

SIXTH FRAMEWORK PROGRAMME



Project no: **502687**

NEEDS

New Energy Externalities Developments for Sustainability

INTEGRATED PROJECT

*Priority 6.1: Sustainable Energy Systems and, more specifically,
Sub-priority 6.1.3.2.5: Socio-economic tools and concepts for energy strategy.*

4°

PERIODIC MANAGEMENT REPORT

M37-M54

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Lead Contractor: **ISIS – Institute of Studies for the Integration of Systems**

Table of Contents

SECTION 1 – Justification of major cost items and resource2

 1.1 Description of the work performed2

 1.2 Explanatory notes on major cost items34

 1.3 Cost Budget Follow-up Table56

 1.4 Person-Month Status Table82

 1.5 Major Deviations92

SECTION 2 – Form C96

SECTION 3 – Summary financial report (Appendix 5)97

SECTION 1 – Justification of major cost items and resource

1.1 Description of the work performed

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
1) ISIS				
STREAM2B				
WP12	0.5	0.6	0	Translation in Italian of the surveys 2 and 3. Contribution to the implementation of the final stakeholders database
WP13	0	0	0	
STREAM3B				
WP2	0.5	0.5	0	Overall organisation of the workshop and of the key note speech
WP4	0.5	0.7	0	Cairo Forum: Contribution to the organisation of the event: programme, invitations, contacts with participants
WP5	3.5	3.7	0	Needs Final Conference: Planning, Design, organisation and contribution to the proceedings layout
WP6	2	3	0	Overall management and organisation of communication activities, both for the website and the newsletters
STREAMINTEGRATION				
WP5	1	2.5	0	Organisation and elaboration of the input provided by the NEEDS Stream Leaders and final drafting of the Deliverable 5.3
Coo	8	13.6	0	Continuous coordination activity of the IP. Preparation, input coordination and drafting of the IP contractual final reports
2) AEKI				
STREAM1D				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	4	4.5	0	External costs of 20 fossil, 2 biomass and 1 nuclear reference power plants were calculated using the updated EcoSenseWeb model. Power plants operational in 2005 as well as planned fossil and biomass technologies were modelled. Upstream and downstream processes were taken into account using life cycle inventory data. Cost-benefit analysis was applied for evaluation of retrofit projects of coal and lignite power plants, introducing flue gas desulphurization technologies. Four alternatives of new power plant projects were compared using cost-benefit analysis. The external costs of the Hungarian power sector were aggregated and compared to macro-economical indicators. Externalities related to different hypothetical nuclear accident scenarios were calculated using the COSYMA model, for nuclear reactors operating in Czech Republic and Hungary.
WP6	2	2	0	Instruments for internalization of external costs were reviewed for Hungary and compared to the calculated external costs for regional and global scale, as well as external costs occurring within the territory of Hungary. A national seminar was organized on 23 February 2009, where the implementation of the ExternE methodology for the Hungarian power and heating sector was disseminated.
3) AMBIENTE ITALIA				
STREAMIA				
WP6	0.5	0.5	0	Participation in the discussions on the application of the methodology, and reviewed results.
WP8	0.5	0	0	
WP11	0.5	0.5	0	Final review, finalisation of the deliverable
STREAM2B				
WP12	0	0	0	
4) ARMINES				
STREAM1B				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP2	0	0	0	
WP3	0	0	0	
WP7	0,5	0,1	0	Review of report on application of EcoSenseWeb
STREAMIC				
WP5	3,5	0,5	0	Carried out the work on uncertainty analysis
STREAM3A				
WP3	4,5	1,3	0	Completed the final version of deliverable D. 3.1 and presented the results in many workshops and lectures..
5) AUTH				
STREAM1B				
WP1	2	2	1.5	Development of a computational tool in order to assess the terrain complexity of the area under investigation Development of a tool to provide input meteorological data for local scale models, based on data from larger scale models. Testing of the tools to assess their efficiency in local scale modelling applications.
WP7	1	0	0	
STREAM3A				
WP1	3.5	3.4	1	Completed TP1.2: "Methodology to account for non-linearity of impacts depending on different back ground emission scenarios" and TP1.3:" Methodology and Calculations: Local Air Quality - Parameterisation of results of local models" To this end AUTH could relay on two person month more transferred by MET.NO
7) CDER				
STREAM1D				
WP5	6	3	0	National implementation in Morocco. The external costs quantified for 4 major power plants.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP6	2	2	0	Analysis of major features of energy sector and internalisation goals (distorted energy prices, strong dependence on imported energy sources, strong growth in electricity demand, partial liberalisation of electricity market) and highlighting the need for gradual increase in energy prices. Discussion of ambitious targets in development of renewable sources of energy
8) CEDRE				
<i>Work finished</i>				
10) ETHZ				
<i>This partner withdrew from the project</i>				
12) CHALMERS				
STREAM2A				
WP5	0	5	5	Use of the NEEDS national model for Sweden for analysing system developments when internalising external costs. Review of RS2a final year reports.
13) CIEMAT				
STREAM1A				
WP12	0	0.25	0	Final review, finalisation of the deliverable
STREAM2A				
WP5	0.5	0.5	0	Participation in dissemination activities
14) CRES				
STREAM2A				
WP5	0.4	1.5	0	Participation at the VIII RS2a/NEEDS Workshop (WS4) “Macro-Consistency of the Pan European model” (Amsterdam, 24 October 2007).
15) CUEC				
STREAM1D				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP4	0.5	0.5	0	Adjustment of monetary values for health end-points for CEE, MPC countries, India and China in order to conduct benefit transfer. Application of transferred values for the external costs quantification by EcoSenseWeb tool.
WP5	2.3	2.3	0	National implementation of ExternE method in the Czech Republic; quantification of externalities for the main (about 20) reference Czech power plants.
WP6	3.5	3.5	0	Discussion of possible policy uses of externality quantifications; spatial focus on emission charging and energy taxation in internalisation part.
Coo	0	0	0	
STREAM3A				
WP4	2	2	0	Finishing CBA guideline; training RS1d partners and CBA guide application in the case of the Czech Republic.
WP5	3	3	0	Finishing guide on green accounting and aggregation of the external costs. Deriving macro indicators on the external costs for power sector and whole economy for the EU.
STREAM3B				
WP2	0.1	0.1	0	Collaboration on preparation of policy workshops and final NEEDS Conference.
WP4	0.1	0.1	0	Administrative work related to minor partners.
STREAMINTEGRATION				
WP5	0.075	0.075	0	Overall stream coordination and integration of the streams. Discussion of policy guidelines.
Coo	0	0	0	
16) DLR				
STREAMIA				
WP6	4.4	5.35	0	external cost assessment for RS1a reference technologies
WP9	0.2	0.2	0	final reveiw and reporting

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP12	0.25	0.25	0	final review and reporting
Coo	0	0	0	
STREAM3B				
WP2	0.1	0.1	0	Contribution to final NEEDS conference
STREAMINTEGRATION				
WP5	0.2	0.2	0	Input to final report; policy conclusions
17) ECN				
STREAM2A				
WP3	0.85	0.2	0	NEEDS meeting at ECN premises; responding to technical questions about technologies (CCS) in databases
WP5	0.4	0	0	
17) ECN				
STREAMINTEGRATION				
WP4	0.5	0.1	0	reviewing reports and documents
18) SWECO				
STREAM1C				
WP1	0	1.6	0	contribute to deliverable and meeting
WP2	0	1.4	0	contribute to activities and meetings
WP5	0.6	0.6	0	contribute to deliverable
STREAM3A				
WP2	6	5.1	0	Contribute to deliverable and participate at meetings
WP4	2	1.6	0	contribute to deliverable
WP6	0.75	0	0	
Coo	0	0	0	
STREAM3B				
WP2	0.1	0.1	0	present results and participate meeting
WP4	0.1	0	0	

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0.2	0.1	0	present results and participate meeting
WP6	0.1	0.1	0	present paper and participate meeting
STREAMINTEGRATION				
WP3	0	1	0	Contribute to deliverable and participate at meetings
WP5	0.25	0	0	
20) EDF				
STREAMIA				
WP6	1	2	0	EDF staff checked external cost data and contributed to the final reporting.
WP14	0.5	2	0	EDF colleagues finalized the nuclear roadmap report including the compilation and documentation of LCI data.
STREAMIB				
WP1	2	1	0	EDF colleagues contributed to the activities related to atmospheric modelling.
STREAM2B				
WP3	0.1	0.2	0	EDF colleagues followed the work related to the sustainability indicators and gave respective feedback where appropriate.
WP4	0.8	0	0	(EDF PMs were shifted to WP5)
WP5	1.1	1	0	Finalization of techno-economic indicator report. Quantification of techno-economic indicators.
WP7	0	0.5	0	Reviewing and providing feedback to the definition and quantification of risk indicators.
WP12	0.7	1	0	EDF was involved in the planning and partly in the evaluation of the surveys.
WP13	0	0	0	(part of WP12)
23) ENERO				
STREAM2A				
WP2	0	0.3	0	Final reporting, financial audit

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0	0	0	
26) ESU				
STREAMIA				
WP1	0	0	0	
WP5	2.7	4.8	0	set-up of central database, recalculation of LCI results for all technical work packages (WP7-15) and creation of EcoSpold files. Additional support WP 16: calculation of LCI results, support in generating EcoSpold files
WP6	2	2	0	contribution to discussions and final deliverable
WP11	0	0.5	0	review of the PV LCI data finished
WP15	1	1	0	Calculation of final LCI data on background processes, today, 2025 and 2050 scenarios
27) FEEM				
STREAMIC				
WP1	0	0.67	1.5	Working Package Coordination; Preparation of a scientific paper based on the research reports of the workpackage and presentation of the same paper at the International Conference EAERE 2008.
WP2	0	0	0	
WP3	0	0	0	
WP4	0	0	0	
WP5	0.5	0.5	0	FEEM worked on how to tackle the value transfer in oil spills and helped shaping the value transfer guidelines
30) GLOBE				
STREAM2B				
WP12	0.7	0.3	0	Dissemination and follow up of survey II to the national coordinators of LOBE Euro and to the other members of GLOBE Europe.
STREAM3B				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0.4	0.1	0	Visit of the Director of GLOBE and his assistant to the coordinator in Rome so to participate in the organisation of the NEEDS final conference in Brussels.
32) HELIO				
STREAM2B				
WP3	0	0.2	0	Establishment of full set of criteria and indicators: HELIO prepared the questionnaire for the survey on social indicators starting from its earlier work on social impact of energy policies and advised on the final social indicators selection. Participation at NEEDS Workshop, Karlsruhe, Dec 2008: HELIO participated in the two day workshop which included giving feedback on the MCDA survey.
WP8	0.23	0.1	0	Quantification of social indicators: HELIO researched and proposed a list of possible experts to participate in the indicator survey. It was also responsible for finalising list of French experts. HELIO provided support to the indicator team as requested, particularly on translation issues. Participation at NEEDS Final Conference with EU: HELIO took part in the final conference, presentation of results and debates at the Commission. HELIO stressed the importance of the work accomplished on social indicators.
WP12	0	0.5	0	Organisation and management of surveys and communication: HELIO reviewed and provided input to MCA survey and translated it into French to ensure broader dissemination and response. Preparation for and participation in NEEDS Forum Cairo, Jan 2008: HELIO took part in the Forum organised by the Egyptian colleagues and participated in the field trip exhibiting an on-shore wind farm of over 700 units.
WP13	0	0	0	
37) IFEU				
STREAMIA				
WP6	1	1.2	0	Participation in the discussions on the application of the methodology, and reviewed results.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP9	0.5	0	0	
WP13	0.5	3.9	0	Final review, finalisation of the deliverable
WP15	0.2	0	0	
38) IFU				
STREAMIA				
WP1	0	0	0	
WP5	2	0.67	0	Development of an LCI web-based database to deliver the developed datasets. The web-database contains an easy-to-use form to search and filter the provided datasets with different criterias. The end-user of the database has the possibility to view the datasets as HTML pages and to download the datasets in EcoSpold XML format or as Microsoft Excel files for further use of the data.
39) IIASA				
STREAM2B				
WP10	4	10.54	0	IIASA has developed the Web site for Multi-Criteria Analysis (MCA) which was used for Survey III prepared by the PSI in collaboration with IIASA. The Web-site development required qualitatively more resources than originally planned (in the proposal a selection of a method and a tool was foreseen). Already in the middle of the project it was clear that none of the existing methods/tools are suitable for the NEEDS. Therefore IIASA and PSI decided to develop new MCA methods and implement them in the client-server architecture with the Web-based interface. In order to provide resources for this it was agreed in 2006 and 2007 to move to the IIASA budget funds from other Stream 2B partners (4 PMs from AC-type partners to cover over 7 additional PMs at IIASA). However, the actual implementation of the MCA Web-site for Survey III (needed to meet the requirements revised in March 2008) took by far more resources than those planned for IIASA in 2007. Over 20 new MCA methods were developed by IIASA and tested by the PSI team to select one method which was most suitable for the stakeholders invited to the survey. The development of the GUI (Web-based interface for interactive MCA) was a pioneering effort: it was the first ever developed Web-site for interactive MCA having the functionality required by the

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
				<p>NEEDS application; therefore a number of technological challenges had to be solved to achieve the desired functionality, robustness, and performance. Moreover, the requirements for the MCA Web-site functionality were substantially changed after the prototype was tested on actual data by the PSI team in March 2008. Three types of documentation (composed of over 20 on-line guides, reports and movies) were prepared: two by the PSI team: (1) detailed descriptions of several aspects of alternatives (future energy technologies) (2) short introduction to the MCA, including a video explaining step-by-step the analysis process. IIASA prepared a more detailed user guide and the tutorial for MCA, both aimed at more advanced users of the MCA Web-site. All documentation was linked to the MCA site, thus was available on-line for the survey participants. Moreover, the user-interface was implemented in two languages (English and German). Also several applications were developed to roll-out and monitor the survey, to provide a context-sensitive contact with users (to allow them to raise questions, report problems, and share suggestions about the site). The IIASA and PSI teams collaborated in the preparation, roll-out, and monitoring the survey. Over 3000 stakeholders were invited to the survey, 346 registered to the MCA site, 160 completed the MCA. Considering the fact that MCA is by far more demanding than a traditional survey, the number of completed surveys is satisfactory. There were no real problems identified during the survey, which shows that the implementation was indeed pretty robust. Several dozens questions and minor problems (all of them from users having rather limited experience with Web-based applications) were handled by the IIASA and PSI teams within at most several hours during the period of over two months when the survey was open. Several suggestions made by the participants for improving the GUI will be used in the next release of the MCA site. Summing-up: IIASA developed over 20 new MCA methods meeting the requirements for the third NEEDS survey, and implemented the Web-based applications needed for conducting the survey, which actually was an interactive MCA of a discrete choice problem for large number of criteria (over 60) and alternatives (about 20), as well as collaborated with the PSI team in conducting the survey to which over 3000 participants were invited.</p>
40) JSI				
<i>Work finished on previous</i>				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
<i>year</i>				
41) IMAA-CNR				
STREAM1B				
WP8	5	1.41	0	Integration of External cost data and LCA data in TIMES: the Italy case study. Cooperation with CES-KUL to the preparation of the Deliverables T8.1 to T8.4 "Integration of External cost data and LCA data in TIMES and application to two policy issues"
STREAM2A				
WP3	0.5	0.5	0	<ul style="list-style-type: none"> • Revision of the reference scenario results • Preparation, in cooperation with IER, of T 3.15 – RS 2a “Interim Report on draft Pan European integrated model” (November 2007) • Preparation, in cooperation with PSI and USTUTT-IER, of T3.18 – RS 2a “Summary report of Pan European model results – BAU scenario” (November 2008)
WP5	2.3	1.49	0	<ul style="list-style-type: none"> • Coordination of WP5 • Coordination of the interactions between RS2a, RS1b and RS Integration. • Organization of the VIII RS2a/NEEDS Workshop (WS4) “Macro-Consistency of the Pan European model” (Amsterdam, 24 October 2007) and participation at the related technical sessions (22-23 October 2007). • Presentation of RS2a modelling activities at the final Integration meeting (Milan, 29 September 2008) • Organization of the IX RS2a/NEEDS Workshop “Policy scenarios implementation” (Seville, 14-15 February 2008). • Presentations on RS2a activities and main results at the Final NEEDS Conference "External costs of energy technologies" (Brussels, 16-17 February 2009). • Drafting, revision and submission of the RS2a Progress Meeting proceedings. • Co-authoring with KUL of RS1b WP8: Methodology for linking external cost estimation with economy/energy/environmental models and with LCA data “Integration of External cost data and LCA data in TIMES and application to two policy issues” (Deliverables T8.1 to T8.4), released in February 2009. • Editor of the Technical Report n° T5.20 – RS 2a “Final report on the integrated Pan-European Model” (February 2009) • Drafting and submission of the “Analytical overview of the scientific production of RS2a- IV Year” • Contribution to the dissemination of NEEDS results with the participation to international conferences and the

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
				publication of three papers on international journals and one contribution on an international volume (as specified in the Analytical Overview of RS2a activities – IV Year). • Preparation, as WP coordinator, of the section WP5 activities of the RS2a Fourth year activity report.
Coo	0	0.37	0	Participation to the coordination activities as RS2a Leader and Preparation of the final documentation (RS2a Fourth year activity report, RS2a Final Report, inputs to the Management Report)
STREAM3B				
WP2	0.1	0	0	
WP4	0.1	0	0	
STREAMINTEGRATION				
WP5	0.25	0.26	0	Participation to the RS Integration meetings. Contribution to the NEEDS Policy guidelines
42) INE				
STREAMIA				
WP8	0.5	8.5	8.5	INE could only substantiate and verify all the prepared modules for WP8 after the publication of the EU hydrogen roadmap from HyWays issued in Nov 2007. That is why most work effort occurred during the 4th period.
43) INFM				
STREAM2A				
WP2	0	0	0	All the activities were concluded in the III year
WP3	3.5	4.5	0	Harmonisation of country models in a Pan EU framework, with focus on the Slovenia energy model. Cooperation in the debugging of the Pan Eu model.
WP5	5	5	0	Dissemination of results. Cooperation in drafting and revising the common documentation.
STREAMINTEGRATION				
WP2	0	0	0	

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
45) IOM				
<i>STREAM1D</i>				
WP4	0.5	0.5	0	Writing technical papers on task 4.2.
47) JRC				
<i>STREAM2A</i>				
WP4	3	3.5	0	Contribution to input data, to the assumptions formulation for policy scenarios, model tests and results analysis
WP5	0.5	0	0	
49) KANLO				
<i>STREAM2A</i>				
WP3	0.5	4	0	As the project advanced, it became obvious that more work than anticipated was necessary in order to conduct the final Policy runs of the integrated model based on TIMES. The work in WP3 was vastly expanded, and the role for KANLO as well, by running the Pan European Model in a parallel manner. Therefore, KANLO volunteered to help KUL with a portion of the final scenarios, while UStutt took care of the others. This was done without any change in the overall KANLO budget, but by internal reassignment of costs from travel to personnel, in consultation with the Project Head, ISIS. The actual time and manpower allocated to finalizing the PEM policy runs actually vastly exceeded the reported person-months. The intensive running of the KUL version of the PEM started in Fall 2007, and became a major KANLO activity in 2008, leading to a large series of successive runs in Summer 2008, and final runs in Fall 2008. The exchanges were mainly with KUL (which was in charge of WP4: Scenario Analysis).

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0.5	0.5	0	Training activities took a different turn in 2008, consisting mainly in assisting KUL in its work producing the final scenario runs and analysis. KANLO made some modifications of the VEDA interface to facilitate certain scenario runs, but the bulk of its work was in direct assistance to KUL by means of email and several face-to-face work sessions. The collaboration between KANLO and KUL led KANLO to participate in WP3 beyond what was originally planned (see WP3 for details).
<i>STREAMINTEGRATION</i>				
WP4	1.5	1.5	0	The integration activities in the last period of the NEEDS project involved mainly the closure of the Integration methodology, in view of the latest scenarios runs as they were implemented by WP3 of RS2a. KANLO worked closely with the partners involved in finalizing and analyzing the scenario runs, and adapted the final description of the Methodology used for the Harmonization of the Models. The exchanges were conducted over most of 2008, culminating with the production of the final version of the Harmonization report, which constitutes Deliverable D4.2: "Integration of research streams: Final Report on the Harmonization of Methodologies", dated November 16, 2008. The main changes in the report (relative to the interim report) concerned the inclusion of some external cost data concerning the dismantling of some power plants. The final report also included a discussion of future work on further integration of the TIMES model and Multicriterion Decision Analysis (MCDA). Finally, the report indicated several other European projects that are using the methodology developed under the NEEDS project. KANLO also participated in the constitution of the Structured Protocol, which put together a list of energy/environmental issues that the NEEDS project addressed or could address in the future. That list was also to be used for the final Needs conference in February 2009.
50) UNIH				
<i>STREAM1B</i>				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0	0	0	
51) KUL				
<i>STREAM1B</i>				
WP8	1	1	0	Scenario for Internalisation of externalities
<i>STREAM2A</i>				
WP3	3	0	0	
WP4	5	4	0	Preparation and running of the NEEDS Scenarios with the Pan European TIMES model
<i>STREAMINTEGRATION</i>				
WP4	0.25	0	0	
52) EPT				
<i>STREAM1D</i>				
WP3	0	3.6	0	case studies accounting analysis final report
WP5	6	0	0	
WP6	2	0	0	
53) LEI				
<i>STREAM3B</i>				
WP5	1.9	2.28	2.28	Description the content of all presentations and discussions made during the final NEEDS conference held in Brussels 2009.02.16-17
55) LUND				
<i>Work finished</i>				
				0
56) MEERI				
<i>STREAM1D</i>				
WP5	2	6	0	Estimation of marginal external costs of typical Polish energy technologies at specific locations. Cost benefit analyses based on the modelling approach. Estimation of the total damage caused by the Polish energy system.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP6	5	5	0	Analysis of possible instruments for internalisation of energy externalities was performed. It was based on the modelling results for different scenarios which showed a different level of internalisation of external costs.
57) MET.NO				
STREAM1B				
WP1	2	0.56	0	The EMEP chemical transport model is used to construct a set of source-receptor relationships at regional level, using a resolution of 50x50 km. This model has been largely used as reference in European policy applications and in combination with the integrated assessment GAINS model, has recently supported the CAFE program. In NEEDS, the EMEP Unified model supports the regional calculations with ECOSENSE. The added value of the EMEP model calculations for NEEDS is the increased capability to define the impact of particular sources in Europe. While in GAINS the description of source-receptor calculations is carried out in a country-to-grid basis, the approaches developed for the treatment of source-receptor relationships in NEEDS will allow the allocation of effects to specific activity sectors and to specific sub-regions in Europe. These sub-regions are specifically defined for the NEEDS project and are defined by subdividing larger countries in the EMEP area according to: 1) their emissions spatial distribution, 2) possible differences in climatology and 3) where possible, administrative boundaries in the country concerned. This technical report describes the rationale to calculate source-receptor matrices in the sub-regions and documents the associated deliveries from the EMEP model. The subdivision of the larger countries into smaller areas enables a finer optimisation within ECOSENSE. Approaches to tackle non-linear effects are discussed in TP1.2 of RS3a, on the report on "Methodology to account for non-linearity of impacts depending on different background emission scenarios".
STREAM3A				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP1	2.5	1.91	0	This report explains how to deal with the chemical nonlinearities of the source receptor relationships. It presents recommendations on how to generalise and use source-receptor relationships within NEEDS. During the development of the EU Thematic Strategy on Air Pollution (2005) by the CAFE programme and later during the revision of the NEC Directive (up to present), considerable efforts were dedicated to define a reasonable generalisation of the source receptor relationships calculated by the EMEP model. Methods to deal with the spatial and temporal variability of the source-receptor relationships were developed and the results were shared with NEEDS. In addition, different approaches were tested to deal with the nonlinearities associated with the chemical background values and their use in integrated assessment models. The evaluation of chemical nonlinearities, especially for PM2.5, showed a strong dependence of the derived SR calculations with the scenario chosen and the general chemical regime related to the scenarios. Simplified (or reduced) approaches to generalise the use of source receptor relationships for a variety of background scenarios were not successful and the main recommendation was to use directly results from the chemical transport model (EMEP) for the selected scenarios. The chemical nonlinearities of ozone and particulate matter limit the validity of reduced approaches to generalise source receptor relationships. A more appropriate way to account for the impacts of these pollutants under different scenarios is to use the results from a full chemical transport model.
60) NREA				
STREAMID				
WP5	6	6	0	National implementation in Egypt. The external costs quantified for 7 main power plants operating in Egypt.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP6	2	2	0	Assessment of key factors in energy policy (growing trend in energy demand, subsidies for energy products). Discussion of the monetary evaluation of the damage from energy sector. Addressing the need to control emissions to environment as an important part of environmental policy and incorporation of environmental objectives into the concept of economic and social policy of the Egyptian Republic.
61) NTUA				
STREAMIC				
WP1	0	0.24	0	EPU-NTUA developed appropriate publishable summaries of the data collected for the Aegean Sea transport route, as part of the “Novorossiyk-Augusta” and the related assessment, which was distributed and presented in the 3rd International Exhibition on energy savings and renewable energy sources - EnergyReS '09 (February 19-22, 2009, Hellinikon Exhibition Center, Athens, Greece). EPU-NTUA participated in the NEEDS survey on stakeholder preferences for future electricity generation technologies. Moreover, EPU-NTUA contributed to the Multicriteria Analysis of Future Energy Technologies - MCA application of the survey developed on the website, by accessing the application on the Web server, filled in the questionnaire and followed all necessary steps.
62) OME				
STREAMIC				
WP5	0.5	1.6	0	Worked on the identification of the sources of uncertainty for each burden, and made amendments on the Hydrogen part of the final report.
Coo	0	0.2	0	Coordination of the Stream activities
STREAMID				
WP5	2	1.3	0	Coordination of work performed in MPC countries including assistance with organising training workshops and project meeting in MPC countries (Cairo, Marrakesh).

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP6	1	0.2	0	
STREAM3B				
WP2	0.1	0.258	0	Elaboration of contribution for policy workshop
WP3	0	0	0	
WP4	2.6	0.609	0	Overall organisation of the event: logistics, programme, proceedings.
STREAMINTEGRATION				
WP5	0.075	0.0585	0	Contribution to D5.3 by providing input to the definition of a structured protocol to increase the synergic contribution of the NEEDS project results
63) POLITO				
STREAMIA				
WP6	1	0	0.06	Review of external costs calculations related to life cycle of fuel cells and hydrogen production
WP8	0	0	0.11	Review of final technical report on hydrogen
WP9	0.06	0	0.33	Review of final technical report on fuel cells
STREAM2A				
WP3	5	0.5	0.33	Support to KUL in running the Pan European Model with a portion of the final policy scenarios
WP5	1.5	0	0.15	Participation in WHTC conference (World hydrogen Technology conference) in Montecatini (IT) with a paper titled: Liquid hydrogen transportation systems: risk analysis in energy modelling (R. Gerboni, E. Salvador)
64) PROFING				
STREAMID				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	5	5	0	<p>Microscale analysis - concentrates on estimation of marginal external costs of specific technologies at specific locations. Updating of external cost calculation of the public power stations (nuclear power plants, thermal power plant for HC combustion, thermal power plant for NG combustion) for existing situation in year 2005 and projected situation in year 2010. Calculation of different abatement technology and biomass combustion on the external cost of existing CHP. Evaluation of impact environmental legislation on external cost. The external cost of different SO₂ and NO_x flue gas emission concentration limit was followed. Cost benefit analyses - CBA of different SO₂ abatement technology (limestone injection and Wet Flue Gas Desulphurization - FGD) together with sensitivity analysis SA were carried out. As the parameters for SA the DR, investment cost, fuel cost, salary and sorbent cost were applied. Green accounting at macro level - at green accounting the yearly external cost were summarized from the external cost of emission sources. Partial equilibrium model - with the use of MESSAGE model the internalization of specific external costs per 1 t SO₂ and NO_x was applied as emission charges. The modelling of its impact on the individual sources generation level as well as on the new technology implementation was carried out.</p>

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP6	2	2	0	National dissemination activities - national seminars at which results have been presented: 1.Conference Air Protection 2007, 26th – 28th November 2007,Vysoké Tatry, Štrbské Pleso, Slovakia, (Presentation - J.Balajka, J.Judák: External cost at energy generation) 2.Conference Air Protection 2008, 26th – 28th November 2008,Vysoké Tatry, Štrbské Pleso, Slovakia (Presentation - J.Balajka, M.Šeasný: Quantification of Energy Impact in CR a SR and its Use in Policy Making Process) 3.VI International Biomass Forum (ISBF 2009) 9th-10th February 2009, City Hotel Bratislava, Slovakia, (Presentation - J.Balajka: Role of biomass in energy system in terms of security of supplies and environmental impacts) 4.Internal seminar, February 18th, Slovak Hydrometeorological Institute - SHMU, Department of air emission, SHMU Bratislava, Slovakia, (Profing - Application of ECOSENSEWEB model for evaluation of environmental impact of energy sources)
65) PSI				
STREAMIA				
WP4	1	2	0	New ideas and new methodologies on parameterisation of LCA modelling that are intended to support further extensions of space and time coverage have been developed. Several explicit examples for time-dependency, space-dependency and technology-dependency of LCA parameters have been formulated and presented. For different advanced electricity generation systems, sets of relevant space- and time-dependent parameters have been established (partly quantitatively and partly qualitatively). The final report was prepared and delivered.
WP6	1	1	0	Delivered inputs to the estimation of external costs for fossil technologies. Reviewed the results and the corresponding report.
WP7	0.5	3.5	0	Final LCA input data to the NEEDS database for future fossil systems (years 2025 and 2050) have been prepared and delivered. Results from the LCA calculation have been analysed. The final report has been written and delivered.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP14	0.25	0.25	0	Commented results obtained by EDF.
<i>STREAM2A</i>				
WP3	0.9	0.9	0	Compared the baseline scenario evaluations done by University of Stuttgart and KU Leuven. Prepared and distributed an approved document defining the input/output of the baselines and the format for comparison purposes.
WP4	1.2	1.2	0	Review of final results including documentation of scenarios. Critical evaluations and improvements of draft presentations prepared by KUL and the RS2a project management for the meetings in Milan, Sophia-Antipolis and the final project meeting in Brussels.
WP5	0.2	0.2	0	Contribution to the Baseline documentation and final report of the RS2a. Contribution with inputs to the report on “Policy Guidelines” of the NEEDS project in behalf of RS2a. Presentation of main results and conclusions of RS2a, in the final meeting of the NEEDS project (Brussels 16-17 February, 2009) called Energy scenarios for the future and policy implications. Travelling to the conference in Milan and to the final project conference in Brussels.
<i>STREAM2B</i>				
WP3	0.5	0.5	0	Based on results of Survey II the set of criteria and indicators was modified and streamlined. The final report was issued.
WP4	0.5	0.5	0	Provided inputs on the needs related to sensitivities involved in MCDA. Discussed with WP Leader the content of the technical report.
WP5	1	1	0	In cooperation with EDF processed and adapted the relevant data from RS1a and RS2a. Where missing, data were generated. This particularly concerned the indicators “Direct labour”, “Autonomy of electricity generation” and “Flexibility of dispatch”. Co-authored with EDF the final deliverable on economic indicators to be used in MCDA.
WP6	2	2	0	Carried out the necessary adjustments of environmental indicators originating from RS1a to reflect the specific conditions in France, Germany, Italy and Switzerland. Authored final deliverable on

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
				environmental indicators to be used in MCDA.
WP7	2.5	2.5	0	The update of the ENSAD database has been finalized. Risk indicators and terrorist threat indicators were calculated.
WP10	5.5	2.2	0	Coordinated and assembled the sustainability indicator database for France, Germany, Italy and Switzerland. Carried out an extensive testing of MCDA-methods developed by IIASA and selected the method to be used in Survey III. Cooperated with IIASA on the development and implementation of the web-based interface for Survey III. Conducted Survey III in cooperation with IIASA. Analyzed survey results to find clusters or groups of individual preferences. Compared MCDA-results with total costs. Authored final report on MCDA.
WP12	1.5	1.5	0	Conducted Survey II on the full set of criteria and indicators. Evaluated and reported the results. Extended and finalized the stakeholder database with focus on France, Germany, Italy and Switzerland. Assured appropriate interfaces and complementarity with WP10. Contributed to the communication activities in close cooperation with Stream RS3c.
WP14	0	0.25	0	Coordinated Workpackages within the stream.
<i>STREAM3B</i>				
WP2	0.1	0.1	0	Made numerous presentations at other international and national meetings/seminars/workshops/conferences (please see the list in the Progress Report for the last period).
WP3	0	0.1	0	S. Hirschberg gave a presentation on "Impact of Efficiency Improvements on the Energy System: 2000 W Society Concept in Perspective" at NEEDS Forum 3 in Cairo, 28 January 2008.
WP4	0.1	0.25	0	S. Hirschberg gave two presentations at the policy and research sessions of the final NEEDS Conference in Brussels 16-17 February 2009.
<i>STREAMINTEGRATION</i>				
WP4	0.25	0.25	0	Revised parts of the Harmonization Report concerning RS2b to reflect changes in the scope and approach to integration. Reviewed and commented the final Harmonization Report.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	0.25	0.25	0	Delivered contributions to Policy Guidelines. Commented on the report. Contributed to resolution of open issues.
66) RISOE				
STREAM2A				
WP5	0	1	0	Participation at the VIII RS2a/NEEDS Workshop (WS4) "Macro-Consistency of the Pan European model" (Amsterdam, 24 October 2007) and at the related technical sessions (22-23 October 2007).
67) SEI				
STREAM1D				
WP5	5	5	0	National implementation in Estonia. The external costs quantified for about 6 main power plants including impact assessment for oil shale and biomass. CBA conducted.
WP6	3	3	0	Discussion of the optimal rate for internalising external costs that should be calculated on the basis of detailed cost-benefit analysis and then finally decided through the public debate where the all interest groups can participate and present their arguments. Formulation of recommendation based upon cost-benefit assessment of the technologies and scenarios in Estonian electricity sector development plan using the average production costs, calculated external costs and risks estimates by experts. This is the first attempt in Estonia to find out the best electricity sector scenario on the basis of monetary valuation of the economic, social and environmental costs.
69) UA				
STREAM3B				
WP2	0	0	0	
70) ELSAM				
STREAM1A				
WP6	1	1	0	Participation in the discussions on the application of the methodology, and

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
				reviewed results.
WP10	1	1	0	Final review, finalisation of the deliverable
71) TTU				
STREAM2A				
WP2	0	6.7	0	Collection of data on the biofuels and other renewable resources in Estonia, Latvia and Lithuania. Experimental runs of the EE, LT and LV models with new data of renewable resources. Evaluation of the acceptability of RES2020 results from 29.04.2008, 12.06.2008, 08.11.2009 and 07.01.2009 for Estonia, Latvia and Lithuania
WP5	2.5	0	0	
73) UBATH				
STREAM1B				
WP7	0.5	0	0	
STREAM3A				
WP2	0.7	0	0	
WP3	0.7	0	0	
WP4	2.2	0	2.2	Finalisation of work on CBA
WP5	1	0	1	Finalisation of work on CBA and Green Accounting WPs
74) AGH				
STREAM3B				
WP3	0	0	0	
75) UNWE				
STREAM1D				
WP1	0	2	5	1. Testing of the EcoSense model to two different thermal plants, located at Maritza-East region. 2. Analysis of the outcome.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP2	0	2	5	1. Systematization of the comparative advantage of the different purifying technologies used in those TTPs. 2. Preparation for the B of the selected TPS "Svilozha" - on site visit, interviews with the management, introduction of our preliminary findings.
WP3	0	2	6	1. Primary and secondary research of the price monitoring and regulation exercised by the authorized government body. 2. An estimation of the possible price increase resulted from the installation of new technologies or because of the improved old technologies used for catching the pollution.
WP5	5.25	5	6	1. Collection and systematization of an additional primary and secondary data. 2. Work on the implementation of the EcoSense model. 3. Comparative analysis of the external costs for the different coal-fired and nuclear plants in Bulgaria.
WP6	2	2	6	1. Application of the final EcoSense model. 2. Completion of the Cost-Benefit Analysis of TPS "Svilozha". 3. Internalization of externalities through the Environmental fiscal policy (fees, taxes, fines, subsidies, compensations, etc.) 4. Preparation of the presentation before the Stream1D meeting in Marrakech. 5. Preparation of the final national report. 6. Dissemination of the final results.
77) USTUTT				
STREAMIA				
WP7	1	1	0	Life cycle inventory and costs of advanced fossil fuels
WP13	0.25	0.5	0	Life cycle inventory and costs of bioenergy plants
STREAMIB				
WP1	0	2	0	Implementation of regional and hemispheric SR matrices in EcoSenseWeb. Implementation of local model in EcoSenseWeb. Implementation of urban increment in EcoSenseWeb. Implementation of output as maps.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP2	0	3.5	0	An approach to account for impacts due to release of Hg was developed by Armines. The impacts / external costs due to consumption of seafood (causing IQ loss), related to the content of Hg in fish is used. Different trade of food models for As, Cr, Cd, Ni and Pb have been implemented and compared by USTUTT. „X Implementation and testing of a bilateral trade of food model completed and compared to a multilateral trade of food model. „X The effects of food processing techniques on contaminant levels were reviewed. „X The data needed for human exposure assessment such as agricultural production of crops have been updated. „X Human exposure towards drinking water was introduced in the exposure assessment.
WP7	0	4	0	The implementation of the improved methodology of external costs assessment has been performed. The tool is accessible online. Methodology has been applied to several technologies in partner countries. New external costs values have been assessed. Final proposal for the evaluation of Greenhouse gases has been made and documented. Implementation of final greenhouse gas evaluation and methodology for discounting in order to be able to calculate external costs in future years after 2000 till 2050.
WP8	1	2	0	Generation of the external cost data for the energy models. Harmonisation of in- and output of Energy and LCA model. Generation of the LCA data for the energy models.
STREAMID				
WP4	0	0	0	1 in Wp4: Addaption of EcoSenseWeb - regarding EcoSenseWeb results output for NorthAfrican Countries and regarding output of concenetracion and impacts as maps.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP5	2.5	3.5	0	Training, feedback and support regarding the application of method/tool and calculation external costs for identified case studies in WP2 for 6 newly associated countries (Bulgaria, the Czech Republic, Estonia, Hungary, Poland, Slovakia) and 3 Mediterranean Partner countries (Egypt, Morocco, Tunisia). Interpretation of the results.
STREAM2A				
WP3	4	4	0	Pan-European model implementation
WP4	1	1	0	Full Cost Interactive Analyses
WP5	1	1	0	Training, Documentation And Reporting
STREAM2B				
WP3	0.3	1	0.3	Having delivered a set of social indicators for the assessment of social effects of energy systems in work package 2, the project team of the University of Stuttgart participated in the development of an integrated dataset, which should be quantified in stream 2b. The project team also reviewed the final report of WP1 and gave comments on it.
WP8	5	5	5	In Work package 8 of Stream 2b, the project team from the University of Stuttgart screened the existing literature for quantified indicators, developed a database for the selection of experts to be interviewed, interviewed the selected experts and developed a dataset of quantified social indicators for the selected energy-technologies. Furthermore statistical analysis have been done and a report has been written.
WP10	0	0.5	0	This WP had the aim to establish the analytical basis for the technology roadmap ranking the technological options and identifying the most robust ones. The University of Stuttgart did not contribute to this Work package.

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
WP12	1.25	0.5	1.25	In Work package 12 of Stream 2b, the project team from the University of Stuttgart developed a dataset of experts to be interviewed for the NEEDS-Survey. The research team also reviewed the questionnaire and gave input for the improvement of the development of the questionnaire (e.g. order of questions, formulation etc.) Furthermore the research team translated the questionnaire and the correspondence letter into German.
WP13	0	2	1	The aim of Work package 13 is to communicate the results of RS2b. The research team of the University of Stuttgart gave presentations on the results in other projects in which the University of Stuttgart takes part of. Namely this are the following projects: “Consuming energy sustainably - consuming sustainable energy. Heat energy in the field of tension between social predictors, economic conditions and ecological consciousness” (funded by the German Federal Ministry of Education and Research) and “Identification and measurement of social indicators for the sustainability of selected Swiss electric power systems” (funded by Axpo Holding AG). Furthermore a book contribution was written. The book contribution has the title “Der Einsatz des Delphiverfahrens zur Identifikation von Indikatoren zur Messung sozialer Effekte von Stromerzeugungstechnologien“ and was printed in : Schulz, M./Renn, O. 2009: Das Gruppendelphi. Konzept und Fragebogenkonstruktion. VS Verlag für Sozialwissenschaften.
STREAM3A				
WP1	9	11	0	The concept of regional range analysis based on source receptor (SR) matrices. The concept regional range analysis results from the need of performing a European-wide (regional) analysis based on an operational amount of data. The regional range analysis is based on the large EMEP-gridcells (50 x 50 km ² each) and covers the whole of Europe. Regional impact assessment is done with regional SR-receptor matrices, i.e. parameterised results of model runs with the EMEP/MS-CW-Eulerian

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
				dispersion model. These complex model runs are based on certain emission scenarios and meteorological conditions. A reduction of each pollutant by 15% for each source of emission within a corresponding sub-region lets to delta concentration per ton of emission. The matrices are used to derive a concentration increment per unit of emission. The concentration increment per unit of emission is then intercepted with population and other spatial disaggregated receptor data. Subsequently, the concentration response functions for the endpoints and the corresponding monetary values are used to derive the aggregated external costs per unit of emission per source region. Values for 39 European and non-European countries and 5 sea regions have been provided for 2 different background emission scenarios and an average meteorological year. Moreover, for the 5 North African countries have been provided. The results of parameterisation of the WATSON mode, i.e. damage per tonne of release of heavy metals are included. Results for air pollution in the Northern Hemisphere for emission within Europe are included.
WP5	0.37	0.5	0	Harmonisation regarding applicability of generalised values.
STREAM3B				
WP2	0.1	0.1	0	Policy Workshop organisation
WP4	0.1	0.4	0	WP4: NEEDS Forum 3 WP5: NEEDS Final Conference WP6: Internal and external project communication structures and dissemination of results from project streams
STREAMINTEGRATION				
WP4	0.25	0.25	0	Review and comments on the final Harmonization Report. Exchange of data between Rs1b/Rs3a and Rs1a, Rs2a and Rs2b. Proposal for evaluation of greenhouse gases.
WP5	0.25	0.25	0	Rreport on the integration process between the various IP Research Streams, and to formulation of policy conclusions
78) VITO				

Description of the work performed (Period 4)				
Work package	Planned person-month	Actual person-month	Actual AC	Activities
<i>STREAM1B</i>				
WP7	0.5	0.03	0	Review of report on application of EcoSenseWeb
<i>STREAMIC</i>				
WP3	0	0.9	0	finalizing report EMF high voltage lines and impacts
81) SPOK				
<i>STREAMIA</i>				
WP16	1	4,05	0	Final review, finalisation of the deliverable, , Support in the creation of the LCI datasets, review of the dataset files and calculation of LCI results
82) CESIRICERCA				
<i>STREAM2B</i>				
WP4	2.5	4.9	0	Technical reporting
WP5	0.8	0	0	
WP6	0.5	0	0	

1.2 Explanatory notes on major cost items

Participant	Actual travel costs	Actual subcontractors	Actual other costs	Description of cost items
1) ISIS	6110.45	0	0	1) Costs corresponding to the RS2b Meeting in Paris 12 September 2005; 2) Ko meeting of RS 3a in Lillehammer 9-10 March 2006; 3) Travel costs for coordination activities (3 integration meetings + participation to other RS meetings).; 4) 0; 5) 0; 6) Krakow forum; 7) Ljubljana integration meeting and participation to other stream meetings; Other costs: Rome meeting subsistence (2058) and financial guarantee (2270); 8) No travel done in this RS; 9) Travels: Participation to: the Cairo Forum, the third Policy Workshop in Milan and the Final Conference in Brussels; 10) Travels: 3 Integration meetings. Management: general coordination of the IP. Preparation and drafting of the periodic and final Activity and Management reports;
2) AEKI	3644.09	1465.65	0	1) Travel costs: 2 persons at the meeting in Prague in March Other costs: In order to collect relevant emission data, own measurements are also necessary. The cost reported corresponds to an extension of our measurement system. ; 2) Travel: 2 persons at the meeting in la Marsa (Tunisia), 1 person at the meeting in Bratislava, 1 person at the meeting in Ljubljana, 1 person at the meeting in Prague, 1 person at the meeting in Nessebur (Bulgaria).; 3) Travel: 2 persons at the meeting in Cairo (January 2008), 2 persons at the meeting in Prague (June 2008), 2 persons at the meeting in Marrakech (Nov-Dec 2008). Subcontractor: QSYS Kft., Processing and evaluation of technological and emission data of the Hungarian energy sector.;
3) AMBIENTE ITALIA	0	0	0	1) Personnel cost: 27386,32 + 20% indirect costs 5477,26 Researchers: P.Frankl, E.Menichetti, S.Lombardelli, M.Raugei, C.Semenza Travels: P.Frankl - destinations: Portovenere I (int.conf.), Rome I (project meet.), Brexelles + Bruxelles (EPIA meetings), Iceland (project meet.); 2) Personnel cost (135 hours) plus 20% overheads.; 3) STAFF;

5) AUTH	1427.86	0	0	<p>1) RTD cost correspond to salaries for reseach staff.; 2) RTD Costs correspond to salaries for research staff. The Travel cost correspond to Mr. John Douros travel expenses for the preproject meeting that was held in Stuttgart and the Project meeting that followed in Paris.; 3) RTD costs correspond to salaries for Research Staff. The travel costs correspond to Mr. Ioannis Douros travel expenses for the project meeting that was held in Stuttgart 6-7/11/06; 4) RTD costs correspond to salaries for research staff.; 5) RS1b (WP1) Testing and finalisation of a preprocessor for providing meteorological input for local models at arbitrary locations across Europe, based on larger scale models. RS1b (WP7) Implementation of improvements in the ExternE methodology and software. ; 6) RS3a (WP1) Development and testing of methodology on the calculation of urban increment, including local effects for correction of regional SRM and for correction of generalised results. ;</p>
7) CDER	3123.6	0	4657.68	<p>1) 0; 2) Analysis of major features of energy sector and internalisation goals (distorted energy prices, strong dependence on imported energy sources, strong growth in electricity demand, partial liberalisation of electricity market) and highlighting the need for gradual increase in energy prices. Discussion of ambitious targets in development of renewable sources of energy. ;</p>

12) CHALMERS	1331	6570	0	1) WP2 leader. Participation to the discussion and review process for the design of the various tools: RES, templates, VEDA-FE. Characterisation of commercial, transport and bio fuel upstream sectors. Country specific modelling (Sweden, Iceland, Norway). Participation to the RS2a Meetings and training sessions (September 2005 in Maratea, Italy, February 2006 in Athens, May 2006 in Gothenburg) Organisation in collaboration with IMAA - CNR, of the V RS2a Workshop (Technical Session and Plenary Meeting) – Gothenburg May 29, June 2, 2006)Revision of the drafts of workshop proceedings and other RS2a documentation Preparation of the country reports of Iceland, Sweden and Norway ; 2) Following of stream activities by taking part in selected reports only.; 3) Country modelling development of Sweden and Norway TIMES-NEEDS country models.; 4) The RTD comprises use of the NEEDS national model for Sweden for analysing system developments when internalising external costs and review of RS2a final year reports. The travel cost is the cost for participation of noe person in the NEEDS final conference Feb 2009. The subcontracting concerns further development of the TIMES Iceland model. ;
13) CIEMAT	1821.09	0	0	1) Other Cost corresponding to the SIMAPRO License renewal. Travel Cost corresponding to meetings attendance.; 2) Travel costs corresponding to meetings attendance.; 3) 0; 4) 0;
14) CRES	0	10000	0	1) Travel and Subsistence costs for the meeting in Maratea, the Meeting in Gotenborg and the meeting in Athens.; 2) 0;

15) CUEC	11639.6	0	17209.2	<p>1) Travel costs corresponding to Project meeting (Budapest, Sept. 2005) and other costs related to organization of the Final Project meeting (Prague, August, 2006).; 2) Travel costs corresponding to Project meeting (Krakow, March 2005) and organization of Workshop in Prague (March 2006).; 3) Travel costs corresponding to Project meeting (Lillehammer, March 2006).; 4) Costs corresponding to Policy Workshops in Rome (April, 2006) and to subcontracts for minor participants.; 5) Travel costs corresponding to Project meetings (Brussels , Sept, 2005) and other costs corresponding to organization of 4th Management Committee Meeting in Prague (June, 2006). ; 6) 0; 7) Travel costs corresponding to project meetings in Bulgaria (September, 2006), Bratislava (February, 2007) and Tunisien (April, 2007). Other cost corresponding to the project meeting held in Prague.; 8) Other costs relating to Policy Workshops in Ljubljana.; 9) Travel costs corresponding to Integration meeting in Rome and Krakow. Communication between partners and material preparation. ; 10) RTD Personnel costs are related to the application of the ExterneE method and quantification of external costs for identified case studies, furthermore to the formulation of policy recommendations for internalization of external costs nad to the work on the final project report. Other costs are related to the organisation of 6th RS 1d project meeting held in June 2008 in Prague. Travel costs are related to the joint project meetings of RS 1d and 3a held in January 2008 in Egypt, in December 2008 in Marocco and to the final project conference held in February 2009 in Belgium. ; 11) RTD costs are related to finishing the CBA and Green Accounting guidelines, to the application of CBA in the case of the Czech Republic and to deriving macro indicators on the external costs for power sector and whole economy for the EU. Travel costs are related to the joint project meetings of RS 1d and 3a held in January 2008 in Egypt, in December 2008 in Marocco and to the final project conference held in February 2009 in Belgium. ; 12) RTD Personnel costs are related to the administration of NEEDS Policy Workshop in Ljubljana, the final project conference held in Brussels and of project minor partners. Other costs are related to the organisation of NEEDS Policy Workshop held in Ljubljana, the final project conference held in Brussels and payments to project minor participants. ; 13) RTD Personnel costs are related to the overall stream coordination and integration of the streams. Travel costs are related to the integration meeting held in December 2007 and June in Italy. ;</p>
16) DLR	5205.03	8325	2330.8	<p>1) 0; 2) 0; 3) finalisation wp6, wp9, wp12; 4) final reporting; 5) final reporting, final conference;</p>

17) ECN	0	0	1153.72	<p>1) Participation to the discussion and review process for the design of the various tools: RES, templates, VEDA-FE. Coordination and participation to the implementation of the subRES for Industry and Upstream Participation to the RS2a Meetings and training sessions (September 2005 in Maratea, Italy, February 2006 in Athens, May 2006 in Gothenburg) Co-author (with KANLO, KULeuven, IMAA, PSI, USTUTT-IER) of the paper: “Integration of country energy system models in a Pan European framework for supporting EU policies” Coordination of task 2.2. and development of task 2.2 template. Characterisation of industry and fossil fuel upstream sectors. Country specific modelling (The Netherlands, Ireland). Participation to the preparation and review process of the drafts of workshop proceedings and other RS2a documentation ; 2) 0; 3) preparation for and meeting in Lubijana ; 4) 0; 5) NEEDS meeting at ECN premises; responding to technical questions about technologies (CCS) in databases; 6) reviewing reports and documents;</p>
18) SWECO	10265.84	0	0	<p>1) Meeting Zürich with Ecoconcept; 2) Meeting Brest 10 - 11 oct. 2005 Meeting Milano jan. 2006 Meeting Bergen may. 2006; 3) Kick off meeting Lillehammer March 2006 Periodic reporting, contractual issues; 4) SI meeting Brussels 27/28 Oct 2005 SI meeting Prague July 2006; 5) WP6: New approaches for valuation - Contribution to the finalization of the report from the multi-country valuation nstudy of Value of a Life Year (VOLY),especially the calculation of VOLY from the survey results and generalization /transfer of the VOLY values. See Final Deliverable (Rabl et al. 2007) ; 6) 0; 7) 0; 8) 0; 9) no activities reported for period 4; 10) contribute to deliverable and meetings; 11) Coordinate stream work and work between streams. Contribute to and lead work with deliverables and plan, co-ordinate and participate at meetings in and between streams; 12) participate at meetings with presentation.; 13) Contribute to deliverables and participation at meetings (meeting with SI and ic and final conference);</p>
19) ECONCEPT	0	0	0	<p>1) Costs incurred in period 2 (months 13-24). WP4 finishes after month 24, final deliverable 4.2 is delivered.; 2) 0;</p>

20) EDF	0	0	0	<p>1) Travel to the progress meeting in Baden for 3 persons, 2 days (Switzerland); 2) Thessaloniki Meeting; 3) Travel : 2 participants to the working meeting in Vienna, Jan. 2006; 4) WP14: definition of present and future nuclear power technologies, provision of related LCIs and cost data, management of the work package; Participation in project meetings; 5) WP1: Multiphase aerosol models have been validated by model-to-data comparisons over Europe; Short-range plume-in-grid models have been developed in order to have a better representation of stack plumes; Reduced-order methods have been investigated in order to have a low-cost description of models.; 6) WP3: numerous interactions with partners about the list of economic indicators; WP4: interactions with partners on the list of technologies – construction of an Excel-file pointing at the common views and discrepancies between RS 1a and RS 2a; WP5: Most of the economic indicators have been defined by EDF. first attempts as regards quantification have been done; WP7: document on a proposal for an analytical framework for risk indicators drafted (currently under internal revision). the source terms as suggested by PSI have been reviewed; WP12: provision of feedback on several questionnaires and suggestion regarding French experts; Participation in project meetings; 7) Defining nuclear roadmap including LCI data. Reporting on the nuclear-specific external costs.; 8) Contribution to atmospheric modelling. Feedback to EcoSenseWeb tool developers (in kind contribution).; 9) Development and quantification of techno-economic indicators. Contributing to risk indicator definition and partly to survey design/evaluation.;</p>
23) ENERO	0	0	0	<p>1) Travel Part of the Maratea RS2a Fall meeting 2005 costs participation Athens meeting mission costs Goteborg meeting missin costs Three in-country mission for data gathering.; 2) 0; 3) final reporting; financial audit;</p>

26) ESU	1391	0	6359	<p>1) Actual Travel costs aroused for the following meetings: Integration stream meeting, Brussels, 27.10.2005; 2nd progress meeting RS1a, Paris-Fontainebleau, 15.-16.11.2005; 3rd progress meeting RS1a, Villigen PSI, 23.-24.05.2006; Actual "Other Costs" RS1a: Banking fees of EUR 77.97 for money transfer to Switzerland; 2) Actual Travel costs arised for the following meetings: 4th progress meeting RS1a, Rome 2.-3.11.2006; 5th progress meeting RS1a, Reijkiavik, 19.-20.04.2007; Actual "Other Costs" RS1a: Banking fees; 3) 0; 4) WP5: set-up of central database, recalculation of LCI results for all technical work packages (WP7-16) and creation of EcoSpold files. WP6: contribution to discussions and final deliverable WP11: review of the PV LCI data finished WP15: Calculation of final LCI data on background processes, today, 2025 and 2050 scenarios WP16: calculation of LCI results, support in generating EcoSpold files; 5) none;</p>
27) FEEM	677.57	0	0	<p>1) Personnel costs for activities carried out under Stream 1C. Travel costs for participating to the STREAM 1C meetings held in Brest on 09-12/10/2005 and held in Bergen on 21-24/05/2006. Other cost for the organisation of the STREAM 1C meeting held in Milan on 30-31/01/2006.; 2) Three meetings: 1) Rome, Italy (08-10/11/06): support to the research stream leader for the second review; 2) Ljubljana, Slovenia (07-09/03/07): coordination meeting between stream 1c and stream 2a; Torino, Italy (04-05/06/07): progress meeting of stream 1c. No other costs. No subcontractors.; 3) Salary of 1 senior researcher and 1 junior researcher; Meeting in Rome, Italy (10-11/12/07): participation to the review meeting replacing the research stream co-ordinator Manfred Hafner. No other costs. No subcontractors.;</p>
30) GLOBE	200	0	0	<p>1) Improvement and distribution amongst Globe Europe Members of NEEDS questionnaires. Also maintaining Globe Europe network;; 3) Dissemination and follow up of survey II to the national coordinators of GLOBE Euro and to the other members of ; 4) travel to Rome of the director of GLOBE Europe and his assistant to meet the of ISIS team in order to coordinate the NEEDS questionnaires distribution and discuss about the possible involvement of GLOBE in the NEEDS final conference.;</p>

32) HELIO	2661	0	0	1) HELIO experts participated in several NEEDS meetings that necessitated travel and associated expenditures: •Paris 12-13 September 2005 (local transportation costs only) •Brussels 23-24 January, 2006 •Rome 6-7 April 2006 •Brussels 2-3 June 2006 ; 2) HELIO experts participated in several NEEDS meetings that necessitated travel and associated expenditures: • Rome 10-11 September, 2007 • Ljubljana 6-11 March, 2007 • Stuttgart 23-25 May, 2007 • Krakow 4-7 July 2007 ;
37) IFEU	973.9	0	710.8	1) Fontainebleau (F) 14.-15.11.2005 EUR 486,70 Villigen (CH)22. - 24.5.2006 EUR 423,80 Other costs: Ecoinvent software ; 2) RTD Personnel: 5 PM; Travel: project meeting in Rome (2-3 Nov 2006) EUR 605.66, project meeting in Iceland (19-20 Apr 2007) EUR 2622.01; 3) Writing part of WP6 report, writing and finalising WP13 report;
38) IFU	771	0	0	1) Travel costs for stream meeting in Paris.; 2) Travel costs to Stream Meeting in Iceland.; 3) Travel costs for stream meeting in Madrid;
39) IIASA	4787	0	0	1) Costs corresponding to Travel - Marek Makowski to Paris for Needs meeting Sep 05, includes overhead at 70% of cost. Costs corresponding to Other Costs - Needs Workshop WP9 at IIASA Jan 2006 plus General Expenses, includes overhead at 70% of costs.; 2) Costs corresponding to Travel are: Marek Makowski meeting in Stuttgart May 2007; Marek Makowski and Janusz Granat meeting in Zurich in August 2007; Needs Workshop January 2006. Also adjustment from period 2, Conference cost of 754 incorrectly claimed; 3) 10.54 Person months contributed by: Marek Makowski (8.37) and Janusz Granat (2.17). IIASA has developed the Web site for Multi-Criteria Analysis (MCA) which was used for Survey III prepared by the PSI in collaboration with IIASA. Travel costs related to the NEEDS final conference and other interim NEEDS meetings. Subcontractors is the cost of the audit certificate.;
40) JSI	0	0	0	
41) IMAA-CNR	1353.72	0	0	1) Contribution to the development suited interfaces for harmonising ExternE, LCA and energy models. Participation to the NEEDS Annual Workshop - Bruxelles Oct. '05. Annual workshop NEEDS Bruxelles - October '05 ; 2) Stream, WP and Task Coordination;

				<p>Contribution to the design of methodological tools, Co-organisation and participation to the workshops and training activities, Co- authors of a published paper; Revision of the technology repository; Implementation of the Italy country model and preparation of the Italy report; Coordination and preparation of Workshop Proceedings; Deliverables, Technical Papers and other RS2a documentation ; 3) Contribution to dissemination; 4) Contribution to the input - output tables; Preparation of DoW; Contribution to the First Integrated Report; Participation to the NEEDS Annual Meeting and PMC - Bruxelles Oct.'5; Participation to the I Policy workshop - Rome April '06; 5) Participation to the Validation Meeting Elaboration of a country case study (Italy) including externalities; 6) Participation to the II AR Coordination and management of RS2a activities and contribution to RS Integration Preparation of the RS2a reporting documentation and workshop proceedings Coordination of WP2, WP5 and task 3.1 Coordination of the interactions between NEEDS and RES2020 projects Organisation of the RS2a Progress Meeting and technical session Contribution to the dissemination of NEEDS results (participation to International Conferences; preparation of papers) Updating of the Italy model and report Technical support to RS2a partners for the TTU revision and update of country models and reports; Contribution to revision and update of the SubRES and SUPP_XLS folders; Analysis of test runs and BAU scenario results; ; 7) Participation to the Ljubljana events Participation to the NEEDS Forum II - Krakow with the presentation of a paper co-authored by all the RS2a partners; 8) Contribution to integration of data (input-output flows between RS2a and other RS); Preparation of the DoW for months 37 - 48; Contribution to the definition of a structured protocol for the valorisation of NEEDS project results. ; 9) Integration of External cost data and LCA data in TIMES: The Italy case study ; 10) Cooperation in improving the Pan EU model and revising the BAU scenario • Preparation, in cooperation with IER, of T 3.15 – RS 2a “Interim Report on draft Pan European integrated model” (November 2007) • Preparation, in cooperation with PSI and USTUTT-IER, of T3.18 – RS 2a “Summary report of Pan European model results – BAU scenario” (November 2008). Dissemination and reporting activities Coordination of Rs2a activities Participation to RS2a workshops; 11) Integration issues and contribution to policy guidelines;</p>
42) INE	2982.9	0	0	<p>1) Two students, one expert, including overheads. Note that parts of work to be delivered in 3rd period is claimed now because the deliverable is almost ready. ; 2) Attending meeting in Rome, Nov 2006, hosting meeting in April 2007 ; 3) Preparation and verification of all data and LCA processing for Wp8. Synchronisation with fuel cell package;</p>

43) INFM	2092.87	450	0	1) - Country specific modelling (Slovenia) - Revision of the technology repository. - Participation to the RS2a Meetings and training sessions(Maratea, Athens and Gothenburg - Participation to other meetings concerning the project topics(Bari) - Revision of the drafts of the workshop proceedings and other RS2a documentation, - Preparation of the Slovenia report; 2) Participation in the discussion and review process; 3) Update of the Slovenia model; Critical revision and update of the SubRES and SUPP_XLS folders Contribution to SubRES revision/improvement Statistical analysis of the Pan EU results Participation to the RS2a Progress meetings; Drafting of the updated country report of Slovenia; Reviewing of RS2a documentation; Contribution to the dissemination of results; 4) 0;
45) IOM	879.4	0	0	1) Personnel costs; 2) No costs incurred this period; 3) Updated literature reviews of risks from outdoor air pollution with special reference to the relative toxicity of differing kinds of particles, to the effects of SO2, and to representing impacts in terms of attributable deaths or changes in life expectancy. All included in final deliverable.; 4) Background reading and consultation with other experts on the transferability of air pollution concentration-response relationships from N America to Europe, and within Europe.; 5) Writing technical papers on task 4.2.;
47) JRC	2387.64	0	0	1) Contribution to CIEMAT for the characterisation of Residential Technologies Contribution to CHALMERS for the characterisation of Transport Technologies, based on the POLES-TRANSTOOLS database. Participation to the reviewing of the drafts of the workshop proceedings and other RS2a documentation ; 2) 0;

49) KANLO	8482.7	0	0	<p>1) Travel costs to attend four RS2a meetings and conduct training sessions (in Maratea, Sept 2005, in Oxford, November 2005, in Athens, March 2006, and in Goteborg, May-June 2006). In addition, one KANLO associate visited a group of country modelers in Stockholm in April 2006, to provide additional technical support. The travel costs for period 2 have been revised downward to correct an error in reporting travel costs during period 1.; 2) Travel costs to attend the Annual review meeting in Brussels October 2005, one day was also devoted to a technical meeting on Integration Implementation; 3) coordination of RS2a modeling team with personnel from RS1a who produced LCA results. Elaboration of software interfaces for the Pan European Model. Revision of list and contents of EPG technology common to all streams.; 4) 0; 5) Update and improvement of the VEDA interface for the Pan European Model Technical help to all country modelers Training sessions at two RS2a meetings in Stuttgart (November 2006) and in Leuven (April 2007) Frequent e-mail help for targeted country modeling teams. Examination of test results of the Pan European Model preliminary runs. Liaison with other streams; 6) 1. Informal exchanges of mails and documents between partners from the various streams, to keep everyone informed of the progress made in each stream. 2. Successive alterations of the list and data of the set of common technologies across streams, notably RS1a and RS2a. A final list and accompanying data was agreed upon in Spring 2007. 3. General meeting of all partners involved in RS Integration (Krakow, July 4-5 2007). The Krakow meeting served two purposes: a) data validation for all data that are common across streams, and b) An update on the progress of Integration activities and plan for future activities. RS2a was represented by IMAA at the Krakow meeting. The discussion was centred on the main open questions related to data harmonisation and integration (in particular CO2 damage values and EPG technologies costs as elaborated by RS1a and RS2a) and on the definition of the guidelines for a Structured Protocol as final output of NEEDS. The input –output flows were also rescheduled taking into account the status of activities of each RS and their potential deviations. KANLO did not attend the Krakow meeting but RS2a was represented by IMAA delegates. ; 7) 1. Training activities took a different turn in 2008, consisting mainly in assisting KUL in its work producing the final scenario runs and analysis. KANLO made some modifications of the VEDA interface to facilitate certain scenario runs, but the bulk of its work was in direct assistance to KUL by means of email and several face-to-face work sessions. The collaboration between KANLO and KUL led KANLO to participate in WP3 beyond what was originally planned (see WP3 for details). 2. As the project advanced, it became obvious that more work than anticipated was necessary in order to conduct the final Policy runs of the integrated model based on TIMES. The work in WP3 was vastly expanded, and the role for KANLO as well, by running the Pan European Model</p>
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				in a parallel manner. Therefore, KANLO volunteered to help KUL with a portion of the final scenarios, while UStutt took care of the others. This was done without any change in the overall KANLO budget, but by internal reassignment of costs from travel to personnel, in consultation with the Project Head, ISIS. The actual time and manpower allocated to finalizing the PEM policy runs actually vastly exceeded the reported person-months. The intensive running of the KUL version of the PEM started in Fall 2007, and became a major KANLO activity in 2008, leading to a large series of successive runs in Summer 2008, and final runs in Fall 2008. The exchanges were mainly with KUL (which was in charge of WP4: Scenario Analysis). 3. Note that the sum of Euros 58333.33 was reallocated from Travel to personnel, in consultation with ISIS the project head.; 8) The integration activities in the last period of the NEEDS project involved mainly the closure of the Integration methodology, in view of the latest scenarios runs as they were implemented by WP3 of RS2a. KANLO worked closely with the partners involved in finalizing and analyzing the scenario runs, and adapted the final description of the Methodology used for the Harmonization of the Models. The exchanges were conducted over most of 2008, culminating with the production of the final version of the Harmonization report, which constitutes Deliverable D4.2: "Integration of research streams: Final Report on the Harmonization of Methodologies", dated November 16, 2008. The main changes in the report (relative to the interim report) concerned the inclusion of some external cost data concerning the dismantling of some power plants. The final report also included a discussion of future work on further integration of the TIMES model and Multicriterion Decision Making techniques. Finally, the report indicated several other European projects that are using the methodology developed under the NEEDS project. KANLO also participated in the constitution of the Structured Protocol, which put together a list of energy/environmental issues that the NEEDS project addressed or could address in the future. That list was also to be used for the final Needs conference in February 2009. ;
50) UNIH	0	0	0	1) without 20% overhead; Management = costs of the audit; 2) inclusive 20% flat rate;
51) KUL	5372.38	0	0	1) Travel: 5 meetings; 2) 0; 3) 0; 4) 0; 5) Scenario Internalisation of externalities; 6) Needs Policy Scenarios with the Pan European TIMES model;
52) EPT	3000	0	0	1) 0; 2) Case studies and data analysis;
53) LEI	1568	0	2450	1) 0; 2) Description the content of all presentations and discussions made during the final NEEDS conference held in Brussels 2009.02.16-17;

56) MEERI	3054.46	0	0	1) Travel costs: 2 work meetings (Prague and Nessebar) Other costs: conference in Krynica (Poland) where the EcoSense model and results of external costs estimations were presented and published.; 2) There were 2 workshops in Nesseber and Tunis and 1 seminar in Ljublana. Data on population and crops were provided in digital format recognized by EcoSense model (subcontracting).;
57) MET.NO	1310	0	88	1) Other costs: Courier to coordinator with Form C for 1. period; 2) Travel costs refers to Leonor Tarrasón and Anna Benedictows travels to Stuttgart 3. November 2006 (in advance of the NEEDS RS1b Fifth meeting Stuttgart at IER Stuttgart 6-7. November 2007.) Other costs are courier costs for audit certificate and Forms C sent to coordinator for period 2. ; 3) The remaining budget of Stream 3A and 1B will be used in the next period according to the revised workplan.; 4) Travel: Trip to Cairo 29-30 January 2008 for Leonor Tarrason other costs are courier for costs statement for period 3 ;
58) UNEW	0	0	0	1) 0;
59) UNINE	0	0	0	1) 0;
60) NREA	0	0	0	1) 0;
61) NTUA	0	0	269.6	1) EPU-NTUA participated in the following two work progress meetings: Brest, France, on the 10-11th of October 2005. Milan, Italy, on the 30-31st of January 2006. ; 2) Haris, Doukas, Torino, Italy, 3-5/6/2007, work progress meeting, stream 1C; 3) EPU-NTUA developed appropriate publishable summaries of the data collected for the Aegean Sea transport route, as part of the “Novorossiyk-Augusta” and the related assessment, which was distributed and presented in the 3rd International Exhibition on energy savings and renewable energy sources - EnergyReS '09 (February 19-22, 2009, Hellinikon Exhibition Center, Athens, Greece). EPU-NTUA participated in the NEEDS survey on stakeholder preferences for future electricity generation technologies. Moreover, EPU-NTUA contributed to the Multicriteria Analysis of Future Energy Technologies - MCA application of the survey developed on the website, by accessing the application on the Web server, filled in the questionnaire and followed all necessary steps.;
62) OME	10254	0	0	1) 0; 2) 0; 3) 0; 4) 0;

63) POLITO	2513.84	0	0	<p>1) * Villigen (CH) – Gerboni – 3rd Progress meeting * Fontainebleau (F) – Gerboni - 2nd Progress meeting * Singapore – Gerboni – Conference (half amount): Collection of data for WP2 and WP3; 2) * Bergen (N) – Gerboni – 3rd Progress meeting * Milan (I) – Lavagno – Work progress meeting * Singapore – Gerboni – Conference (half amount): Presentation of paper about results of technology scheme review of hydrogen and other energy vectors transportation. Meeting with representatives of local gas company to highlight normal operation and accidental criticalities. * Brest (F) – Gerboni – 2nd Progress meeting * Milan (I) – Gerboni, Carpignano – Work meeting on Risk management involving oil tankers in oil straits. At FEEM; 3) * Goteborg (S) - Gargiulo – RS2a 5th Progress meeting * Athens (GR) – Gargiulo, Lavagno – 4th Progress meeting * Oxford (UK) – Schranz – Workshop on modelling future energy technology cost and technology choice – at UK energy research centre * Maratea (I) – Lavagno, Schranz, Gargiulo – 3rd Progress meeting; 4) * Skalakot (ISL) - R.Gerboni - Needs 5th Stream Progress Meeting * Roma (I) - R.Gerboni - NEEDS 4th Research Stream Progress Meeting; 5) * Lubljana (SLO) - R.Gerboni - Information and Brokerage Day FP7 + NEEDS DvCS + NEEDS 2nd Policy Workshop; Informal meeting RS1c; 6) * Bruxelles (B) - M.Gargiulo - RS2a Meeting * Lubljana (SLO) - E.Lavagno - Information and Brokerage Day FP7 + NEEDS DvCS * Stavanger (N) - R.Gerboni - ESREL 2007 Safety & Reliability Conference (Presentation of Paper about RS2a results); 7) RS1a - R. Gerboni - Progress meeting in Madrid ; 8) * RS2a progress meeting in Amsterdam - M. Gargiulo * World hydrogen Technology Congress - R. Gerboni - paper presented;</p>
64) PROFING	3925	0	911	<p>1) Personal costs,rent office ; 2) 0; 3) Personel costs, the expenses for travel(travel cost, lodging, allowance, insurance) – Project Meeting NEEDS 1d+RS3a, Cairo,Egypt, 28-31/1/2008; Project Meeting NEEDS 1d+RS3a, Marrakech, Morroco, 30/11-3/12/2008; 6th Project Meeting of Stream 1d, Prague, Czech Republic 2-3/6/2008, rental of offices, business trips in Slovakia, other costs - bank accounting, auditing costs.;</p>

65) PSI	25823.53	4321.7	2749.27	<p>1) Work costs: 4 pm x 11969 = 47876 Travel costs: 1077 (Participation of R. Dones and T. Heck in RS1a meeting in Fontainebleau, 15-16 November 2005) Other costs: 2054 (Expenses in connection to RS1a meeting organised by PSI in Villigen, Switzerland, 23-24 May 2006) ; 2) Travel: Participation of S. Kypreos in RS2a meeting in Maratea, 10-14 September 2005 and in meeting in Athens, 20-22.2 2006; participation of S. Kypreos and T. Schulz in meeting in Goeteborg, 30.5-3.6.2006); 3) Work: 9.55 pm x 11969 = 114304 Travel: 5558 Participation of S. Hirschberg and P. Burgherr in RS2b annual meeting in Paris, 12-13 September 2005 (401+611.55+401+592.95 CHF); participation of S. Hirschberg in preparatory project annual meeting in Brussels, 8 September 2006 (960.00+290.45 CHF), in NEEDS annual review meeting in Brussels, 27-28 October 2005 (563.20+1007 CHF), in PMC/Integration meeting in Prague, 19-20 June 2006 (156.80+523.50 CHF), in meeting with ISIS on survey planning and content in Rome, 4 August 2006 (246.50+666 CHF); participation of S. Hirschberg and W. Schenler in Workshop on MCDA Requirement Analysis in Vienna 26-27 January 2006 (316.20+921+305.20); participation of R. Dones and S.Hirschberg in working meeting with social scientists in Stuttgart 1-2 February 2006 (210.15+182+184+243) (Total 8781.50 CHF = 5558 EURO) Other costs: 1778 Fees for accident database OSH-ROM (2709 CHF); Book on GIS (100.70) (Total 2809.70 CHF = 1778 EURO) ; 4) Work costs: 0.3 pm x 11969 = 3591; 5) Work: 0.9 pm x 11969 = 10772 Travel: 664 Participation of S.Kypreos in Policy Advisory Group Workshop in Brussels, 7 April 2006; 6) Personnel costs: According to descriptions provided for specific WPs. Travel: Participation of R. Dones, T. Heck and C. Bauer in RS1a meeting in Rome, November 2006 1228.30 EURO. Participation of R. Dones and T. Heck in RS1a meeting in Iceland, April 2007 1741.13 EURO.; 7) Personnel costs: According to descriptions provided for specific WPs. Travel: Participation of S. Kypreos in Mykonos Conference (407.71 EURO); Participation of T. Schulz in RS2a Stream Meeting in Stuttgart (167.19 EURO); Cancelled Leuwen travel of S. Kypreos due to sickness (264.41 EURO); Participation of S. Kypreos in the 2nd NEEDS Annual Review Meeting in Rome (476.57 EURO); 8) Personnel costs: According to descriptions provided for specific WPs. Travel: Participation of S. Hirschberg and W. Schenler in the 3rd RS2b meeting in Rome (1170.00 EURO); Participation of S. Hirschberg in the Annual NEEDS Review meeting in Rome (549.10 EURO); Participation of S. Hirschberg, P. Burgherr and W. Schenler in the 4th RS2b meeting in Stuttgart (1073.06 EURO); Participation of W. Schenler in WP10 meeting in Laxenburg (445.50 EURO) Subcontractors: Subcontract to Cazzoli Consulting with contributions to methodology for simplified Level 3 Probabilistic Safety Assessment for nuclear and to applications for advanced nuclear plants. Other costs: Fees for accident database OSH-ROM licenses (1235.17 + 1360.05). Subscription to</p>
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				<p>Hazards Intelligence (70.68 EURO); 9) Personnel costs: According to descriptions provided for specific WPs. Travel: Presentation on “Stakeholder Preference Analysis and Surveys Programme” NEEDS 2nd Policy Workshop, Ljubljana, 9 March 2007. Presentation “NEEDS Status with Emphasis on Technology Roadmap and Stakeholder Perspectives”, Axpo MCDA Workshop, Boettstein, Switzerland, 26 June 2007. Presentation “Energy Externalities: Approaches, Insights, Limitations and Security of Supply Issues”, NEEDS FORUM 2 on Energy Supply Security: Present and Future Issues, Krakow, Poland, 5 - 6 July 2007.; 10) Personnel costs: According to descriptions provided for specific WPs. Travel: Participation of S.Hirschberg in NEEDS Integration Meeting, Krakow, Poland, 4 - 5 July 2007.; 11) Work costs: 6.75 PM x EUR 11969 = EUR 80790.75 // Travel costs: Stream Progress Meeting, Reykjavik & Moldnupur (Iceland), 17.-22.4.2007, R. Dones & T. Heck, EUR 1173.64; Stream Progress Meeting, Rome (Italy), 1.-3.11.2006, T. Heck, EUR 248.36; Stream Progress Meeting, Madrid (Spain), 1.-3.10.2007, T. Heck, C. Bauer, R. Dones, EUR 2493.42; Conference MRS Fall Meeting, Boston (USA), 24.-28.11.2007, R. Dones, EUR 2077.22; Conference "10. Symposium Energieinnovation", Graz (Austria), 12.-15.2.2008, C. Bauer, EUR 1124.69; 12) Work Costs: 2.3 PM x EUR 11969 = EUR 27528.70 // Travel Costs: Conference IPTS, Seville (Spain), 13.-15.2.2008, S. Kypreos, EUR 367.75; Stream Project Report Meeting & CASES Final Conference as NEEDS representative, Milano (Italy), 28.-30.2008, EUR 553.82; NEEDS Final Conference, Brussels (Belgium), 16.-17.2.2009, S. Kypreos, EUR 878.22, Working Meeting, RS Leuven (Belgium), S. Kypreos, EUR 293.67, Adam Meeting, Budapest (Hungary), S. Kypreos, EUR 326.46; 13) Work Costs: 13.75 PM x EUR 11969 = EUR 164573.75 // Travel Costs: PETROSEC/SEIF-CV Conference, Salzburg, Austria, 16.-19.9.2007, P. Burgherr, EUR 467.76; Conference IPC 2007, Bucarest (Romania), 5.-8.11.2007, P. Burgherr, EUR 635.59; Annual Review Meeting, Rome (Italy), 10.-11.12.2007, S. Hirschberg, EUR 543.12; Stream Progress Meeting, Laxenburg (Austria), 12.-14.3.2008, S. Hirschberg, P. Burgherr, W. Schenler, EUR 1799.04; Conference PSAM 9, Hongkong (China), 17-24.5.2008, S. Hirschberg, EUR 3254.98; NEEDS Forum 3, Cairo (Egypt), 28.1.-29.1.2008, S. Hirschberg, EUR 517.59; Working Session on MCDA at IIASA, Laxenburg (Austria), 3.-5.2.2008, S. Hirschberg, W. Schenler, EUR 646.40; Stream Working Session, Villigen PSI (Switzerland), 19.3.2008, EUR 158.94; Conference IDRC, Davos (Switzerland), 25.-28.8.2009, P. Burgherr, EUR 842.46; Conference ESREL & SRA, Valencia (Spain), 21.-26.9.2008, P. Burgherr, EUR 1599.16; CASES Final Conference / NEEDS Meeting, Milano (Italy), 28.-30.9.2008, S. Hirschberg, EUR 455.33; MCA / survey 3 data analysis, Warsaw (Poland), 1.-3.12.2008, W. Schenler, EUR 820.28; Stream Progress Meeting, Karlsruhe (Germany), 11.-12.12.2008, S. Hirschberg, W.</p>
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				Schenler, P. Burgherr, EUR 724.19; NEEDS Final Conference, Brussels (Belgium), P. Burgherr, 16.-17.2.2009, EUR 1385.48 // Other Costs: 2ask Software for WP12, Survey 2, EUR 919.11; 2ask Software for WP12, Survey 3, EUR 919.11; Data Desk software for MCA analysis, EUR 334.49; Hint Database for ENSAD Update, EUR 209.31; Software for ENSAD Database Update, EUR 61.85; Software for MCA analysis, EUR 170.42; Div. VAT, 2008, EUR 82.73; Hardware for MCA analysis, 1.10.2008, EUR 52.26; 14) Work Costs: 0.45 PM x EUR 11969 = EUR 5386.05 // Travel Costs: NEEDS Forum 3, Cairo (Egypt), 28.1.-29.1.2008, S. Hirschberg, EUR 653.05; NEEDS Final Conference, Brussels (Belgium), 16.-17.2.2009, S. Hirschberg, EUR 940.91; 15) Work Costs: 0.5 PM x EUR 11969 = EUR 5984.50 // Travel Costs: NEEDS Integration Meeting, Rome (Italy), 9.6.2008, S. Hirschberg, EUR 842.02;
66) RISOE	0	0	0	1) Travels to Fontainebleau-France and to Zürich-Germany; 2) Travels to Maratea-Italy, Athen-Greece, Stockholm-Sweden, Göteborg-Sweden; 3) 0; 4) - implementation and test of country specific model - coordination of country specific model with pan-European model - project correspondence and administration ; 5) 0;
67) SEI	6199	0	297	1) Other costs include communication costs; travel costs include cost related to different meetings with renewable energy producers and data collection, kick-off meeting at Prague and workshop.; 2) Data collection for the energy externality estimates in Estonia. Analysis and testing of the EcoSenseWeb tools.; 3) 0; 4) RS1d WP5 and WP6 overview Some practical problems of external cost calculations were discussed and proposals presented to apply the EcoSenseWeb in Estonian energy sector. External cost calculations for fossil fuel power plants and for CHP power plants were made. The external costs of the oil shale electricity produced in Narva PP with the old technology are 5,26 c€/kWh and with the new CFBC technology 2,76 c€/kWh. The external costs of the Iru CHP (gas) are 1,72 c€/kWh and the small 20 MW Vao CHP (wood chips) only 0,34 c€/kWh. The deliverable D.6.1- RS 1d/WP6 “Possible internalisation of external costs and policy recommendations” presents the NEEDS RS1d/ WP6 results in eight countries. These RS1d partners described the energy sector fiscal policy instruments, estimated the perspectives of internalising the

				external costs and made the energy policy recommendations. Stockholm Environment Institute Tallinn Centre (SEI-Tallinn) was the RS1d WP6 coordinator and edited these overviews, underlined the important facts about internalisation of external costs and wrote the conclusions. Dissemination report The cost-benefit assessment of the Estonian electricity sector technologies and six scenarios was made using the prognosed 2020 year average private costs and the calculated with the help of NEEDS EcoSenseWeb external costs. The electricity production costs were decomposed into investment, fuel and operation costs. This work started in 15.09.2008 and was finished in the 20.03.2009. The results of this work are presented in chapter 10 (p 60-70) of the SEI-Tallinn report “Strategic Environmental Assessment of the Estonian Energy Sector Development Plan”. The final version of this report (in Estonian) is available on SEI-Tallinn website and also added to NEEDS RS1d dissemination report. The public Forum of the first drafts of the reports “Estonian Energy Sector Development Plan” and the “Strategic Environmental Assessment of the Estonian Energy Sector Development Plan”, organised by the Ministry of Economics and Communication on 8.10.2008 in Estonian National Library for stakeholders and interest groups (over 200 participants). SEI-Tallinn presented the main findings and it was decided that the additional, more detailed external cost calculations will be made during the coming months. The article: Kareda, E. “External cost calculations and applications” (Väliskulude arvutamine ja kasutamine) will be published in the journal Environmental Technology (Keskkonnatehnika) 3, 2009 in April. ;
69) UA	0	0	0	1) travel costs Ljubljana March 2007; 2) 0;
70) ELSAM	0	0	0	1) The RTD cost cover the work made in Elsam, the travel and the other costs. The travel cover the cost for two persons participating in the two last progress meetings in Paris and Switzerland. Other costs covers the expenses for participating in a conference for offshore wind, to acheive new knowledge on the development.; 2) Meetings in Rome,Italy, in Island and copenhagen There is an adjustment to Form C -19.090,73 EUR which isnt included.;

71) TTU	1096.08	0	4100.82	1) -Participation to the discussion and review process for the design of the various tools: RES, templates, VEDA-FE. -Participation to the RS2a Meetings and training sessions (September 2005 in Maratea, Italy, February 2006 in Athens, May 2006 in Gothenburg) - Country specific modelling (Estonia, Latvia, Lithuania) - Review of the drafts of workshop proceedings and other RS2a documentation - Preparation of the country report of Estonia, Latvia and Lithuania ; 2) Further adjustment of the Estonia, Latvian and Lithuanian models; Composition of reports on country models; Installation of new versions of SubRES, SupXLS and SysSettings.; Running of EE, LT and LV models, comparison new and previous results; Installation and running of VEDA3. ; 3) RTD personnel costs consists of: Heiki Tammoja, Olaf Terno, Juhan Valtin, Matti Keel, Eeli Tiigimägi, Mati Kodumets labour costs. Travel (business trip): Heiki Tammoja 15.-18. February 2009 Brussels. Workshop. Other costs = indirect costs;
72) UAB	0	0	0	1) 0;
73) UBATH	1513.5	0	235.38	1) 0;
74) AGH	0	0	0	1) Costs corresponding to the administrative activities and control of stream progress. Drafting the content of the Forum 3. Logistics and preparation of the 3rd Forum in Kraków.; 2) travel: participation in workshop in Ljubljana other costs: organisation of the Forum 2;
75) UNWE	1590	0	1780	1) 7760 Euro personnel expenses on temporary contracts with experts participating in the execution of WP1 and the preparation of the Second RS1d Workshop in Nessebar, Bulgaria. Participation (Dr. Rumen Gechev) in the Kick-off meeting of the RS1D stream in Prague, Czech Republic in March, 2006.; 2) 1. gathering and systematization of an additional information or updating of information for the Bulgarian energy sector. 2. Application of the improved EcoSense model. 3. Development of two scenarios for the EcoSense model - an analysis of the different selected power plants and also another calculations based on the summered emissions through hypothetical centrally located stack. 4. Cost-Benefit analysis of TPS "\$\$vil" - before and after the installation of the purifying technology (electric beam. 5. Internalization of the externalities into the market prices. 6. Analysis of the overall Bulgarian energy sector, current trends and possible optimized alternatives in the long run. 7. Dissemination of the research findings before academics, government bodies and NGOs. 8.Auditing;

77) USTUTT	18744.71	14400	1017.33	<p>1) subcontract with Braincorp, Rome for delivery of NEEDS web site and newsletter; 2) 0; 3) 0; 4) 0; 5) 0; 6) Contribution to the final selection of indicators, support for the development and operation of the NEEDS-survey and work on the quantification of social indicators; 7) 0; 8) 0; 9) 0; 10) Regarding Atmospheric Modelling (WP1): A methodology to account for higher concentration of pollutants in highly populated areas (urban) within the EMEP grid cells has been developed by AUTH. The results have been integrated in the EcoSenseWeb tool. For radioactive substances, a simplified approach has been taken. Exposure factors from UNSCEAR reports have been collected ([PersSv per Bq]). Based on these impact factors external cost factors have been derived and implemented. Regarding impact pathway water and soil modelling (WP2): Country dependent, parameterised results of the multimedia extension WATSON for non-volatile metals, i.e. arsenic, cadmium, chromium, lead and nickel have been derived and implemented in the EcoSenseWeb, whereas for nickel and chromium only parameterised values for the emission-exposure relationship were derived due to the absence of exposure/dose-response relationships. An approach to account for impacts due to release of Hg was developed by Armines. The impacts / external costs due to consumption of seafood (causing IQ loss), related to the content of Hg in fish have been updated. Different versions of including trade of food items have been tested by means of comparable model runs. Regarding assessment of climate change(WP5): New marginal damage cost estimates have been derived and reported. Values for different assumptions regarding important parameters discount rate and equity weighting have been provided. Results are implemented in EcoSenseWeb. However, in addition results and recommendations in collaboration with the CASES project and other NEEDS partners have been derived on the basis of EU emission targets. Two corresponding sets of (avoidance) costs have been derived for future years (named Scenario I and Scenario II) in order to use not only single values but a reasonable range. Regarding Improvement of Methodology and Tools for the Impact Pathway Assessment (WP7): The implementation of the new tools from all WPs for external costs assessment has been completed. The EcoSense model is available via internet (new name: EcoSenseWeb). A user friendly interface has been developed. The implementation of the findings from Rs1d (geographical extension, e.g. to New Accession Countries and North Africa) has been performed. In addition to this basic work, in WP7 consistency between the developments within the different work packages and outside this stream has been assured. The EcoSenseWeb tool and the improved framework was applied for a number of innovative energy technologies and different locations within member countries of the current EU. The purpose was to demonstrate the application of the detailed methodology developed to estimate new external cost values. These calculations were based on CASES data on LCI</p>
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				<p>data developed by Rs1a. ; 11) Training, feedback and support regarding the application of method/tool and calculation external costs for identified case studies in WP2 for 6 newly associated countries (Bulgaria, the Czech Republic, Estonia, Hungary, Poland, Slovakia) and 3 Mediterranean Partner countries (Egypt, Morocco, Tunisia). Interpretation of the results. Addaption of EcoSenseWeb - regarding EcoSenseWeb results output for NorthAfrican Countries and regarding output of concentration and impacts as maps. ; 12) The concept of regional range analysis based on source receptor (SR) matrices. The concept regional range analysis results from the need of performing a European-wide (regional) analysis based on an operational amount of data. The regional range analysis is based on the large EMEP-grid cells (50 x 50 km² each) and covers the whole of Europe. Regional impact assessment is done with regional SR-receptor matrices, i.e. parameterised results of model runs with the EMEP/MSC-West Eulerian dispersion model. These complex model runs are based on certain emission scenarios and meteorological conditions. A reduction of each pollutant by 15% for each source of emission within a corresponding sub-region lets to delta concentration per ton of emission. The matrices are used to derive a concentration increment per unit of emission. The concentration increment per unit of emission is than intercepted with population and other spatial disaggregated receptor data. Subsequently, the concentration response functions for the endpoints and the corresponding monetary values are used to derive the aggregated external costs per unit of emission per source region. Values for 39 European and non-European countries and 5 sea regions have been provided for 2 different background emission scenarios and an average meteorological year. Moreover, for the 5 North African countries have been provided. The results of parameterisation of the WATSON mode, i.e. damage per tonne of release of heavy metals are included. Results for air pollution in the Northern Hemisphere for emission within Europe are included. ; 13) WP2: Policy Workshop organisation WP4: NEEDS Forum 3 WP5: NEEDS Final Conference WP6: Internal and external project communication structures and dissemination of results from project streams and Dissimination; 14) • review and comments on the final Harmonization Report • exchange of data between Rs1b/Rs3a and Rs1a, Rs2a and Rs2b • proposal for evaluation of greenhouse gases ;</p>
78) VITO	0	0	0	<p>1) Jury master thesis: "indoor combustion sources WP3 taks 3.5, Eindhoven, the Netherlands; interim meeting NEEDS, Paris (8/11/2005); 6 months meeting NEEDS, Paris (15/5/2006); ALL TRAVELS BY Rudi TORFS; 2) project meeting NEEDS, Norway, OS3/WP3 external costs transmission electricity; Milan, Italy: interim meeting Needs; Brest: project meeting Needs; ALL TRAVELS BY Leo De Nocker; 3) 0; 4) 0;</p>

79) VTT	0	0	0	1) Travel: Esa Pursiheimo's participation in the RS2a Work meeting in Athens on February 20th-22nd, 2006.; 2) 0;
81) SPOK	543.63	0		1) Finalising draft report on WP 16; Ocean Energy. Updating sheets on production.;
82) CESIRICERCA	1180.4	0	14781.9	1) travel: meeting in Rome and Stuttgart; 2) technical reporting;

1.3 Cost Budget Follow-up Table

Contract N°: 502687 (SES6)			Acronym: NEEDS					Date: 18/05/2009		
			ACTUAL COSTS (Euro)					Perc. Spent	Remaining Budget (Euro)	
N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
1	ISIS	Total Person-Month	57.6	11.5	13.6	14.2	24.6	63.8	111%	-6
		RTD Personnel Costs	307,438	37,896	73,148	78,367	93,065	282,476	92%	24,962
		Travel Costs	42,059	8,017	8,249	7,458	6,110	29,834	71%	12,225
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	0	9,173	0	4,328	0	13,501	0%	-13,501
		Management Costs	395,859	87,875	124,102	88,036	123,225	426,542	108%	-30,682
		Auditing Costs	5,096	0			2000	1,500	29%	3,596
		Adjustments					0			
		Total Costs	750,452	142,960	205,499	178,189	227,705	753,853	100%	-3,401
2	AEKI	Total Person-Month	13.0	0.0	3.0	5.2	6.5	14.7	113%	-2
		RTD Personnel Costs	78,835	0	7,831	24,696	48,665	81,192	103%	-2,358
		Travel Costs	7,000	0	825	2,321	3,644	6,790	97%	210
		Subcontractors	3,500	0	0	0	1,466	1,466	42%	2,034
		Other Costs	3,500	0	3,332	0		3,332	95%	168
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	464	0	0	0	1,173	1,173	253%	-708
		Adjustments					0			
		Total Costs	93,299	0	11,988	27,017	54,948	93,953	101%	-654

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
3	AMBIENTE ITALIA	Total Person-Month	15.5	6.5	4.0	3.8	1.0	15.3	99%	0
		RTD Personnel Costs	137,492	55,942	43,488	37,278	546	137,254	100%	238
		Travel Costs	10,040	1,956	1,024	3,327		6,307	63%	3,733
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	0	0	0		0	0%	1,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	720	0	0	0	1,000	1,000	139%	-280
		Adjustments					0			
		Total Costs	149,252	57,897	44,512	40,605	1,546	144,560	97%	4,692
4	ARMINES	Total Person-Month	36,5	10,0	20,5	19,9	1,9	52,3	143%	-16
		RTD Personnel Costs	414.022	156.272	213.139	207.263	21.514	598.188	144%	-184.166
		Travel Costs	36.100	7.209	20.670	7.000		34.879	97%	1.221
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1.000	0	0	0		0	0%	1.000
		Management Costs	0	0		0		0	0%	0
		Auditing Costs	2.256	0	0	0		0	0%	2.256
		Adjustments					205431,8			226.945
		Total Costs	453.378	163.481	233.809	214.263	226.945	860.012	190%	-406.635
5	AUTH	Total Person-Month	16.0	2.0	3.5	6.0	5.5	17.0	106%	-1
		RTD Personnel Costs	100,616	12,600	22,050	37,800	34,471	106,921	106%	-6,305
		Travel Costs	11,500	0	1,775	744	1,428	3,947	34%	7,553
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0	0	0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0	1,500	1,500	0%	1,247
		Adjustments					-58	-58	0%	
		Total Costs	112,116	12,600	23,825	38,544	37,341	112,311	100%	-195
7	CDER	Total Person-Month	14.5	0.0	0.0	10.0	5.0	15.0	103%	-1
		RTD Personnel Costs	40,140	0	9,800	20,613	16,610	47,023	117%	-6,883
		Travel Costs	6,400	0	1,329	3,404	3,124	7,857	123%	-1,457
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	3,000	0	0	0	4,658	4,658	155%	-1,658
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments					0			
		Total Costs	49,540	0	11,129	24,017	24,391	59,537	120%	-9,997
8	CEDRE	Total Person-Month	9.5	1.0	6.5	2.1	0.0	9.6	101%	0
		RTD Personnel Costs	114,000	12,000	78,000	24,840	0	114,840	101%	-840
		Travel Costs	8,000	1,094	4,832	1,483	0	7,409	93%	591
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	0	0	0	0	0	0	0%	0
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs	610	0	0	0	0	0	0%	610
		Adjustments					0			
		Total Costs	122,610	13,094	82,832	26,323	0	122,249	100%	361
10	ETHZ	Total Person-Month	3.4	0.0	0.0	0.0		0.0	0%	3
		RTD Personnel Costs	23,280	0	0	0		0	0%	23,280

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1	
		Travel Costs	2,000	0	0	0		0	0%	2,000	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	11,000	0	0	0		0	0%	11,000	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0		0	0%	0	
		Adjustments						0			
		Total Costs	36,280	0	0	0	0	0	0	0%	36,280
11	CESI	Total Person-Month	0.5	0.5	0.0	0.0		0.5	100%	0	
		RTD Personnel Costs	2,692	2,692	0	0		2,692	100%	0	
		Travel Costs	449	449	0	0		449	100%	0	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	0	0	0	0		0	0%	0	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	0	0	0	0		0	0%	0	
		Adjustments						0			
		Total Costs	3,141	3,141	0	0	0	3,141	100%	0	
12	CHALMERS	Total Person-Month	9.2	2.6	7.5	4.5	5.0	19.6	214%	-10	
		RTD Personnel Costs	91,800	22,134	41,988	19,196	19,611	102,929	112%	-11,129	
		Travel Costs	15,174	2,268	7,913	1,131	1,331	12,643	83%	2,531	
		Subcontractors	0	0	0	0	6,570	6,570	0%	-6,570	
		Other Costs	7,250	0	35	4,065		4,100	57%	3,150	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0	1,699	1,699	0%	-1,699	
		Adjustments					-9,596	-9,596	0%	-13,717	
		Total Costs	114,224	24,402	49,936	24,392	19,615	118,345	104%	-16,304	

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
13	CIEMAT	Total Person-Month	9.0	2.5	2.5	3.8	0.8	9.5	106%	-1
		RTD Personnel Costs	66,667	19,454	18,701	30,570	2,148	70,873	106%	-4,206
		Travel Costs	18,240	4,087	7,469	3,975	1,821	17,352	95%	888
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	645	1,000	436		2,081	208%	-1,081
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	430	0	0	0		0	0%	430
		Adjustments					3,091	3,091	0%	-3,968
		Total Costs	86,337	24,186	27,170	34,981	7,060	93,397	108%	-3,731
14	CRES	Total Person-Month	6.2	2.2	2.7	2.3	1.5	8.7	139%	-2
		RTD Personnel Costs	53,513	18,852	20,180	9,604	13,375	62,012	116%	-8,498
		Travel Costs	6,500	2,441	2,514	865		5,820	90%	680
		Subcontractors	10,000	0	0	0	10,000	10,000	100%	0
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	350	0	0	0	1,000	1,000	286%	-7,818
		Adjustments				1,194	-9,791	-8,597		
		Total Costs	70,364	21,293	22,694	11,663	14,584	70,234	100%	-7,137
15	CUEC	Total Person-Month	37.2	2.0	15.4	14.4	11.6	43.4	117%	-6
		RTD Personnel Costs	92,761	5,190	38,220	38,300	28,324	110,034	119%	-17,273
		Travel Costs	31,000	5,028	4,670	8,705	11,640	30,043	97%	957
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	52,630	0	28,896	1,653	17,209	47,758	91%	4,872
		Management Costs	5,148	0	1,134	3,168		4,302	84%	846
		Auditing Costs		0	0	0	1,500	1,500	0%	-10,598

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Adjustments					-1,737	-1,737	0%	
		Total Costs	181,294	10,218	72,920	51,826	56,936	191,900	106%	-3,923
16	DLR	Total Person-Month	31.9	13.0	3.4	10.6	6.1	33.1	104%	-1
		RTD Personnel Costs	329,948	137,648	35,570	101,222	56,966	331,406	100%	-1,458
		Travel Costs	39,450	6,831	4,467	6,378	5,205	22,881	58%	16,569
		Subcontractors	0	0	1,102	0	8,325	9,427	0%	-9,427
		Other Costs	10,000	3,777	2,829	2,458	2,331	11,395	114%	-1,395
		Management Costs	10,744	0	1,210	11,825		13,035	121%	-2,291
		Auditing Costs	2,004	0	1,210	0	973	2,183	109%	-179
		Adjustments				9,793	0	9,793		
		Total Costs	379,398	148,256	46,388	131,676	73,800	400,120	105%	1,820
17	ECN	Total Person-Month	6.4	2.0	2.3	2.0	0.3	6.6	103%	0
		RTD Personnel Costs	96,594	28,457	33,766	46,058		108,281	112%	-11,688
		Travel Costs	8,906	4,610	1,770	992		7,372	83%	1,534
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	2,500	0	0	0		0	0%	2,500
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	540	0	0	0		0	0%	540
		Adjustments					0	0		
		Total Costs	108,540	33,067	35,536	47,050	0	115,653	107%	-7,114
18	SWECO	Total Person-Month	28.4	2.2	3.7	9.5	11.6	27.0	95%	1
		RTD Personnel Costs	411,250	39,175	45,427	138,002	174,141	396,745	96%	14,505
		Travel Costs	34,000	9,816	10,084	6,494	10,266	36,660	108%	-2,660
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0		0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Management Costs	15,000	3,366	1,984	4,313	4,969	14,632	98%	368
		Auditing Costs	2,366	0	0	0	1,000	1,000	42%	1,366
		Adjustments					0	0		
		Total Costs	462,616	52,357	57,495	148,809	190,377	449,037	97%	13,579
19	ECONCEPT	Total Person-Month	9.8	6.0	4.4	0.0		10.4	106%	-1
		RTD Personnel Costs	139,278	85,272	59,082	0		144,354	104%	-5,076
		Travel Costs	8,500	876	2,547	0		3,423	40%	5,077
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	0	0	739	0		739	0%	-739
		Auditing Costs	739	0	739	0		739	100%	0
		Adjustments			0	0	0	0		
		Total Costs	148,516	86,148	63,107	0	0	149,255	100%	-739
20	EDF	Total Person-Month	24.5	6.5	10.0	6.7	7.7	30.9	126%	-6
		RTD Personnel Costs	320,481	113,945	158,926	55,814	35,651	364,336	114%	-43,855
		Travel Costs	20,490	7,088	4,785	6,138		18,011	88%	2,479
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	4,000	0	0	0		0	0%	4,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	1,725	0	0	0		0	0%	1,725
		Adjustments				0	0	0		
		Total Costs	346,696	121,033	163,711	61,952	35,651	382,347	110%	-35,651
23	ENERO	Total Person-Month	9.3	2.9	6.2	0.2	0.3	9.6	103%	0
		RTD Personnel Costs	23,059	7,190	15,373	496	1,241	24,300	105%	-1,241
		Travel Costs	5,900	710	3,777	0		4,487	76%	1,413

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	1,041	500	450	0		950	91%	91	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	150	0	0	0	800	800	533%	-650	
		Adjustments			0	0	0	0			
		Total Costs	30,150	8,400	19,600	496	2,041	30,537	101%	-387	
25	EPFL	Total Person-Month	15.0	14.2	5.6	0.0	0.0	19.8	132%	-5	
		RTD Personnel Costs	88,020	66,397	24,086	0		90,483	103%	-2,463	
		Travel Costs	3,500	0	1,032	0		1,032	29%	2,468	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	0	0	0	0		0	0%	0	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0		0	0%	0	
		Adjustments			0	0	0	0	0		
		Total Costs	91,520	66,397	25,118	0	0	91,515	100%	5	
26	ESU	Total Person-Month	21.2	2.4	5.6	5.8	8.3	22.1	104%	-1	
		RTD Personnel Costs	286,056	32,700	71,854	74,421	110,749	289,724	101%	-3,668	
		Travel Costs	20,280	1,180	890	1,547	1,391	5,008	25%	15,272	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	10,000	139	156	6	6,359	6,660	67%	3,340	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	1,582	0	0	0	675	675	43%	907	
		Adjustments			0	0	0	0	0		
		Total Costs	317,918	34,019	72,900	75,974	119,174	302,067	95%	15,851	
27	FEEM	Total Person-Month	16.8	5.2	4.8	4.0	1.2	15.1	90%	2	

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		RTD Personnel Costs	105,750	36,297	30,538	24,178	7,174	98,188	93%	7,562
		Travel Costs	10,000	2,003	3,590	2,963	678	9,234	92%	766
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	2,000	139	3,312	0		3,451	173%	-1,451
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments				0	0	0		
		Total Costs	117,750	38,440	37,440	27,141	7,851	110,872	94%	6,878
28	FhG/ISI	Total Person-Month	3.0	2.9	0.2	0.0		3.0	100%	0
		RTD Personnel Costs	40,610	37,738	2,414	0		40,152	99%	458
		Travel Costs	942	289	652	0		941	100%	1
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	293	293		0		293	100%	0
		Auditing Costs	1,080	0	1,080	0		1,080	100%	0
		Adjustments				0	0	0		
		Total Costs	42,925	38,320	4,146	0	0	42,466	99%	459
30	GLOBE	Total Person-Month	12.7	8.7	0.0	1.8	0.4	10.9	86%	2
		RTD Personnel Costs	50,500	14,616	0	11,000	4,256	29,872	59%	20,628
		Travel Costs	33,000	1,340	0	3,000	200	4,540	14%	28,460
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	10,500	5,233	0	0		5,233	50%	5,267
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	470	0	0	0	350	350	74%	120
		Adjustments				0	0	0		

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Total Costs	94,470	21,189	0	14,000	4,806	39,995	42%	54,475
32	HELIO	Total Person-Month	4.5	0.5	0.9	2.0	0.8	4.2	92%	0
		RTD Personnel Costs	64,350	5,700	7,860	19,305	7,920	40,785	63%	23,565
		Travel Costs	10,000	1,808	967	4,000	2,661	9,436	94%	564
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	0	26	0		26	3%	974
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments				0	0	0		
		Total Costs	75,350	7,508	8,853	23,305	10,581	50,247	67%	25,103
33	SIU-IEM	Total Person-Month	3.6	1.0	2.0	0.0	0.0	3.0	83%	1
		RTD Personnel Costs	9,374	1,594	3,932	4,143		9,669	103%	-295
		Travel Costs	4,000	2,052	533	18		2,603	65%	1,397
		Subcontractors	13,000	2,973	1,171	8,304		12,448	96%	552
		Other Costs	2,000	2,313	627	164		3,104	155%	-1,104
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments				0	0	0		
		Total Costs	28,374	8,932	6,263	12,629	0	27,824	98%	550
37	IFEU	Total Person-Month	16.0	3.0	7.0	5.0	5.1	20.1	126%	-4
		RTD Personnel Costs	156,800	29,400	68,600	49,000	51,211	198,211	126%	-41,411
		Travel Costs	9,490	760	910	3,227	974	5,870	62%	3,620
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	0	600	0	711	1,311	131%	-311
		Management Costs	0	0	0	0		0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Auditing Costs	836	0	0	0	2,618	2,618	313%	-1,782
		Adjustments					-16,874	-16,874	0%	
		Total Costs	168,126	30,160	70,110	52,227	38,640	-7,075	-4%	1,527
38	IFU	Total Person-Month	4.5	3.0	3.0	1.5	0.7	8.2	182%	-4
		RTD Personnel Costs	59,500	29,641	29,641	9,590	6,587	75,459	127%	-15,959
		Travel Costs	9,490	936	784	1,255	771	3,746	39%	5,744
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	6,000	0	0	0		0	0%	6,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	357	0	0	0	280	280	78%	77
		Adjustments				0	0	0		
		Total Costs	74,990	30,577	30,425	10,845	7,638	79,485	106%	-4,137
39	IIASA	Total Person-Month	21.3	2.0	5.5	5.0	10.5	23.0	108%	-2
		RTD Personnel Costs	150,641	20,432	60,327	53,625	119,531	253,915	169%	-103,274
		Travel Costs	10,000	1,503	932	3,400	4,787	10,622	106%	-622
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	70,526	0	1,394	0		1,394	2%	69,132
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	783	0	0	0	1,666	1,666	213%	-883
		Adjustments					0	0		
		Total Costs	231,950	21,935	62,653	57,025	125,984	267,597	115%	-35,647
40	JSI	Total Person-Month	4.4	1.4	0.2	1.8	0.0	3.4	77%	1
		RTD Personnel Costs	36,721	6,799	1,835	7,597		16,232	44%	20,489
		Travel Costs	2,279	0	0	28		28	1%	2,251
		Subcontractors	0	0	0	0		0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Other Costs	11,000	0	0	5,843		5,843	53%	5,157
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	250	0	134	0		134	54%	116
		Adjustments						0		
		Total Costs	50,250	6,799	2,103	13,468	0	22,237	44%	28,013
41	IMAA-CNR	Total Person-Month	49.1	11.6	16.3	15.3	4.0	47.2	96%	2
		RTD Personnel Costs	299,783	67,849	117,646	89,598	24,002	299,094	100%	688
		Travel Costs	32,000	9,043	11,389	10,891	1,353	32,676	102%	-676
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0	2,349	2,349	0%	-2,349
		Management Costs	6,637	2,956	724	1,967		5,646	85%	991
		Auditing Costs	1,725	0	0	0	2,050	2,050	119%	-325
		Adjustments				0	0	0		
		Total Costs	340,145	79,848	129,759	102,455	29,754	341,816	100%	-1,671
42	INE	Total Person-Month	10.0	3.8	5.9	1.5	8.5	19.7	197%	-10
		RTD Personnel Costs	193,600	36,465	19,820	8,032	32,244	96,561	50%	97,039
		Travel Costs	14,990	2,449	2,325	459	2,983	8,216	55%	6,774
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	0	3,750	1,977		5,727	573%	-4,727
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	1,048	0	0	0	692	692	66%	
		Adjustments					19,718	19,718		
		Total Costs	210,638	38,914	25,895	10,468	55,637	130,914	62%	2,047
43	INFM	Total Person-Month	29.5	0.0	10.0	8.0	9.5	27.5	93%	2
		RTD Personnel Costs	33,149	0	14,031	11,667	12,828	38,526	116%	-5,377

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Travel Costs	4,480	0	1,998	1,154	2,093	5,245	117%	-765
		Subcontractors		0	0	0	450	450	0%	-450
		Other Costs	5,757	0	0	0		0	0%	5,757
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments					0	0		
		Total Costs	43,386	0	16,029	12,821	15,371	44,220	102%	-834
45	IOM	Total Person-Month	9.4	4.7	1.5	2.8	0.5	9.5	101%	0
		RTD Personnel Costs	173,640	94,279	33,029	55,624	2,583	185,515	107%	-11,875
		Travel Costs	9,040	661	0	0	879	1,540	17%	7,500
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	913	0	0	0	1,122	1,122	123%	-209
		Adjustments					0	0		
		Total Costs	183,593	94,940	33,029	55,624	4,584	188,177	102%	-4,584
47	JRC	Total Person-Month	5.0	0.2	1.6	0.0	3.5	5.3	106%	0
		RTD Personnel Costs	33,000	1,528	7,227	17,010	10,909	36,674	111%	-3,674
		Travel Costs	8,800	0	0	0	2,388	2,388	27%	6,412
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	275	0	0	0	900	900	327%	
		Adjustments					14,988	14,988		
		Total Costs	42,075	1,528	7,227	17,010	29,185	54,950	131%	6,412

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
49	KANLO	Total Person-Month	49.5	15.5	17.0	11.0	6.0	49.5	100%	0
		RTD Personnel Costs	862,509	262,501	300,005	200,003	99,517	862,026	100%	484
		Travel Costs	27,524	10,005	8,740	3,538	8,483	30,766	112%	-3,242
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	0	0	0		0	0%	1,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	4,455	0	0	1,196	1,500	2,696	61%	1,759
		Adjustments					0	0		
		Total Costs	895,489	272,506	308,745	204,737	109,500	895,487	100%	1
50	UNIHH	Total Person-Month	18.0	6.0	0.0	0.0	0.0	6.0	33%	12
		RTD Personnel Costs	106,020	35,739	37,878	21,017		94,634	89%	11,386
		Travel Costs	4,800	3,228	1,432	0		4,660	97%	140
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	4,200	614	1,866	72		2,552	61%	1,648
		Management Costs	0	0	712	0		712	0%	-712
		Auditing Costs		0	0	0	392	392	0%	-392
		Adjustments					0	0		
		Total Costs	115,020	39,582	41,888	21,089	392	102,951	90%	12,069
51	KUL	Total Person-Month	26.0	2.0	8.0	0.0	5.0	15.0	58%	11
		RTD Personnel Costs	210,600	14,079	66,381	22,865	38,637	141,961	67%	68,639
		Travel Costs	19,905	3,725	4,032	0	5,372	13,129	66%	6,776
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	2,000	0	0	0		0	0%	2,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1	
		Adjustments					0	0			
		Total Costs	232,505	17,804	70,413	22,865	44,009	155,091	67%	77,414	
52	EPT	Total Person-Month	14.5	0.0	3.7	7.2	3.6	14.5	100%	0	
		RTD Personnel Costs	40,020	0	9,610	19,872	9,269	38,751	97%	1,269	
		Travel Costs	6,400	0	3,000	3,000	3,000	9,000	141%	-2,600	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	3,000	0	0	2,000		2,000	67%	1,000	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0		0	0%	0	
		Adjustments						0	0		
		Total Costs	49,420	0	12,610	24,872	12,269	49,751	101%	-331	
53	LEI	Total Person-Month	1.8	0.0	0.0	0.0	2.3	2.3	127%	0	
		RTD Personnel Costs	10,397	0	0	0	10,680	10,680	103%	-283	
		Travel Costs	2,000	0	0	0	1,568	1,568	78%	432	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	19,000	0	0	0	2,450	2,450	13%	16,550	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0	341	341	0%	-341	
		Adjustments						0	0		
		Total Costs	31,397	0	0	0	15,039	15,039	48%	16,358	
54	CIRED	Total Person-Month	3.2	0.4	0.0	0.0	0.0	0.4	13%	3	
		RTD Personnel Costs	21,848	1,352	0	0		1,352	6%	20,496	
		Travel Costs	3,000	0	0	0		0	0%	3,000	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	0	0	0	0		0	0%	0	

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	124	0	0	0		0	0%	124	
		Adjustments					0	0			
		Total Costs	24,972	1,352	0	0	0	1,352	5%	23,621	
55	LUND	Total Person-Month	9.0	4.1	6.7	0.0	0.0	10.7	119%	-2	
		RTD Personnel Costs	65,076	27,770	42,531	0		70,301	108%	-5,225	
		Travel Costs	12,040	1,640	2,642	0		4,282	36%	7,758	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	3,204	0	174	0		174	5%	3,030	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs		0	0	0		0	0%	0	
		Adjustments						0	0		
		Total Costs	80,320	29,410	45,347	0	0	74,757	93%	5,563	
56	MEERI	Total Person-Month	25.0	0.0	6.0	12.0	11.0	29.0	116%	-4	
		RTD Personnel Costs	91,983	0	23,947	49,246	17,377	90,570	98%	1,413	
		Travel Costs	6,400	0	902	4,385	3,054	8,341	130%	-1,941	
		Subcontractors	5,000	0	0	0		0	0%	5,000	
		Other Costs	2,000	0	224	157		381	19%	1,619	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	527	0	0	0	520	520	99%	7	
		Adjustments						0	0		
		Total Costs	105,910	0	25,073	53,788	20,952	99,813	94%	6,098	
57	MET.NO	Total Person-Month	20.4	5.7	8.9	5.7	2.5	22.9	112%	-2	
		RTD Personnel Costs	267,832	71,268	110,751	71,020	27,839	280,878	105%	-13,046	
		Travel Costs	14,000	4,099	1,278	2,670	1,310	9,357	67%	4,643	

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	67	84	88	239	0%	-239
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	1,471	0	0	1,005	891	1,896	129%	-425
		Adjustments					-4,992	-4,992		
		Total Costs	283,303	75,367	112,096	74,779	25,136	287,378	101%	3,979
58	UNEW	Total Person-Month	3.0	0.0	1.1	0.0	0.0	1.1	37%	2
		RTD Personnel Costs	15,499	0	5,798	0		5,798	37%	9,701
		Travel Costs	6,000	4,759	13,340	0		18,099	302%	-12,099
		Subcontractors	15,000	0	9,022	0		9,022	60%	5,978
		Other Costs	2,000	845	3,828	0		4,673	234%	-2,673
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0		608.75	699	0%	-699
		Adjustments				396	5565.90	6,522	0%	-6,522
		Total Costs	38,499	5,605	31,988	396	6,174.66	44,813	116%	-9,493
59	UNINE	Total Person-Month	6.2	2.0	1.5	0.0	0.0	3.4	55%	3
		RTD Personnel Costs	34,100	13,377	22,203	0		35,580	104%	-1,480
		Travel Costs	8,000	1,295	2,019	0		3,314	41%	4,686
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	2,000	192	5,014	0		5,206	260%	-3,206
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments								
		Total Costs	44,100	14,864	29,236	0	0	44,100	100%	0
60	NREA	Total Person-Month	14.5	0.0	0.0	6.0	8.0	14.0	97%	1

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		RTD Personnel Costs	40,020	0	0	11,009	37,541	49,420	123%	-9,400
		Travel Costs	6,400	0	0	0		0	0%	6,400
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	3,000	0	0	0		0	0%	3,000
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments					0	0		
		Total Costs	49,420	0	0	0	37,541	48,550	100%	0
61	NTUA	Total Person-Month	2.0	0.3	1.1	0.7	0.2	2.3	117%	0
		RTD Personnel Costs	16,000	2,717	6,768	6,917	1,348	17,750	111%	-1,750
		Travel Costs	6,000	1,522	2,648	1,030		5,199	87%	801
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	0	0	0	0	270	270	0%	-270
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs		0	0	0	300	300	0%	-300
		Adjustments					0	0		
		Total Costs	22,000	4,239	9,416	7,946	1,918	23,519	107%	-1,519
62	OME	Total Person-Month	37.6	11.3	13.1	10.7	4.4	39.5	105%	-2
		RTD Personnel Costs	527,702	159,005	184,037	143,025	66,046	552,113	105%	-24,411
		Travel Costs	29,400	5,317	12,529	5,669	10,254	33,769	115%	-4,369
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	11,000	0	0	0		0	0%	11,000
		Management Costs	14,456	3,614	2,912	4,600	4,163	15,289	106%	-833
		Auditing Costs	2,985	0	0	0	2,200	2,200	74%	785
		Adjustments					0	0		

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Total Costs	585,543	167,936	199,478	153,295	82,663	603,371	103%	-17,828
63	POLITO	Total Person-Month	66.9	16.5	28.5	19.3	0.5	64.7	97%	2
		RTD Personnel Costs	147,875	37,150	84,131	49,823	4,569	175,674	119%	-27,799
		Travel Costs	25,000	8,084	11,281	4,872	2,514	26,751	107%	-1,751
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	29,467	0	0	0	0	0	0%	29,467
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments						359	359	0%
		Total Costs	202,342	45,234	95,412	54,695	7,442	202,784	100%	27,716
64	PROFING	Total Person-Month	15.5	0.0	2.2	6.3	7.0	15.5	100%	0
		RTD Personnel Costs	96,760	0	6,232	49,516	40,770	96,518	100%	242
		Travel Costs	6,400	0	0	2,464	3,925	6,389	100%	11
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	1,000	0	0	89	911	1,000	100%	0
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs	521	0	0	0	521	521	100%	0
		Adjustments						0		
		Total Costs	104,681	0	6,232	52,069	46,127	104,428	100%	253
65	PSI	Total Person-Month	71.0	16.0	17.7	16.9	23.8	74.2	105%	-3
		RTD Personnel Costs	816,684	187,088	211,253	200,123	284,205	882,670	108%	-65,986
		Travel Costs	56,629	9,134	10,406	9,003	25,824	54,367	96%	2,262
		Subcontractors	25,000	0	0	17,177	4,322	21,499	86%	3,501
		Other Costs	7,000	826	3,832	2,666	2,667	9,991	143%	-2,991
		Management Costs	11,969	2,000	1,583	2,035		5,618	47%	6,351

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Auditing Costs	4,697	0	0	620		620	13%	4,077
		Adjustments					0			
		Total Costs	921,979	199,048	227,074	231,624	317,017	974,764	106%	-52,785
66	RISOE	Total Person-Month	12.4	6.0	7.3	1.1	1.0	15.4	124%	-3
		RTD Personnel Costs	162,343	79,719	76,132	13,295	2,085	171,231	105%	-8,887
		Travel Costs	16,100	3,595	4,339	522		8,456	53%	7,644
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	507	0	0		507	51%	493
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	1,045	0	0	0	1,300	1,300	124%	-255
		Adjustments					-22,230	-22,230		
		Total Costs	180,488	83,821	80,471	13,817	-18,845	159,264	88%	7,881
67	SEI	Total Person-Month	15.0	0.0	2.0	15.8	8.0	25.8	172%	-11
		RTD Personnel Costs	102,500	0	7,084	33,111	52,402	92,597	90%	9,903
		Travel Costs	9,400	0	2,470	1,128	6,199	9,797	104%	-397
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	0	0	130	1,097	297	1,524	0%	-1,524
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	560	0	0	0	287	287	51%	273
		Adjustments					0			
		Total Costs	112,460	0	9,684	35,336	59,185	104,205	93%	8,255
69	UA	Total Person-Month	0.7	0.0	0.0	0.0	0.0	0.0	0%	1
		RTD Personnel Costs	10,000	0	0	0		0	0%	10,000
		Travel Costs	2,000	0	0	976		976	49%	1,024
		Subcontractors	0	0	0	0		0	0%	0

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Other Costs	0	0	0	0		0	0%	0
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0	500	500	0%	-500
		Adjustments					0			
		Total Costs	12,000	0	0	976	500	1,476	12%	10,524
70	ELSAM	Total Person-Month	12.0	6.7	6.9	5.8	2.0	21.4	179%	-9
		RTD Personnel Costs	184,068	65,338	67,225	35,905	12,469	180,937	98%	3,131
		Travel Costs	9,490	2,577	3,860	7,288		13,725	145%	-4,235
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	1,000	952	490	0		1,442	144%	-442
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs	973	0	0	0	2,361	2,361	243%	-1,388
		Adjustments					0			
		Total Costs	195,531	68,867	71,575	43,193	14,830	198,465	102%	-2,934
71	TTU	Total Person-Month	9.5	2.0	3.9	3.2	6.7	15.8	166%	-6
		RTD Personnel Costs	42,750	4,309	4,780	13,368	19,408	41,865	98%	885
		Travel Costs	7,000	1,064	2,454	3,333	1,096	7,947	114%	-947
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	10,290	0	210	455	4,101	4,766	46%	5,524
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0	1,000	1,000	0%	-1,000
		Adjustments					777	777	0%	-777
		Total Costs	60,040	5,373	7,444	17,156	26,382	56,355	94%	3,577
72	UAB	Total Person-Month	6.2	8.0	4.5	0.0	0.0	12.5	202%	-6
		RTD Personnel Costs	22,320	16,632	9,288	0	0	25,920	116%	-3,600

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Travel Costs	8,000	1,709	5,691	0	0	7,400	92%	600
		Subcontractors	0	0	0	0	0	0	0%	0
		Other Costs	3,000	0	0	0	0	0	0%	3,000
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs		0	0	0	0	0	0%	0
		Adjustments						0		
		Total Costs	33,320	18,341	14,979	0	0	33,320	100%	0
73	UBATH	Total Person-Month	14.2	3.1	5.2	5.7		14.0	99%	0
		RTD Personnel Costs	59,952	12,514	20,781	23,086	0	56,381	94%	3,571
		Travel Costs	12,000	618	1,800	1,820	1,514	5,751	48%	6,249
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	2,000	3	472	0	235	711	36%	1,289
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0	812	812	0%	-812
		Adjustments					0			
		Total Costs	73,952	13,136	23,053	24,905	2,561	63,656	86%	10,297
74	AGH	Total Person-Month	4.5	0.0	5.0	0.0	0.0	5.0	111%	-1
		RTD Personnel Costs	12,485	0	6,166	0		6,166	49%	6,319
		Travel Costs	2,000	0	0	822		822	41%	1,178
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	11,000	0	0	7,016		7,016	64%	3,984
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments					0			
		Total Costs	25,485	0	6,166	7,838	0	14,004	55%	11,481

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
75	UNWE	Total Person-Month	16.0	0.0	3.0	5.0	13.0	21.0	131%	-5
		RTD Personnel Costs	42,816	0	9,312	15,000	18,004	42,316	99%	500
		Travel Costs	6,400	0	1,207	3,602	1,590	6,399	100%	1
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	3,000	0	390	830	1,780	3,000	100%	0
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0	500	500	0%	-500
		Adjustments					0			
		Total Costs	52,216	0	10,909	19,432	21,874	52,215	100%	1
76	UPARIS	Total Person-Month	9.0	3.3	5.2	0.0		8.5	94%	1
		RTD Personnel Costs	43,200	15,914	27,878	7,466		51,257	119%	-8,057
		Travel Costs	16,000	4,238	794	403		5,435	34%	10,565
		Subcontractors	0	0	0	0		0	0%	0
		Other Costs	8,200	491	154	52		697	9%	7,503
		Management Costs	0	0	0	0		0	0%	0
		Auditing Costs		0	0	0		0	0%	0
		Adjustments					0			
		Total Costs	67,400	20,643	28,826	7,920	0	57,389	85%	10,011
77	USTUTT	Total Person-Month	128.9	24.3	36.1	74.4	44.0	178.8	139%	-50
		RTD Personnel Costs	785,591	146,956	137,730	293,686	261,509	839,881	107%	-54,290
		Travel Costs	71,690	10,043	32,208	2,054	18,745	63,049	88%	8,641
		Subcontractors	5,000	0	1,200	0	14,400	15,600	312%	-10,600
		Other Costs	54,325	2,892	12,264	535	1,017	16,709	31%	37,616
		Management Costs	10,439	681	44	4,382		5,107	49%	5,332
		Auditing Costs		0	0	0	368	368	0%	-368

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1	
		Adjustments					0				
		Total Costs	927,045	160,573	183,446	300,657	296,039	940,714	101%	-13,669	
78	VITO	Total Person-Month	14.0	3.3	7.3	2.7	0.9	14.3	102%	0	
		RTD Personnel Costs	225,558	55,870	108,142	41,289	14,332	219,632	97%	5,926	
		Travel Costs	12,500	2,153	3,051	583		5,787	46%	6,713	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	0	0	0	0		0	0%	0	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	1,190	0	0	0	1,000	1,000	84%	190	
		Adjustments						-92	-92		
		Total Costs	239,248	58,023	111,193	41,872	15,239	226,328	95%	6,903	
79	VTT	Total Person-Month	3.1	1.9	2.7	0.0	0.0	4.6	149%	-2	
		RTD Personnel Costs	27,323	20,447	21,334	0		41,781	153%	-14,458	
		Travel Costs	3,550	2,175	1,052	0		3,227	91%	323	
		Subcontractors	0	0	0	0		0	0%	0	
		Other Costs	0	0	36	0		36	0%	-36	
		Management Costs	0	0	0	0		0	0%	0	
		Auditing Costs	154	0	0	0	372	372	241%	-218	
		Adjustments						453	453		
		Total Costs	31,028	22,622	22,422	0	825	45,869	148%	69	
80	WUDES	Total Person-Month	7.2	3.4	3.8	0.0	0.0	7.2	100%	0	
		RTD Personnel Costs	18,749	8,817	12,301	0	0	21,118	113%	-2,370	
		Travel Costs	8,000	5,050	1,621	0	0	6,671	83%	1,329	
		Subcontractors	0	0	0	0	0	0	0%	0	
		Other Costs	2,000	0	960	0	0	960	48%	1,040	

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		Management Costs	0	0	0	0	0	0	0%	0
		Auditing Costs		0	0	0	0	0	0%	0
		Adjustments					0	0		
		Total Costs	28,749	13,868	14,882	0	0	28,750	100%	-1
81	SPOK	Total Person-Month	3.0			3.0	4.1	7.1	235%	-4
		RTD Personnel Costs	28,500			25,000	19,992	44,992	158%	-16,492
		Travel Costs	1,500			1,696	544	2,240	149%	-740
		Subcontractors	0			0		0	0%	0
		Other Costs	0			0		0	0%	0
		Management Costs	0			0		0	0%	0
		Adjustments					196	196	0%	-196
		Auditing Costs	1,000			0		0	0%	1,000
		Adjustments					0			
				Total Costs	31,000	0	0	26,696	20,731	2,436
82	CESI RICERCA	Total Person-Month	8.5		2.8	0.8	4.9	8.5	100%	0
		RTD Personnel Costs	105,308		28,095	822	28,003	56,920	54%	48,388
		Travel Costs	9,551		417	1,077	1,180	2,674	28%	6,877
		Subcontractors	0		0	0		0	0%	0
		Other Costs	1,000		0	0	14,782	14,782	1478%	-13,782
		Management Costs	0		0	0		0	0%	0
		Auditing Costs	595		0	3,000	2,550	5,550	933%	-4,955
		Adjustments					181	181		
				Total Costs	116,454	0	28,512	4,899	46,696	80,107
	TOTAL	Total Person-Month	1.203,7	277,1	387,7	378,9	300,3	1.344,0	112%	-140

N	Participant	Type of Expenditure	Budget (e)	Period 1 (a1)	Period 2 (b1)	Period 3 (c1)	Period 4 (d1)	Total (e1)	Total (a1+b1+c1+d1/e)	e-e1
		RTD Personnel Costs	9.869.750	2.474.715	3.055.246	2.644.155	2.006.779	10.177.366	103%	-50.143
		Travel Costs	929.078	172.533	249.915	154.290	161.897	738.635	80%	198.207
		Subcontractors	76.500	2.973	12.495	25.481	45.532	86.481	113%	-9.981
		Other Costs	405.390	29.243	76.518	35.983	63.368	203.958	50%	200.717
		Management Costs	470.546	100.785	135.144	120.325	132.357	491.915	105%	-18.065
		Auditing Costs	47.068	0	3.163	5.425	41.108	49.696	106%	-3.433
		Adjustments		0	0	0	189.007	207.269	0%	-189.007
		Total Costs (current budget)	11.798.331	2.780.249	3.532.481	3.044.716	2.640.458	11.997.904	102%	- 199.573

1.4 Person-Month Status Table

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
1) ISIS										
Actual PM	0	0	0	0	0	0,6	0	7,9	16,1	24,6
Planned PM	0	0	0	0	0	0,5	0	6,5	9	16
AC own staff	0	0	0	0	0	0	0	0	0	0
2) AEKI										
Actual PM	0	0	0	6,5	0	0	0	0	0	6,5
Planned PM	0	0	0	6	0	0	0	0	0	6
AC own staff	0	0	0	0	0	0	0	0	0	0
3) AMBIENTE ITALIA										
Actual PM	1	0	0	0	0	0	0	0	0	1
Planned PM	1,5	0	0	0	0	0	0	0	0	1,5
AC own staff	0	0	0	0	0	0	0	0	0	0
4) ARMINES										
Actual PM	0,1	0	0,5	0	0	0	1,3	0	0	1,9
Planned PM	0,5	0	3,5	0	0	0	0	0	0	8,5
AC own staff	0	0	0	0	0	0	4,5	0	0	
5) AUTH										
Actual PM	0	2	0	0	0	0	3,47	0	0	5,47
Planned PM	0	3	0	0	0	0	3,5	0	0	6,5
AC own staff	0	1,5	0	0	0	0	1	0	0	2,5
7) CDER										
Actual PM	0	0	0	5	0	0	0	0	0	5
Planned PM	0	0	0	8	0	0	0	0	0	8
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
8) CEDRE										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
10) ETHZ										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
11) CESI										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
12) CHALMERS										
Actual PM	0	0	0	0	5	0	0	0	0	5
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	5	0	0	0	0	5
13) CIEMAT										
Actual PM	0,25	0	0	0	0,5	0	0	0	0	0,75
Planned PM	0	0	0	0	0,5	0	0	0	0	0,5
AC own staff	0	0	0	0	0	0	0	0	0	0
14) CRES										
Actual PM	0	0	0	0	1,5	0	0	0	0	1,5
Planned PM	0	0	0	0	0,4	0	0	0	0	0,4
AC own staff	0	0	0	0	0	0	0	0	0	0
15) CUEC										
Actual PM	0	0	0	6,3	0	0	5	0,2	0,08	11,58
Planned PM	0	0	0	6,3	0	0	5	0,2	0,08	11,58
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
16) DLR										
Actual PM	5,8	0	0	0	0	0	0	0,1	0,2	6,1
Planned PM	4,85	0	0	0	0	0	0	0,1	0,2	5,15
AC own staff	0	0	0	0	0	0	0	0	0	0
17) ECN										
Actual PM	0	0	0	0	0,2	0	0	0	0,1	0,3
Planned PM	0	0	0	0	1,25	0	0	0	0,5	1,75
AC own staff	0	0	0	0	0	0	0	0	0	0
18) SWECO										
Actual PM	0	0	3,6	0	0	0	6,7	0,3	1	11,6
Planned PM	0	0	0,6	0	0	0	8,75	0,5	0,25	10,1
AC own staff	0	0	0	0	0	0	0	0	0	0
19) ECONCEPT										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
20) EDF										
Actual PM	4	1	0	0	0	2,7	0	0	0	7,7
Planned PM	1,5	2	0	0	0	2,7	0	0	0	6,2
AC own staff	0	0	0	0	0	0	0	0	0	0
23) ENERO										
Actual PM	0	0	0	0	0,3	0	0	0	0	0,3
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
25) EPFL										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
26) ESU										
Actual PM	8,3	0	0	0	0	0	0	0	0	8,3
Planned PM	5,7	0	0	0	0	0	0	0	0	5,7
AC own staff	0	0	0	0	0	0	0	0	0	0
27) FEEM										
Actual PM	0	0	1,17	0	0	0	0	0	0	1,17
Planned PM	0	0	0,5	0	0	0	0	0	0	0,5
AC own staff	0	0	1,5	0	0	0	0	0	0	1,5
28) FhG/ISI										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
30) GLOBE										
Actual PM	0	0	0	0	0	0,3	0	0,1	0	0,4
Planned PM	0	0	0	0	0	0,7	0	0,4	0	1,1
AC own staff	0	0	0	0	0	0,3	0	0,2	0	0,5
32) HELIO										
Actual PM	0	0	0	0	0	0,8	0	0	0	0,8
Planned PM	0	0	0	0	0	0,23	0	0	0	0,23
AC own staff	0	0	0	0	0	0	0	0	0	0
33) SIU-IEM										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
37) IFEU										
Actual PM	5,1	0	0	0	0	0	0	0	0	5,1
Planned PM	2,2	0	0	0	0	0	0	0	0	2,2
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
38) IFU										
Actual PM	0,67	0	0	0	0	0	0	0	0	0,67
Planned PM	2	0	0	0	0	0	0	0	0	2
AC own staff	0	0	0	0	0	0	0	0	0	0
39) IIASA										
Actual PM	0	0	0	0	0	10,54	0	0	0	10,54
Planned PM	0	0	0	0	0	4	0	0	0	4
AC own staff	0	0	0	0	0	0	0	0	0	0
40) JSI										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
41) IMAA-CNR										
Actual PM	0	1,41	0	0	2,36	0	0	0	0,26	4,03
Planned PM	0	5	0	0	2,8	0	0	0,2	0,25	8,25
AC own staff	0	0	0	0	0	0	0	0	0	0
42) INE										
Actual PM	8,5	0	0	0	0	0	0	0	0	8,5
Planned PM	0,5	0	0	0	0	0	0	0	0	0,5
AC own staff	8,5	0	0	0	0	0	0	0	0	8,5
43) INFM										
Actual PM	0	0	0	0	9,5	0	0	0	0	9,5
Planned PM	0	0	0	0	8,5	0	0	0	0	8,5
AC own staff	0	0	0	0	0	0	0	0	0	0
45) IOM										
Actual PM	0	0	0	0,5	0	0	0	0	0	0,5
Planned PM	0	0	0	0,5	0	0	0	0	0	0,5
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
47) JRC										
Actual PM	0	0	0	0	3,5	0	0	0	0	3,5
Planned PM	0	0	0	0	3,5	0	0	0	0	3,5
AC own staff	0	0	0	0	0	0	0	0	0	0
49) KANLO										
Actual PM	0	0	0	0	4,5	0	0	0	1,5	6
Planned PM	0	0	0	0	1	0	0	0	1,5	2,5
AC own staff	0	0	0	0	0	0	0	0	0	0
50) UNIHH										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
51) KUL										
Actual PM	0	1	0	0	4	0	0	0	0	5
Planned PM	0	1	0	0	8	0	0	0	0,25	9,25
AC own staff	0	0	0	0	0	0	0	0	0	0
52) EPT										
Actual PM	0	0	0	3,6	0	0	0	0	0	3,6
Planned PM	0	0	0	8	0	0	0	0	0	8
AC own staff	0	0	0	0	0	0	0	0	0	0
53) LEI										
Actual PM	0	0	0	0	0	0	0	2,28	0	2,28
Planned PM	0	0	0	0	0	0	0	1,9	0	1,9
AC own staff	0	0	0	0	0	0	0	2,28	0	2,28
54) CIRED										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
55) LUND										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
56) MEERI										
Actual PM	0	0	0	11	0	0	0	0	0	11
Planned PM	0	0	0	7	0	0	0	0	0	7
AC own staff	0	0	0	0	0	0	0	0	0	0
57) MET.NO										
Actual PM	0	0,56	0	0	0	0	1,91	0	0	2,47
Planned PM	0	2	0	0	0	0	2,5	0	0	4,5
AC own staff	0	0	0	0	0	0	0	0	0	0
58) UNEW										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
59) UNINE										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
60) NREA										
Actual PM	0	0	0	8	0	0	0	0	0	8
Planned PM	0	0	0	8	0	0	0	0	0	8
AC own staff	0	0	0	0	0	0	0	0	0	0
61) NTUA										
Actual PM	0	0	0,24	0	0	0	0	0	0	0,24
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
62) OME										
Actual PM	0	0	1,8	1,65	0	0	0	0,87	0,06	4,38
Planned PM	0	0	0,5	3	0	0	0	2,7	0,08	6,28
AC own staff	0	0	0	0	0	0	0	0	0	0
63) POLITO										
Actual PM	0	0	0	0	0,5	0	0	0	0	0,5
Planned PM	1,06	0	0	0	6,5	0	0	0	0	7,56
AC own staff	0,5	0	0	0	0,48	0	0	0	0	0,98
64) PROFING										
Actual PM	0	0	0	7	0	0	0	0	0	7
Planned PM	0	0	0	7	0	0	0	0	0	7
AC own staff	0	0	0	0	0	0	0	0	0	0
65) PSI										
Actual PM	6,75	0	0	0	2,3	13,75	0	0,45	0,5	23,75
Planned PM	2,75	0	0	0	2,3	13,5	0	0,2	0,5	19,25
AC own staff	0	0	0	0	0	0	0	0	0	0
66) RISOE										
Actual PM	1	0	0	0	0	0	0	0	0	1
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
67) SEI										
Actual PM	0	0	0	8	0	0	0	0	0	8
Planned PM	0	0	0	8	0	0	0	0	0	8
AC own staff	0	0	0	0	0	0	0	0	0	0
69) UA										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
70) ELSAM										
Actual PM	2	0	0	0	0	0	0	0	0	2
Planned PM	2	0	0	0	0	0	0	0	0	2
AC own staff	0	0	0	0	0	0	0	0	0	0
71) TTU										
Actual PM	0	0	0	0	6,7	0	0	0	0	6,7
Planned PM	0	0	0	0	2,5	0	0	0	0	2,5
AC own staff	0	0	0	0	0	0	0	0	0	0
72) UAB										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
73) UBATH										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0,5	0	0	0	0	4,6	0	0	5,1
AC own staff	0	0	0	0	0	0	3,2	0	0	3,2
74) AGH										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
75) UNWE										
Actual PM	0	0	0	13	0	0	0	0	0	13
Planned PM	0	0	0	7,25	0	0	0	0	0	7,25
AC own staff	0	0	0	28	0	0	0	0	0	28
76) UPARIS										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0

	Stream 1A	Stream 1B	Stream 1C	Stream 1D	Stream 2A	Stream 2B	Stream 3A	Stream 3B	Stream Integration	Total
77) USTUTT										
Actual PM	1,5	11,5	0	3,5	6	9	11,5	0,5	0,5	44
Planned PM	1,25	1	0	2,5	6	6,55	9,37	0,2	0,5	27,37
AC own staff	0	0	0	0	0	7,55	0	0	0	7,55
78) VITO										
Actual PM	0	0,03	0,9	0	0	0	0	0	0	0,93
Planned PM	0	0,5	0	0	0	0	0	0	0	0,5
AC own staff	0	0	0	0	0	0	0	0	0	0
79) VTT										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
80) WUDES										
Actual PM	0	0	0	0	0	0	0	0	0	0
Planned PM	0	0	0	0	0	0	0	0	0	0
AC own staff	0	0	0	0	0	0	0	0	0	0
81) SPOK										
Actual PM	4,05	0	0	0	0	0	0	0	0	4,05
Planned PM	1	0	0	0	0	0	0	0	0	1
AC own staff	0	0	0	0	0	0	0	0	0	0
82) CESIRICERCA										
Actual PM	0	0	0	0	0	4,9	0	0	0	4,9
Planned PM	0	0	0	0	0	3,8	0	0	0	3,8
AC own staff	0	0	0	0	0	0	0	0	0	0

1.5 Major Deviations

Transfer of workload and budget occurred during the 4th workin period

During the 4th working period there have been several transfer of budget between the NEEDS partners. The table below shows the transfer happened by Research Stream and partner.

Stream 1a

Partner IFU

Increase of the budget of 3,500 Euro equivalent to a major workload of 15 days due to the insertion on line of the LCA database. This work was not foreseen in the initial NEEDS proposal

	IFU	TOTAL
2004	Budget 2004	71,490
2008	+0,5 PM	+3,500
2009	Budget update	74,990

Streams 1b and 3a

Transfer of 2 PM from the resources allocated to MET.NO in the RS 3a to AUTH for the development of a tool to provide input meteorological data for local scale models, based on data from larger scale models. This task was initially attributed to METN.NO (see also the Periodic Activity Report of the 4th year, RS 3a, WP 1)

	AUTH	TOTAL
2004	Budget 2004	99,700
2008	+2 PM equivalent from MET.NO (from RS 3a)	+12,416
2009	Budget update	112,116

	MET.NO	TOTAL
2004	Budget 2004	295,719
2008	-2 PM equivalent from MET.NO (from RS 3a)	-12,416
2009	Budget update	283,303

Transfer of 15,000 Euro from UBATH to UNEW. This sum, corresponding to the cost of a subcontractor, was initially attributed for an error to UBATH instead of to UNEW

	UBATH	TOTAL
2004	Budget 2004	88,952.4
2008	- 15000 EURO	-15,000.0
2009	Budget update	73,952.4
	UNEW	TOTAL

2004	Budget 2004	23,499.2.4
2008	+ 15000 EURO	+15,000.0
2009	Budget update	38,499.2

Stream 2a and other Streams

Several changes concerning some RS 2a and involving shifts of persons month and travel budget were agreed between the involved partners and the stream leader during the past working periods but have been finally accounted during the last working period. The involved partners are the Chalmers University, INFM, JRC-IPTS, POLITO, PSI and USTUTT.

As concerns Chalmers University and JRC-IPTS, their involvement in the first two years of the project was less than expected due to the unavailability of senior researchers in the timeframe of project activities (e.g. maternity leave). To overcome these problems, CNR-IMAA supported Chalmers University in the coordination of WP2 without claiming additional resources and some budgets shifts towards other partners (PSI, USTUTT, and POLITO) were envisaged to compensate the extra work done by all of them to allow the fulfilment of project results and the release of deliverables in due time.

As concerns PSI, the budget shift operated at the end of the first year to compensate the development of Poland and Slovakia country models, was agreed directly among these partners and approved by the financial officer after the first annual review.

As concerns INFM, in the first year of the project, this Institution was merged into CNR. The reorganisation process resulted in a decreased involvement in the project for the impossibility of drawing up contracts with young researchers. Therefore the activities were performed by the staff personnel and a budget cut was foreseen to compensate the extra work done by other partners (PSI).

As an additional remark, it should be noticed that apart from the budget officially assigned, all the RS2a partners participated in a very effective way to the project activities and the actual time and manpower actually spent vastly exceeded the reported person-months and resources allocated, in particular for the all the partners directly involved in the implementation of Pan EU modelling platform and scenario analysis.

The table below shows all the change occurred from the beginning of the project.

	CHALMER'S TH	RS2a	RS1a	TOTAL
2004	Budget 2004	76,250	68,974	145,224
2005	+2.9MM from RS1a to be allocated in RS2a	26,100	-26,100	
2005	0.9 MM to PSI (WP1- WP2)	-8,100		-8,100
2006	Budget shift to POLITO for WP2- WP3 work (1,1 PM 5 PM equivalent)	-10,350		-10,350
2006	Budget shift to USTUTT for WP2- WP3 work (1,06 PM 1,61 PM equivalent)	-10,350		-10,350
2006	Budget shift to USTUTT for extra travels (700 from travels in WP5 Dissemination)	-700		-700
2006	Budget shift to PSI for extra travels (1500 from travels WP2- WP5 Dissemination- Mykonos)	-1,500		-1,500
2007	From RS1a (residual budget)	35,000	-35,000	
2008	TOTAL updated 2008	106,350	7,874	114,224

		RS2a	RSIN	TOTAL
	INFM (25.36 PM of which 22 PM in RS2a)			
2004	Budget RS2a 2004	25,000	20,000	45,000
2005	-1 from WP1 (to PSI)	-1,614		
2005	+3 from RS IN (5 MM total)	4,841	-4,841	
2007	Budget reshuffling sent to the coordinator (2,333 Euro from travels to personnel RS2a)			
2008	TOTAL updated 2008	28,227	1,5159	43,386
	JRC - IPTS	RS2a	Other RS	TOTAL
2004	Budget RS2a 2004	55,000	0	55,000
2005	-1 from WP1 (to PSI)	-6,600		
2006	-1 from WP2 (to PSI)	-6,600		
2008	TOTAL updated 2008	41,800		41,800
	POL TORINO	RS2a	Other RS	Total RS2a
2004	Budget RS2a 2004	30,000	161,992	191,992
2007	Budget shift: 6,22 PM equivalent from CHALMERS	10,350		
2008	TOTAL updated 2008	40,350	161,992	202,342
	PSI	RS2a	Other RS	TOTAL RS2a
2004	Budget RS2a 2004	140,001	787,453	927,454
2005	- 4 to USTUTT ESA	-45,799		
2005	budget shift: + 2.7 PM equivalent from CHALMERS, INFM and JRC	26,027		
2006	0,58 PM equivalent from JRC (6600 Euro - cost model ACF)	6,600		
	Budget shift: 1500 Euro extra budget travel from CHALMERS (cost model ACF, equivalent to 3000 in FC)	3,000		
2008	TOTAL updated 2008	129,829	787,453	916,282
	USTUTT	RS2a	Other RS	TOTAL RS2a
2004	Budget RS2a 2004	128,606	764,489	162,286
2005	+4 PM equivalent from PSI for Poland and Slovakia	22,900		
2006	1,61 PM equivalent from CHALMERS	10,350		
2006	extra budget travel (700 from CHALMERS)	700		
2008	TOTAL updated 2008	162,555	764,489	927,044

Stream 2b and 3b

IIASA

Notable increase of the IIASA budget due to the development of the Web site for Multi-Criteria Analysis (MCA) which was used for Survey III prepared by the PSI in collaboration with IIASA itself. As explained in detail in the first section of this report, the Web-site development required qualitatively much more resources than originally planned, equivalent to an effort of additional 6,6 PM. It was so decided to transfer to IIASA the residual budget of the partners Globe and Helio that, at the end, had a lower commitment in the NEEDS project of that initially planned, and of the partner LEI that didn't consumed all the other costs budget initially allocated for the final NEEDS conference . The sum of all this remaining money is equal to 74,474 Euro equivalent to 6,6 PM at the IASA tariff.

The following tables show the agreed budget transfer in detail:

	IIASA	TOTAL
2004	Budget 2004	157,576
2008	+6 PM equivalent from Globe, Helio and LEI (from RS 2a and 3a)	+74,474
2009	Budget update	232,050

	Globe	TOTAL
2004	Budget 2004	94,470
2008	Residual budget (from RS 2b and 3b)	-36,845
2009	Budget update	57,694

	Helio	TOTAL
2004	Budget 2004	73,350
2008	Residual budget (from 2b)	-25,104
2009	Budget update	50,246

	LEI	TOTAL
2004	Budget 2004	31,397
2008	Residual budget (from 3b)	-12,525
2009	Budget update	18,872

SECTION 2 – Form C

The Forms C are separately attached to this report

SECTION 3 – Summary financial report (Appendix 5)

The summary financial report is separately attached to this report