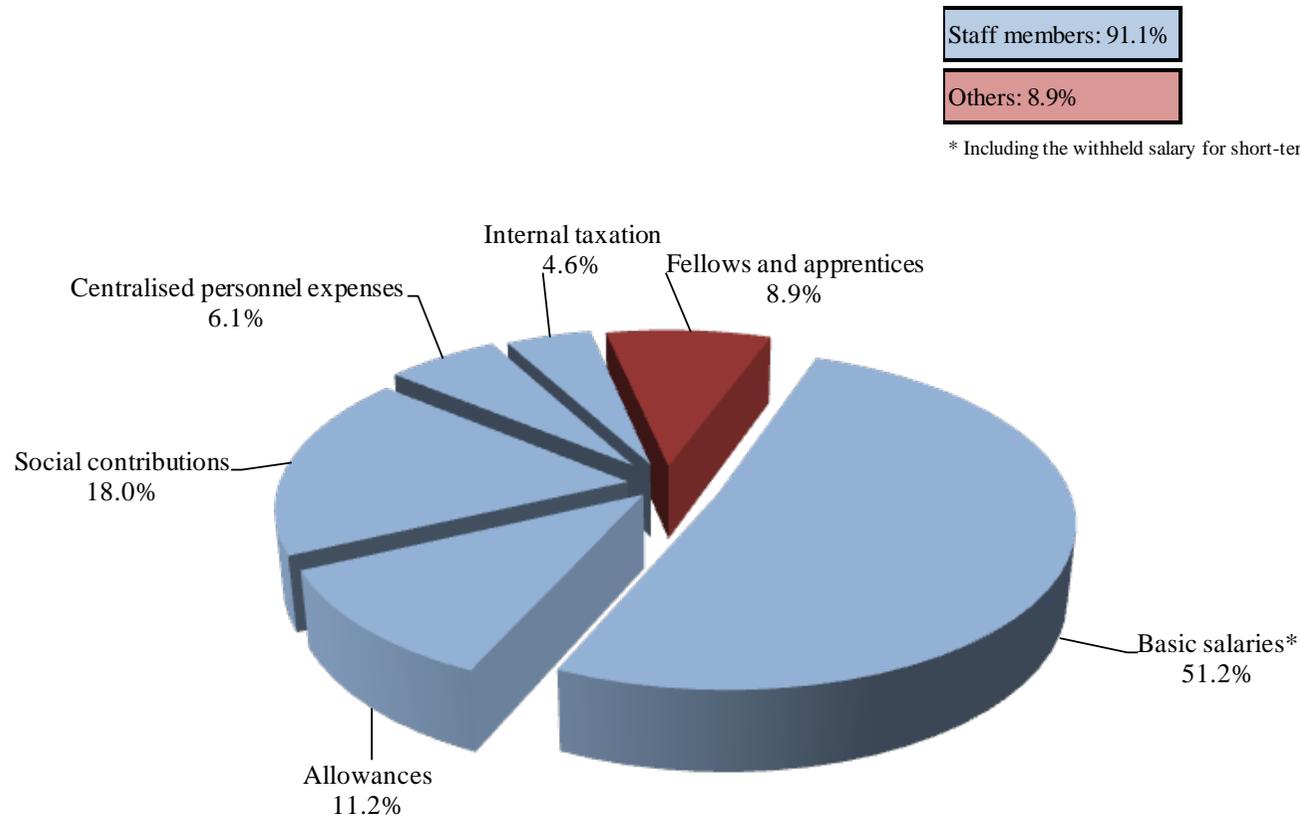
Explanations to Figure 13:

Following the implementation of the outcome of TREF’s discussions on the 2010 Five-Yearly Review and the CERN share of the increased contributions for social security items, the headings “Contribution to health insurance for pensioners”, “Pension Fund” and “Health insurance” show a significant increase. The relative increase for basic salaries and allowances is due to more externally funded personnel in 2011, 0.35% overall indexation, 1% basic salary increase for career path D and 2% for career path E, F, G and H staff (part of the Five-Yearly Review) as well as less staff than foreseen in 2010 (i.e. less than the active 2250 FTE target).

The total CERN Personnel expenses for 2011 are estimated to be 542.1 MCHF. This includes 11.1 MCHF for staff and fellows paid on team accounts.

Internal taxation is expected to amount to 25.0 MCHF and is also shown as revenues for the Organization, the amount depending on the staff’s positions in the salary grid.

Figure 14: Personnel expenses breakdown by nature



V. Financial Position of the Organization

Statement of Cash Flow

Figure 15: Estimated statement of Cash Flow for Financial Years 2010 and 2011

| | 2010 | 2011 |
|--|---------------|---------------|
| (in MCHF, rounded off, estimated as at 01/08/2010) | (2010 prices) | (2011 prices) |
| (A) START OF THE YEAR | | |
| Liquid assets brought forward | 27 | |
| Outstanding short-term loans | 290 | * 30 |
| (1) CASH INFLOW | 1 281 | 1 249 |
| Contributions | 1 090 | 1 101 |
| Special cash contributions | 17 | 20 |
| Teams and collaborations | 137 | 100 |
| EU, KTT, other revenues | 37 | 28 |
| (2) CASH OUTFLOW | 1 048 | 1 226 |
| Expenses | 906 | 1 030 |
| Teams and collaborations | 110 | 100 |
| Interest and financial costs | 16 | 15 |
| Capital repayment Fortis + FIPOI | 15 | 21 |
| Recapitalisation of the Pension Fund | | 60 |
| (3) VARIATION OF CASH POSITION | 233 | 23 |
| (B) END OF THE YEAR | | |
| Estimated outstanding short-term loans | 30 | 7 |

* For 2011, it is an estimated amount.

The Cash Flow statement is an estimate, the balance of short-term loans will depend on the actual carry-forward, the in- and outflows on team accounts and the inflow of the Member States' contributions.

Loan from FORTIS bank

The outstanding amount to Fortis Bank amounts to 405.8 MCHF at the end of 2010 and will reduce to 385.5 MCHF by the end of 2011. The loan will be fully reimbursed by the end of June 2026.

Short-term bank loans and overdrafts

As mentioned in Figure 15, short-term loans and bank overdrafts are estimated to amount to 7 MCHF at the end of 2011. The estimated short-term interest and bank charges will amount to some 0.8 MCHF as shown in Figure 11.

Loan from FIPOI

The FIPOI loans are interest-free, the capital repayment for the existing two FIPOI loans amounts to 880 kCHF per year. In addition, a further FIPOI loan was granted for the Building 40 extension (building 42). The capital repayment of 226 kCHF per year for this new loan will start once the building construction is completed.