

Cover Note

Project Name: Capacity Building for Improving the Quality of National Greenhouse Gas Inventories
(Europe/CIS region)

Pims No. 2367 **Date:** 25 October 2001

	Work Program Inclusion	Reference/Note
1. Country Ownership		
<ul style="list-style-type: none"> Country Eligibility 		<ul style="list-style-type: none"> <i>Pg 6, para. 20</i> All countries have ratified UNFCCC and are eligible for GEF funding
<ul style="list-style-type: none"> Country Drivenness 	Clear description of project's fit within: <ul style="list-style-type: none"> National reports/communications to Conventions National or sector development plans 	<ul style="list-style-type: none"> <i>Pg 2, para 1-5:</i> Directly improves national communication Regional and national priorities identified in <i>Pg 4-6; Pg 7 para 24-26;</i> benefits for development plans <i>pg 9, para 36</i>
<ul style="list-style-type: none"> Endorsement 	<ul style="list-style-type: none"> Endorsement by national operational focal point. 	Supplemental Annex 1.
2. Program & Policy Conformity		
<ul style="list-style-type: none"> Program Designation & Conformity 	<ul style="list-style-type: none"> Describe how project objectives are consistent with Operational Program objectives or operational criteria. 	<ul style="list-style-type: none"> Fully supports the GEF Operational Guidelines for enabling activities, both for (Interim) Measures for Capacity Building In Priority Areas and for National Communications.
<ul style="list-style-type: none"> Project Design 	Describe: <ul style="list-style-type: none"> sector issues, root causes, threats, barriers, etc., affecting global environment. Project logical framework, including a consistent strategy, goals, objectives, outputs, inputs/activities, measurable performance indicators, risks and assumptions. Detailed description of goals, objectives, outputs, and related assumptions, risks and performance indicators. Brief description of proposed project activities, including an explanation how the activities would result in project outputs Global environmental benefits of the project. Incremental Cost Estimation based on the project logical framework. Describe project outputs (and related 	<ul style="list-style-type: none"> Sector issues described <i>Pg 2-3, Section A.2;</i> threats, barriers and root causes described <i>Pg 8, Section B.1.</i> <i>Annex J, pg. 24-25</i> Goal: <i>Section D, pg 12;</i> Objectives and outputs: <i>Section E, pg 12-16;</i> assumptions and risks: <i>Section F, pg 16;</i> performance indicators: <i>Annex J, pg 24-25.</i> Activities briefly described within outputs: <i>Section E, pg 12-16</i> Global benefits <i>Pg 2, para 1-5</i> Under enabling activities, full costs agreed All project activities building capacity

	Work Program Inclusion	Reference/Note
	<p>activities and costs) that result in <i>global</i> environmental benefits</p> <ul style="list-style-type: none"> • Describe project outputs (and related activities and costs) that result in joint <i>global and national</i> environmental benefits. • Describe project outputs (and related activities and costs) that result in <i>national</i> environmental benefits. • Describe the process used to jointly estimate incremental cost with in-country project partner. • Present the incremental cost estimate. If presented as a range, then a brief explanation of challenges and constraints and how these would be addressed by the time of CEO endorsement. 	<p>will allow countries to make more informed policy decisions with respect to appropriate response measures for mitigating GHG emissions.</p> <ul style="list-style-type: none"> • As above • Multiple benefits of data collection on <i>pg 9, para 36</i>; building capacity will strengthen research links – Outputs, <i>pg 12-16</i>. • Under enabling activities, full costs agreed • Under enabling activities, full costs agreed
<ul style="list-style-type: none"> • Sustainability (including financial sustainability) 	<ul style="list-style-type: none"> • Describe proposed approach to address factors influencing sustainability, within and/or outside the project to deal with these factors. 	<ul style="list-style-type: none"> • Section F, <i>pg 16-17, para 60-62</i>
<ul style="list-style-type: none"> • Replicability 	<ul style="list-style-type: none"> • Describe the proposed approach to replication (for e.g., dissemination of lessons, training workshops, information exchange, national and regional forum, etc) (could be within project description). 	<ul style="list-style-type: none"> • Replication is discussed in Section F, <i>pg 17, para 63-64</i>
<ul style="list-style-type: none"> • Stakeholder Involvement 	<ul style="list-style-type: none"> • Describe how stakeholders have been involved in project development. • Describe the approach for stakeholder involvement in further project development and implementation. 	<ul style="list-style-type: none"> • Stakeholder involvement in development: <i>pg 6-7, para 23-26</i> • Future stakeholder involvement: <i>pg 10-11, para 45-50</i>
<ul style="list-style-type: none"> • Monitoring & Evaluation 	<ul style="list-style-type: none"> • Describe how the project design has incorporated lessons from similar projects in the past. • Describe approach for project M&E system, based on the project logical framework, including the following elements: <ul style="list-style-type: none"> • Specification of indicators for objectives and outputs, including intermediate benchmarks, and means of measurement. • Outline organizational arrangement for implementing M&E. • Indicative total cost of M&E. 	<ul style="list-style-type: none"> • Lessons learned from <i>Pg 7, para 24</i> and <i>Pg 8, para 31</i>, are reflected in project activities and also <i>pg 17, para 64</i>, and <i>Pg 18, para 72</i>. • Monitoring and evaluation described in <i>Section H, pg 20-21</i> • Objectively verifiable indicators are found in the logframe, Annex J, <i>pg. 24-25</i> • Institutional M&E arrangements: <i>pg 20-21</i> • Reflected in total project cost, <i>pg. 26</i>

	Work Program Inclusion	Reference/Note
3. Financing		
<ul style="list-style-type: none"> Financing Plan 	<ul style="list-style-type: none"> Estimate total project cost. Estimate contribution by financing partners. Propose type of financing instrument. 	<ul style="list-style-type: none"> Total project cost: <i>pg 1</i>, detailed on <i>pg 26</i> Budget, <i>pg 26</i>; detailed in <i>Section I, pg 21</i> Activity 2.1.5 involves seeking additional financing to support project over longer-term, <i>pg 14</i>.
<ul style="list-style-type: none"> Implementing Agency Fees 	<ul style="list-style-type: none"> Propose IA fee. 	
<ul style="list-style-type: none"> Cost-effectiveness 	<ul style="list-style-type: none"> Estimate cost effectiveness, if feasible. Describe alternate project approaches considered and discarded. 	<ul style="list-style-type: none"> Use of IPCC good practice will encourage cost-effectiveness, <i>Section A.4, pg 4-6</i> During the project development workshop in Bratislava, agreed to use <i>key sources</i> to prioritise regional activities – particularly for emission factor improvement and development, rather than traditional sub-regional classifications (<i>pg 4-6</i>). Countries also agreed on a decentralised approach under a small regional management unit, rather than a regional centre, <i>pg 16, para 55-56, pg 19 para 84</i>.
4. Institutional Coordination & Support		
IA Coordination and Support <ul style="list-style-type: none"> Core commitments & Linkages 	Describe how the proposed project is located within the IA's: <ul style="list-style-type: none"> Country/regional/global/sector programs. GEF activities with potential influence on the proposed project (design and implementation). 	<ul style="list-style-type: none"> Regional program. See institutional arrangements: <i>pg 16-17</i> GEF activities noted under <i>pg 3, para 11; Pg 17-18, para 66-67; Pg 22, para 98</i>
<ul style="list-style-type: none"> Consultation, Coordination and Collaboration between IAs, and IAs and EAs, if appropriate. 	<ul style="list-style-type: none"> Describe how the proposed project relates to activities of other IAs (and 4 RDBs) in the country/region. Describe planned/agreed coordination, collaboration between IAs in project implementation. 	<ul style="list-style-type: none"> Linkages noted under <i>pg 19-20, para 76-79</i> and in output 1.4, <i>pg 13-14</i>.
5. Response to Reviews		
Council	Respond to Council Comments at pipeline entry.	
Convention Secretariat	Respond to comments from Convention Secretariats.	
GEF Secretariat	Respond to comments from GEFSEC on draft project brief.	
Other IAs and 4 RDBs	Respond to comments from other IAs, 4RDBs on draft project brief.	
STAP	Respond to comments by STAP at work program inclusion	<ul style="list-style-type: none"> Annex M (STAP Roster Technical Review and Response)
Review by expert from STAP Roster	Respond to review by expert from STAP roster.	<ul style="list-style-type: none"> Annex M (STAP Roster Technical Review and Response)

PROJECT BRIEF

1. IDENTIFIERS:

PROJECT NUMBER	PIMS # 2367
PROJECT NAME	Regional (Europe/CIS Region): Capacity-building for Improving the Quality of Greenhouse Gas Inventories
DURATION	3 years
GEF IMPLEMENTING AGENCY	United Nations Development Programme
EXECUTING AGENCY	UNOPS
REQUESTING COUNTRY	Regional
ELIGIBILITY	Non-Annex I Parties
GEF FOCAL AREA	Climate Change
GEF PROGRAMME FRAMEWORK	Enabling Activity

2. SUMMARY: The project will initiate a regional programmatic approach developed to build capacity for improving the quality of data inputs to national greenhouse gas inventories, using the good practice guidance of the Intergovernmental Panel for Climate Change for cost-effectiveness. The project will build on the expertise gained during the preparation of the initial National Communications. By strengthening institutional capacity to prepare inventories and establishing a trained, sustainable inventory team, the project will help countries to reduce uncertainties and improve the quality of inventories for Second National Communications. This, in turn, will allow countries to improve national strategies for reducing greenhouse gas emissions. The project includes common activities for all participating countries carried out under a regional umbrella; countries may choose the remaining activities to carry out, based on national priorities. The approach has been built on the concept of key sources of emissions; this allows the approach to be replicated for use in other regions with only minor modifications.

3. COSTS AND FINANCING: (MILLION US\$)

GEF:	Project	1.925
	PDF	0.338
	SUBTOTAL GEF	<u>2.263</u>
CO-FINANCING:		
	Government in kind	0.944
	Swiss Government in cash	0.050
	SUBTOTAL CO-FINANCING	<u>0.994</u>
	TOTAL PROJECT COST:	<u>3.257</u>
	Of which:	
	Cash	2.313
	In kind	+0.994

4. OPERATIONAL FOCAL POINT ENDORSEMENTS:

Armenia: Vardan Ayvazyan, GEF Operational Focal Point, Ministry of Nature Protection – 9/10/01

Albania: Maksim Deliana, GEF Operational Focal Point, National Environmental Agency – 9/20/00

Azerbaijan: Gussein Bagirov, Minister, Ministry of Ecology and Natural Resources – 9/27/01

Croatia: Bozo Kovacevic, Minister and GEF Operational Focal Point, Ministry of Environmental Protection and Physical Planning – 9/25/01

Georgia: Malkhaz Adeishvili, GEF Operational Focal Point and Head of the Department of Environmental Policy, Department of Environmental Policy – 10/17/01

Macedonia: Metodija Dimovski, GEF Operational Focal Point, Ministry of Environment and Physical Planning – 9/24/01

Mongolia: N. Oyundari, GEF Operational Focal Point and Director, Department of International Cooperation, Ministry of Nature and Environment – 10/11/01

Slovenia: Emil Ferjancic, GEF Political and Operational Focal Point, Ministry of the Environment and Spatial Planning – 10/5/01

Tajikistan: B.U. Makhmadaliev, National Focal Point, 9/6/00

Turkmenistan: Matkarim Rajapov, Minister and GEF Operational Focal Point, Ministry of Nature Protection – 10/13/01

Uzbekistan: Tatyana Ososkova, GEF Operational Focal Point, 10/6/2000

5. IA CONTACTS:

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A. PROJECT CONTEXT

A.1 Global Context: United Nations Framework Convention on Climate Change

1. The overall objective of this project is to strengthen the capacity of participating countries to improve the quality of their national greenhouse gas inventories (GHG) in the context of their commitments as Parties to the United Nations Framework Convention on Climate Change (UNFCCC), as envisaged by Decisions 10/CP.2, 11/CP.2, 2/CP.4, 10/CP.4, 10/CP.5, and Articles 4.1(a)(b) and 12.1(a) of the Convention.
2. Under Decision 10/CP.2 (annex, para. 13), non-Annex I Parties are “encouraged to formulate cost-effective national and, where appropriate, regional programmes aimed at the improvement of local emission factors and appropriate data gathering, and to submit requests for financial technical assistance to the interim operating entity of the financial mechanism of the Convention, in addition to their request for support for the preparation of their initial national communications”.
3. Additional guidance to the Global Environment Facility (GEF)(FCCC/CP/2001/L.4/Rev. 1) identifies funding needs of developed countries. These needs include: ‘supporting the continuation of the “country-team” approach, which enhances the collection, management, archiving, analysis, interpretation and dissemination of data on climate change...’(paragraph c); ‘improving climate change related data collection (for example, local emission and regional factors (paragraph e); and ‘strengthening and where necessary establishing (i) national, subregional or regional databases on climate change. All of these requests to the GEF are addressed specifically in this project.
4. Capacity building in the context of the UNFCCC is also addressed here. For instance, the scope of capacity building includes ‘greenhouse gas inventories, emission database management, and systems for collecting, managing and utilizing activity data and emission factors (paragraph 16.e, FCCC/CP/2001/L.2). Therefore this project responds to this long-standing Convention issue.
5. The improvement of local emission factors and activity data will enhance the quality of the national GHG inventories, which constitute a major component of the National Communications of non-Annex I Parties. Good quality inventories will help with further implementation of the Convention. More accurate inventories will also enable participating countries to identify the major sources and sinks of greenhouse gases with greater confidence, and thus to make more informed policy decisions with respect to appropriate response measures.

A.2 Regional context

6. In the years following the collapse of the Soviet Union in the 1990s, countries in the Eastern Europe and Commonwealth of Independent States (CIS) region suffered dramatic declines in economic output, ranging from 30% to 60% of gross annual domestic product. Most countries in this region have experienced great changes in production and hence emissions in the past decade; a transition in governments created a long period of depression from which some countries have only recently begun to emerge¹. However, these declines are now beginning to reverse in most countries. Such changes will directly impact on GHG emissions in most of the region as energy consumption increases. For instance, following a reduction in emissions in the energy sector for the period 1990-

¹ NCSP workshop report, 7-9 April 1999, Baku, Azerbaijan (www.undp.org/cc/workshops1.htm)

- 1995 in Turkmenistan, projections show that by 2020, emissions will exceed 1990 levels. Such increases can also be observed in other countries, although at a slower growth rate².
7. Twelve countries are participating in this project: *Albania, Armenia, Azerbaijan, Croatia, Georgia, Macedonia, Moldova, Mongolia, Tajikistan, Turkmenistan, Slovenia and Uzbekistan*. These countries primarily fall into two distinct groups; those from the post-conflict Balkans and those that were formerly part of the Soviet Union. Other historical sub-divisions exist, e.g. the Caucasus sub-region.
 8. All the countries have common issues related to improving the quality of national GHG inventories³:
 - They have been unable to create *sustainable institutional and technical capacity* for the implementation of commitments under the UNFCCC. There is a low level of awareness by decision-makers of the importance of inventory preparation; training is needed to implement the new guidance of the Intergovernmental Panel on Climate Change (IPCC).
 - All countries report problems with *institutional arrangements* for compiling, archiving, updating and managing inventory data as specified in the IPCC good practice. Although there was a system of state and branch reporting of data collection in former Soviet countries – especially for energy – this system collapsed in most countries in the 1990s. A number of countries have legislation requiring the government and private sectors to provide statistical data.
 - Finally, *uncertainties* in the GHG inventories are estimated as high, although none of the participating countries have reported these in a systematic way. In addition, very few countries have developed local emission factors, relying instead on the IPCC default factors.

A.3 Institutional framework

9. All countries already have a lead agency to co-ordinate the preparation of the GHG inventory. Typically, the lead agency resides in a government ministry, such as Nature Protection, Ecology and Natural Resources, Environment, Meteorology and Hydrology, or Statistics. This national structure was established under the National Communication process for climate change. However, each agency uses very different mechanisms for collecting, managing, updating and archiving data. Data sources within the country are mostly governmental; there are few private companies. Annex O shows indicates the lead government ministry, which will be responsible for inventory preparation and the national execution of this project.
10. By building on the National Communication process, the national institutional framework for this project will be directly linked to the existing national climate change team responsible for greenhouse gas inventories. The same national experts from the Initial National Communication will be involved in this project from the beginning. The involvement of stakeholders from these institutions will contribute to the sustainability of the process once the project ends. The stakeholders, mostly from government institutions, for the project are discussed in Section B.3.
11. The regional institutional framework is designed to foster regional and international exchange of information and to provide technical backstopping to the national teams. There are no existing centres of excellence within this region; the participating countries explicitly requested that a

² National Communications of Armenia, Azerbaijan, Georgia, Moldova, Turkmenistan, Uzbekistan.

³ Sources: UNFCCC and NCSP workshop reports, PDF B questionnaires and follow-up.

regional centre should not be created for this project for cost-effectiveness. Instead, resources should be targeted towards a network for information exchange and dissemination. This network will be overseen by a small regional co-ordination unit with 2 experts in the field.

A.4 Regional priorities

12. Through the PDF B, countries elaborated their national priorities for activity data and emission factors based on a Tier I IPCC good practice method for assessing *key sources of emissions* (Box 1). A *key source category*⁴ is one that is prioritised within the national inventory system because its estimate has a significant influence on the country's total inventory of direct GHG gases in terms of the absolute level of emissions, the trend in emissions, or both. By basing decisions around key sources, any country can allocate its resources in the most cost-effective way to improve inventory quality through reduced uncertainties. This method was not available when the majority of inventories for Initial National Communications were being prepared.

Box 1: Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories

In June 1998, the UNFCCC requested the IPCC to complete its work on uncertainty and prepare a report on good practice in inventory management. The resulting report, *Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* (GPG), was accepted by the IPCC Plenary in May, 2000.

The GPG provides guidance to assist countries in producing inventories that are neither over nor underestimates, so far as can be judged, and in which uncertainties are reduced as far as practicable. To this end, the GPG supports the development of inventories that are transparent, documented, consistent over time, complete, comparable, assessed for uncertainties, subject to quality control and quality assurance, and efficient in the use of resources.

SBSTA encourages non-Annex I Parties to apply GPG during inventory preparation -- as appropriate and to the extent possible -- as it is recognised that applying GPG could assist these Parties in developing inventories that better reflect their national circumstances (FCCC/SBSTA/2000/L.3).

13. All participating countries have applied the IPCC analysis to identify the key sources of emissions; the example of Uzbekistan is shown in Annex P. All activities under this project on activity data will be assessed according to their impact on *regionally-significant* key source categories, where possible. The results of the key source assessment were also used to identify national priorities for emission factor improvement. These have been compiled in Table 1. Under this project countries will agree upon three emission factors to improve, consistent with IPCC guidelines, at the regional or sub-regional level. The choice of emission factors will be largely based on those for which there is the highest frequency of countries wishing to carry out work.
14. In addition to carrying the key source analysis above, the following outputs were achieved during the PDF phase of the project:
- A regional consultation workshop to initiate the project proposal;
 - A regional consultation process to agree on this proposal;
 - A training package for good practice in national greenhouse gas inventories (see Annex Q);
 - A common approach for improving the quality of inventories that could be replicated in other regions.
 - An assessment of the national inventories.

⁴ However, identification of key sources relies on emission estimations and can fail to identify potential key sources that are missing or strongly undervalued in the current inventory. This factor will be considered during the project implementation.

Table 1: Priority areas identified for development of emissions factors, by country, based on IPCC key source analysis

IPCC Source categories ¹	Direct GHG	Country ²	Freq.
Emissions from solid waste disposal sites	CH ₄	Albania, Armenia, Azerbaijan, Croatia, Mongolia, Tajikistan, Uzbekistan	7
Fugitive emissions from oil and gas operations	CH ₄	Armenia, Azerbaijan, Croatia, Georgia, Moldova, Turkmenistan, Uzbekistan	7
Emissions from enteric fermentation in domestic livestock	CH ₄	Armenia, Croatia, Moldova, Tajikistan, Turkmenistan, Uzbekistan	6
Mobile combustion, road vehicles	CO ₂	Albania, Georgia, Macedonia, Moldova, Mongolia, Turkmenistan	6
Emissions from agricultural soils (direct and indirect)	N ₂ O	Azerbaijan, Croatia, Moldova, Mongolia, Uzbekistan	5
Stationary combustion: energy	CO ₂	Albania, Mongolia, Turkmenistan	3
Fugitive emissions from coal mining and handling	CH ₄	Georgia, Macedonia, Mongolia	3
Emissions from manure management	N ₂ O	Albania, Croatia	2
Stationary combustion: manufacturing	CO ₂	Albania, Turkmenistan	2
Emissions from nitric acid production	N ₂ O	Croatia	1
Emissions from cement production	CO ₂	Croatia	1
Emissions from energy industries ²	CO ₂	Macedonia	1
Emissions from metal production ²	CO ₂	Macedonia	
Emissions from associated gas with low pressure from oil/gas production ²	CH ₄	Azerbaijan	1
Emissions from ammonia production ²	CO ₂	Croatia	1
Emissions from natural gas scrubbing ²	CO ₂	Croatia	1
Emissions from aluminium production ²	CO ₂	Tajikistan	1
Change in soil carbon for mineral soils ²	CO ₂	Tajikistan	1
<i>Note:</i>			
1. The Land Use Change and Forestry (LUCF) sector is not included in this table. Countries will wait until GPG on LUCF has been developed.			
2. Modifications to the list of IPCC source categories can be made to reflect particular national circumstances.			

15. The common approach involves the identification of key sources of emissions through application of the IPCC Good Practice Guidance. This approach is a significant advancement on previous inventory work because it allows the key sectors to be identified and prioritised (quantitatively), according to their contribution to global warming. This means that appropriate procedures, activity data and emission factors can then be targeted for reducing uncertainties in emission estimates in a cost-effective way. This approach was piloted in this project and is now being refined in another project on inventories in West Africa.

16. The inventory assessments identified the key sources of each national inventory, the institutional arrangements for inventory compilation, and the data gaps. This assessment was based on initial National Communications for the Europe and CIS region (Annex P) and national surveys. The assessments were carried out by a team of regional consultants using a bottom-up, country-driven, process in collaboration with the national climate change teams. These assessments are critical for the development of key-source inventories to be carried out under the full project.
17. A key-source inventory will include four IPCC sub-categories identified as the main key sources during the PDF phase of the project. Table 1 gives the four top IPCC source categories for this region, which are:
 - Fugitive CH₄ emissions from oil and gas;
 - CH₄ emissions from solid waste;
 - CO₂ for mobile combustion;
 - CH₄ emissions from livestock.
18. By limiting the key-source inventory to these sources, resources will be targeted to improving the estimates for the sources that account for most (ca. 70%) of the total emissions. A key source inventory will differ from the full inventories of greenhouse gases to be prepared under the future enabling activities. Inventory preparation for these key sources will be carried out under this full project, but will not be repeated in subsequent enabling activity projects.
19. The training package that was developed under the PDF will also be applied under the full project to train two experts in GPG per country, hence building on the PDF outputs.

A.5 Country ownership

20. *Country eligibility:* All countries that have ratified the UNFCCC, and are eligible for GEF funding through the financial mechanism of the convention, are eligible to participate in this project. However, submission of the Initial National Communication will be a prerequisite.
21. Of the 12 countries which have endorsed this proposal, six have submitted their National Communications: Armenia, Azerbaijan, Georgia, Moldova, Turkmenistan and Uzbekistan. Another four countries -- Albania, Croatia, Mongolia and Slovenia -- plan to submit by the Seventh Conference of Parties. Macedonia and Tajikistan will submit communications in the first quarter of 2002. It is expected that all countries will submit their communications prior to the start-up of this project, most likely in January 2002. Any country which does not submit its National Communication before the project start up will not be able to participate in the full project. However, such countries will be allowed to undergo training under Component 3 of this project. The rationale for their participation is that the training will motivate countries to complete their work and prevent them from falling even further behind.
22. Similarly, there are three countries in the region that more recently began climate change enabling activities and have not yet finalised their GHG inventories: Belarus, Kyrgyzstan and Malta. These countries could be involved in some project activities, particularly regarding training in GPG, using funding from their enabling activities. Such activities would not be funded by this project since it has not been endorsed by these countries.
23. *Country driven-ness:* The value of a “bottom-up” approach to capacity building has been recognised by the National Communications Support Programme (NCSP) and the United Nations Development Programme-Global Environment Facility (UNDP-GEF). Participating countries have been actively

involved in developing this proposal to encourage ownership, and regional consultants were used to enhance capacity.

24. During 1999-2000, NCSP activities included four workshops on inventories, abatement and vulnerability and adaptation, and National Communications for the Europe/CIS region⁵. Many of the recommendations from those workshops are addressed in this proposal, such as enhancement of regional co-operation to improve information and data exchange and to harmonise approaches. In particular, four recommendations from the *NCSP Thematic Workshop on Inventories* (Baku, Azerbaijan, 7-9 April 1999) will be addressed under this project:
- To hold regional information exchange workshops to discuss legal and other aspects to facilitate the data collection in the countries concerned.
 - To develop suitable software to facilitate the systematic collection, management and analysis of the data.
 - To create a web site on inventory preparation with on-line technical assistance.
 - To carry out targeted research to develop regional emission factors.
25. During the PDF phase, countries completed an extensive questionnaire regarding capacity needs for the inventory process and identified key sources of emissions (Annex Q). Two regional experts, from Kazakhstan and Armenia, assessed the national GHG inventories and provided technical backstopping during the key source analysis.
26. The project strategy, which is reflected in the Project Planning Matrix (Annex J) was designed during a regional *Project Development Workshop* (30 July-1 August, Bratislava, Slovak Republic). Workshop participants included national inventory experts, project co-ordinators of climate change enabling activities, international and regional experts from Annex I and non-Annex I Parties, and a representative of the UNFCCC secretariat.

A.6 Prior and ongoing assistance

27. *GEF*: All participating countries carried out GEF climate change enabling activities. Six countries have also received additional GEF funding for Climate Change Enabling Activity Phase II Expedited Financing for (Interim) Measures for Capacity Building in Priority Areas on technology transfer, observing systems and emission factors. Although no country has allocated these funds for emission factor development, should any participating country do so, this work will be linked into the regional project.
28. *NCSP*:
- Technical assistance has been provided to participating countries through its Help Desk and through four regional workshops.
 - Albania, Azerbaijan, Croatia, Mongolia and Tajikistan have received technical reviews of their national GHG inventories.
 - An integrated training package, “*Training Tools for Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*” is being developed using funds from the PDF B for this project (RER/01/G31) and a similar PDF B project for West Africa (GLO/01/G41). The package will also be disseminated through the NCSP’s global network.

⁵ Workshop reports can be downloaded from the NCSP website at www.undp.org/cc/workshops1.htm

29. Table 2 summarises both multilateral and bilateral funding received by countries for their studies.

Table 2: Prior and ongoing assistance provided to countries for inventory preparation
(US\$)

Country	Global Environment Facility		Other
	Enabling Activity total	For inventory	
Albania	278,000	60,000	
Armenia	350,000 + 100,000 (<i>top up</i> *)	50,000	
Azerbaijan	324,500 + 97,500 (<i>top up</i>)	85,000	
Croatia	345,000 + 100,000 (<i>top up</i>)	85,000	
Georgia	325,000	76,000	
Macedonia	345,000	60,000	
Moldova	325,000 + 99,500 (<i>top up</i>)	45,000	
Mongolia	--	22,000	US Country Studies Program (\$35,900)
Slovenia	345,000 + 95,000 (<i>top up</i>)	87,000	
Tajikistan	327,000	67,500	
Turkmenistan	350,000	150,000	
Uzbekistan	325,000 + 98,000 (<i>top up</i>)	70,000	
<i>Note:</i> * <i>Top-up refers to Climate Change Enabling Activities Phase II</i>			

B. PROJECT JUSTIFICATION

B.1 Problem(s) to be addressed and the present situation

30. For implementing commitments under the UNFCCC, participating countries will need to create *sustainable institutional and technical capacity*. The national GHG inventory is the cornerstone of the National Communication; most non-Annex I Party inventories have high uncertainties in activity data and emission factors and a number of activity data gaps⁶. More accurate inventories also enable participating countries to identify major sources and sinks of greenhouse gases with greater confidence, and thus to make more informed policy decisions with respect to appropriate response measures.
31. This project intends to build technical and institutional capacity to improve the quality of future national GHG inventories through a regional programmatic approach. The activities outlined in this project (Section E) build on the discussions and recommendations of NCSP thematic and regional

⁶ FCCC/SBI/2000/15: Second Compilation and Synthesis Report of initial National Communications from Parties Not Included in Annex I to the Convention

- workshops⁷, the UNFCCC Consultative Group of Experts on non-Annex I National Communications workshops⁸, and the UNFCCC workshops on emission factors and activity data⁹.
32. Through active discussions in the regional workshops of the NCSP, current thinking among countries has evolved on how to improve national inventories in a cost-effective manner. While much of the previous discussion has centred on emission factors, there is a gradual realisation that the quality of inventories is the net result of a more complex process. The primary change in thinking is that a broader number of areas need to be looked into in order to move towards sustained and institutionalised ways of preparing national greenhouse gas inventories. Developing national capacity for archiving and updating inventory data is critical to the sustainability of the inventory process.
33. The IPCC 1996 Revised Guidelines recognise that a range of input data is fundamental to the quality of the inventory and recommend the use of national, not default data where possible. Data include emission factors, activity data, and assumptions of the method itself. A large amount of information is often necessary to create some national inventories; there are potentially hundreds, if not thousands, of input data required. Given resource constraints, selecting national priorities for data collection becomes critical. The application of IPCC GPG ensures that the most efficient use of limited resources.
34. This delineation also implies that the cost of the inventory prepared under the second National Communication is not expected to immediately decrease for countries participating in this project. However, over a longer timeframe of about 5 years or more, the inventory systems that are created should be largely sustainable and the cost of inventory updating should decrease significantly in the longer term. The timeframe would depend on the country's resources, size, and capacity.
35. Figures 1 and 2 illustrate this point. Without additional funding through the full project, the inventories of the Second National Communications will be of similar quality to the first. The same uncertainties of estimates will be regenerated. Figure 1 shows qualitatively how the cost of inventory preparation and quality can remain unchanged over time if, each time the inventory is prepared under the enabling activity, the same default data are used, with little gain in cost or quality. Figure 2 shows that with some initial investment under the full project, the quality of the inventory improves. Gradually the cost of the inventory declines as the process of inventory preparation becomes institutionalised. While these figures are not quantitative, the general trends have been identified, based on extensive discussions with inventory experts.

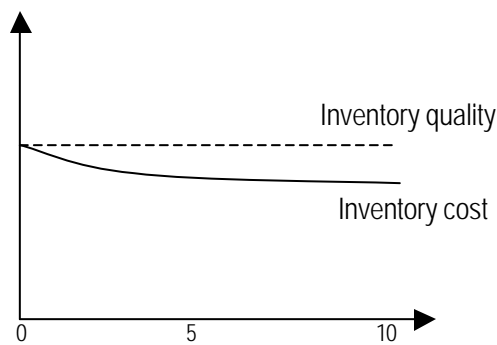


Figure 1: The cost and quality of inventory preparation in sequential enabling activities

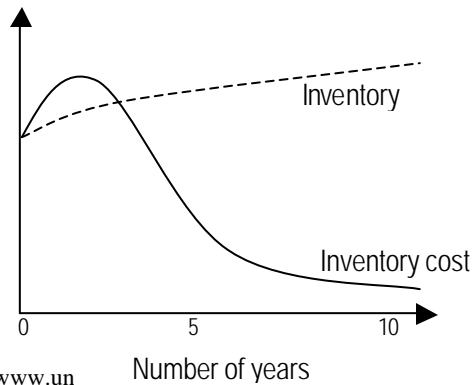


Figure 2: The cost and quality of inventory preparation in sequential enabling activities and with regional project

36. Finally, the investment in infrastructure and technical capacity building will have benefits beyond national GHG inventories; the activity data – and potentially some of the emission factors – can be used for other national conservation and development programmes. Examples of the multiple uses of activity data will be prepared under the awareness-raising activities of the project.

B.2 Expected end-of-project situation

37. The project will use a flexible, programmatic approach over its three-year lifetime to respond to the evolving needs of countries. As a result of this project, GHG inventories for future National Communications will be compiled in a sustainable manner; the inventories will be of a higher quality than those prepared for the Initial National Communications.
38. *Sustainable inventory team created:* Several activities have been identified under Immediate Objective 2 to ensure that inventory teams can become permanent. Activities include a targeted awareness-raising strategy to promote the importance of an institutionalised inventory process to policymakers and select institutions and outreach activities to potential donors.
39. *Inventory strategy developed:* Using the procedures outlined in the GPG, countries will create quality assurance and quality control plans, along with a strategy for next steps in improving inventory quality (in future projects).
40. *Regional and international information exchange network established:* A regional database of inventory experts and a web site will be established to enhance exchange of data and information. Country solutions will be compiled and disseminated within the region and documents translated as necessary. Linkages to related international activities will be established.
41. *Emission factors improved and disseminated:* Assumptions and methods for emission factors will be documented to increase their reliability and at least three emission factors will be improved or developed to reflect appropriate regional circumstances. However, new methods for estimating emission factors will not be developed under this project. The emission factors will be disseminated through the IPCC emission factor database currently under development.
42. *Data collection and management improved:* For key sources, activity data gaps will be reduced and data collection will be improved. The national arrangements will be documented and described.
43. *Number of trained experts increased:* Using the integrated training package that is under development, two experts from each country will be trained in GPG. These experts will then become trainers for their national teams. At least eight inventory experts will be trained at the national level in this way¹⁰.
44. *Technical peer review system established:* To develop capacity, every country will prepare one key-source inventory under the project, to be reviewed by another country within the region. The

¹⁰ As a national activity not funded under this project.

key-source inventories might also be presented at regional workshops for additional comments from regional and external experts. Other aspects of the peer review mechanism will be finalised under the full project.

B.3 Stakeholder participation

45. Several mechanisms have been built into the project to ensure maximum stakeholder participation which are outlined in Section E. These include workshops, project steering committees, an awareness-raising campaign targeting policy-makers and data providers, the establishment of a regional exchange information network, and linkages to the international expert and donor communities.
46. *National inventory team:* As described earlier, national experts have been fully involved in the development of this project. A designated national inventory expert (expected to be the inventory team leader from the first National Communication) will act as the focal point under this project. National sectoral experts who worked on the first national GHG inventory will also be involved. In this way, the project will build upon existing technical capacity.
47. *Lead national institution:* The designated national inventory expert (expected to be the inventory team leader from the first National Communication) will be situated in the national institution that has been identified as the lead agency for inventory preparation (see Annex O). This institutional arrangement will help to build institutional capacity and to ensure that the process established here is sustainable beyond the lifetime of the project.
48. *National institutions:* Each country has identified institutions within each sector, e.g. energy, waste, etc., from which inventory experts can be drawn, building on the existing framework established under the enabling activity (Annex O). Awareness-raising activities targeting these institutions will help strengthen the inventory preparation framework. Active input from these institutions will be sought throughout the project cycle.
49. *National project steering committee:* To raise awareness and enhance co-operation with data provision agencies and policy-makers, each country will establish a national project steering committee. The committee will comprise the National Project Manager of the climate change enabling activity, the National Inventory Team Leader, and representatives of appropriate government Ministries and data provision agencies, including the private sector.
50. *Regional and international outreach:* The regional project steering committee will include representatives of the UNDP/NCSP, GEF, UNFCCC and the IPCC Inventory Task Force Bureau to encourage international and in-house linkages to appropriate projects, e.g. the Capacity Development Initiative. Outreach will be sought with other relevant regional activities. Linkages to Annex I Parties have also been built into the project framework – transition economies, to provide examples of country solutions, and other Parties for in-kind expertise or as potential donors.

C. PROJECT STRATEGY

51. The goal of this project is to build on the inventory work undertaken for first National Communications in preparation for Second National Communications. Technical and institutional capacity will be sustained. As a result of this regional inventory project, GHG inventories

prepared under enabling activities for subsequent National Communications will be of a higher quality than those prepared for the initial national communications.

52. A programmatic approach to building capacity has been developed for this project, as reflected in the Project Planning Matrix (Annex J). The approach, while regional in design, is flexible enough to meet national needs. That is, aside from certain common activities, countries are free to choose to participate in some or all of the remaining project activities, consistent with national priorities. This gives countries the opportunity to focus allocation of resources on national arrangements or emission factors, as appropriate.
53. The implementation arrangements are based on a decentralised version of the successful NCSP model -- that is, a small regional core unit will oversee all project activities and centralise technical assistance and training needs. The centralisation of such requests is one key benefit of the regional approach; it is assumed that many countries will encounter similar difficulties at the same time, given that all will be commencing the project simultaneously. Keeping the regional unit small will maximise the amount of funds available for capacity building of national experts under the project.
54. The concept of key sources, as defined in the IPCC GPG, underpins the project design. GPG encourages the most efficient use of available resources by identifying the source categories that have the greatest contribution to overall inventory uncertainty. That is, by identifying the key sources, countries can prioritise their efforts and improve their overall estimates in a systematic manner. Inventory preparation costs can be substantial; With GPG, a relatively modest financial contribution can produce inventories of international standards.
55. Under this project, activities will only be carried out on activity data and emission factors that are regionally significant as key sources and thus achieve regional objectives. The purpose of this delineation is to ensure that this project's activities are additional to those undertaken within the boundaries of the national climate change enabling activities.
56. Placing project activities and outputs within the context of key sources allows the regional programmatic approach to be applied in other regions, with minimal modifications due to sector-specific issues. For example, while in the Europe/CIS region the majority of key sources are in the energy sector, the West African region (where a PDF B is underway) is more likely to reveal a majority of key sources in agriculture and landuse change and forestry (LUCF). Nonetheless, both regions will follow the same sequence of activities and work towards the same immediate objectives (see draft workplan, Annex L).
57. As discussed in Section F, ensuring sustainability of the inventory team and inventory processes is the major risk of this project. Specific activities have been built into the project design to mitigate this risk. These include awareness-raising and fund-raising campaigns aimed at policymakers and donors, compilation of country solutions to overcoming barriers ("learning by doing") and a programme of training of trainers to exponentially increase the number of trained national experts. More information on these activities can be found below.

D. DEVELOPMENT OBJECTIVE

58. The overall objective of this project is to build technical and institutional capacity to enable a significant number of countries to improve the quality of activity data and emission factor inputs to their national GHG inventories in the context of National Communications.

E. IMMEDIATE OBJECTIVES, OUTPUTS AND ACTIVITIES

E.1 Immediate objectives, outputs and activities

Immediate Objective 1: Strengthened institutional arrangements for compiling, archiving, updating, and managing greenhouse gas inventories

Under this component, countries will begin a systematic approach to strengthen sustainable data collection systems. Only five of the 12 countries participating in this project have inventory systems in place. Incorporating GPG principles will enable countries to strengthen institutional arrangements in the most cost-effective manner. Only data collection activities for regionally significant key source categories will be undertaken. Some of the significant outputs from this component will be: 1) compilation document of country solutions to overcoming barriers to data collection, 2) application of GPG methods to document and describe inventory system, and 3) establishment of a regional information exchange network and web site.

Output 1.1: Existing data collection strategy improved¹¹

This output focuses on activity data gaps for which data exists, but there are barriers to collection.

Activities:

- 1.1.1 Identify existing data gaps
- 1.1.2 Identify sources of existing data from prior and ongoing international and regional projects
- 1.1.3 Identify prior and ongoing national sources of existing data, e.g. Taxation Department, Customs
- 1.1.4 Identify barriers to obtaining existing data in key source categories
- 1.1.5 Compile country solutions (practices) to overcoming barriers
- 1.1.6 Utilise country solutions (practices) to overcoming barriers
- 1.1.7 Check conversion of units and validate data compiled

Output 1.2: Activity data gaps reduced

This output focuses on activity data gaps for which data must be compiled.

Activities:

- 1.2.1 Identify non-existing data that is required
- 1.2.2 Compile [or develop] country solutions/methods for overcoming data gaps in key source categories
- 1.2.3 Identify ways to overcome data gaps, e.g. compare inventories across years in order to identify trends in emissions and removals, use interpolation/extrapolation methods, etc. using GPG
- 1.2.4 Check conversion of units and validate data compiled

¹¹ Data collection will be a national activity not funded under this project.

Output 1.3: Inventory system documented and described

Documentation will be carried out throughout the project lifetime in conjunction with activities under Outputs 1.1 and 1.2. The documents may be translated from national languages into Russian and English for dissemination as training tools if deemed appropriate.

Activities:

- 1.3.1. Archive relevant data (e.g., activity data, emission factors, conversion factors) for several years
- 1.3.2. Document the selection process of national activity data and related parameters used in the inventory preparation process
- 1.3.3. Document the data collection methods of data providers
- 1.3.4. Document the methodologies and assumptions used

Output 1.4: Regional information exchange network established

The regional information exchange network will be critical to the project's success, allowing improved information flow on national experiences to overcoming barriers to data collection, as well as exchange of emission factors, local methods, and activity data. This will also ensure that both successes and failures can be quickly disseminated as lessons learned. Links to other international and regional efforts on data collection and emission factors will also be improved, e.g. the IPCC Emission Factor Database under development. A training workshop will be held on legal aspects of data collection under Activity 1.4.2. The peer review mechanism is a capacity-building exercise whereby each country will prepare a key source inventory that is technically reviewed by another country within the region. A parallel review could be carried out by an international expert for verification purposes if agreed by the country. The final aspects of the peer review mechanism will be developed by the Regional Project Manager in conjunction with the countries.

Activities:

- 1.4.1 Establish regional web site
- 1.4.2 Identify needs in legislation and compliance measures for data collection and interagency co-ordination
- 1.4.3 Disseminate regional and international experiences in legal and other regulatory approaches (e.g. voluntary agreements) to overcoming barriers to data collection
- 1.4.4 Establish an in-country technical peer review mechanism

Immediate Objective 2: Sustainable Inventory Team Created

A long-term strategy will be developed for ensuring sustainability of the inventory team. An awareness-raising campaign will be developed to target policymakers and data providers on the importance of institutionalising the inventory process and on the multiple benefits of data collection. A regional campaign will be developed, and then modified and translated for national circumstances. A side-event with Ministers at a COP will also be planned under the campaign. In addition, outreach to Annex I Parties will be carried out. Transition economies can lead by example in providing country solutions to overcoming barriers, other developed countries may offer in-kind support such as emission factor development or training. Potential donors will be identified to mitigate against the risk of the awareness-raising campaign failing.

All the activities under Immediate Objective 2 will be carried out in conjunction with all countries.

Output 2.1 Sustainable inventory team

Activities:

- 2.1.1 Develop long-term in-country programme
- 2.1.2 Create regional database of national inventory experts
- 2.1.3 Carry out awareness-raising campaign targeting policy-makers and other stakeholders on the importance and benefits of data collection, inventory quality, and reporting commitments to the UNFCCC
- 2.1.4 Identify linkages to Annex I Parties
- 2.1.5 Identify appropriate end-of-project financing e.g. multilateral, bilateral, private sector

Immediate Objective 3: Enhanced technical capacity for preparing national inventories

It is envisaged that at the end of the project, that technical capacity in the region will be improved. However, in the interim the NCSP will provide a major role in technical backstopping under this component, as well as providing linkages to international activities, such as the development of GPG for LUCF, through its Technical Co-ordination Group on Inventories.

All the activities under Immediate Objective 3 will be carried out in conjunction with all countries.

Output 3.1: Number of qualified national inventory experts increased

All countries require training in GPG. Under the project, two national experts will be trained and assume the role of trainers of the national inventory team¹². This “training of trainers” will help to enhance the sustainability of the inventory team. The *IPCC 1996 Revised Guidelines for National Greenhouse Gas Inventories* and the *IPCC Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories* have already been disseminated through the NCSP network to all countries participating in the project. In addition, an integrated training package that provides a practical means to implement the technical guidance of the IPCC GPG is being developed under the PDF B. The package comprises a practical workbook, CD-Rom of resources, and a workshop training kit (see Annex Q for more information). The workbook and training kit will be translated into Russian. Under the full project, these materials may be complemented with an interactive CD-Rom/internet training module.

Activities:

- 3.1.1 Train (trainers) in IPCC Good Practice applications
- 3.1.2 Distribute supporting materials¹³ and education kits
- 3.1.3 Develop an interactive CD-Rom/internet training module

Output 3.2: IPCC Good Practice applied to extent needed

All countries participating in the project will undertake the activities under this output. While activities 3.2.1 and 3.2.2 have been carried out under the PDF B, they are included here, as they are essential to the programmatic approach that has been developed. Activities 3.2.5 and 3.2.6 will take place in the final phase of the project. One training workshop will be held during the project finalisation phase in to develop the quality analysis and quality control plan and train in GPG for uncertainty reporting.

¹² Training of national inventory team is considered a national activity not funded under this project

¹³ Developed within this project and/or already available at different international organisations

Activities:

- 3.2.1 Key sources identified through Tier 1 Assessment
- 3.2.2 Comparison of key source-specific assessments
- 3.2.3 Identify appropriate methods source by source, using GPG decision trees
- 3.2.4 Identify areas where recalculations are necessary, and plan strategy to ensure consistency
- 3.2.5 Prepare quality analysis and quality control plan
- 3.2.6 Compile key-source inventory for peer review

Immediate Objective 4: Improved methodologies and emission factors

Countries have prioritised emission factors needing improvement or development, according to key source categories (Table 1, p. 4). Under this project, three emission factors considered significant within the region will be selected for improvement, using methods consistent with IPCC guidelines. (It is not anticipated that any new methods for estimating emission factors will be developed under this project.) Three sub-regional training workshops will be held as part of this development process. Since the final selection of emission factors will need to be agreed under the full project based on national priorities, the actual approach for improving emission factors will be finalised in the first year of the project, once activities on national arrangements are well underway. The project will encourage harmonisation of approaches to emission factor improvement to allow improved comparisons between countries. National emission factors that have already been developed (e.g. CO₂ emissions from arable soils by Moldova; annual growth of biomass by Armenia) will be reviewed for feasibility as regional emission factors. Through the regional exchange network (activity 1.4), the results of Outputs 4.2 and 4.3 will be disseminated to the IPCC emission factor database currently under development.

Output 4.1: Increased reliability of emission factors

Activities:

- 4.1.1 Document the selection process of emission factors and other conversion factors used in the inventory preparation process
- 4.1.2 Document the methodologies and assumptions used

Output 4.2: Improved and/or new emission factors for key sources

Activities:

- 4.2.1 Compile local emission factors within region
- 4.2.2 Compile emission factors for older technologies (to reduce data gaps)
- 4.2.3 Disseminate local emission factors within region
- 4.2.4 Improve links to international emission factor databases (e.g. IPCC, International Energy Agency)
- 4.1.3 Prioritise emission factors for improvement using key source assessment and tools such as sensitivity analysis
- 4.2.5 Improve and/or develop 2-3 regionally-significant emission factors, consistent with IPCC guidance on methodologies

Output 4.3: Methodologies to estimate emissions improved using national and/or regional approaches

Activities:

- 4.3.1 Compilation of local methodologies within region
- 4.3.2 Dissemination of local methodologies within region and externally (e.g. IPCC emission factor database), consistent with IPCC guidelines and standard units
- 4.3.3 Assessment at the national level of disseminated methodologies, applying GPG

F. RISKS AND SUSTAINABILITY

59. *Risks:* The main risk of this project is that governments will not have funds to sustain the national arrangements, inventory team and regional information exchange network once the project ends. One assumption is that the activities undertaken in Immediate Objective 2 will sufficiently mitigate this risk, along with the gains obtained from applying GPG. These activities include:
- *Awareness-raising campaign:* The Regional Project Manager will design a regional campaign to successfully engage policymakers and data providers to understand 1) the importance of data collection for national commitments under the UNFCCC, 2) the benefits of institutionalising the inventory process, and 3) the multiple benefits of data collection and emission factor development, beyond national GHG inventories. A component of the campaign will allow countries can make modifications to reflect national circumstances. Given the crucial role of this activity, a media/public relations consultant will assist with the campaign, which will be translated into national languages to maximise dissemination potential. A side-event at COP-8 for Ministers is also proposed.
 - *Outreach to potential donors:* Linkages to Annex I Parties will be developed to learn from their experiences on overcoming barriers. Assumption that continued economic growth and therefore increasing emissions.
 - *GPG:* will improve procedures for compiling, archiving, managing and updating activity data in the most cost-effective manner. The inventory will be documented and validated; national arrangements will be strengthened.
60. *Sustainability:* A prerequisite for the national experts hired under this project will be prior involvement in the preparation of the inventory for the first National Communication. This ensures that this project builds on past experience. Providing two experts with roles as trainers of the national team encourages an exponential increase in trained personnel. Countries have committed to training eight additional experts at the national level within the lifetime of the project¹⁴.
61. The national inventory experts will be drawn from appropriate institutions for each sector, e.g. energy, waste. These institutions have been identified, and will be targeted for awareness-raising and strengthening. This will help mitigate against any changes in the inventory team during the project lifetime by strengthening the institutional framework, while laying the basis for sustainable institutional practices once the project has ended.
62. The documentation and description of national arrangements is an essential output for ensuring sustainability of procedures even should personnel change. The national lead agency will develop a long-term in-country programme and a quality assurance and quality control plan; these will provide participating countries with blueprints for future work.
63. *Replicability:* As explained under Project Strategy, the Project Planning Matrix reflects a regional programmatic approach that can be applied to any region, subject to consideration of sector-specific issues and modifications to reflect regional circumstances.

¹⁴ As a national activity not funded under this project.

64. One important project output is the compilation of national solutions for overcoming barriers to data collection and emission factor improvement and development. These “lessons learned” will be disseminated through the regional information exchange network, along with other successes and failures. Many of the issues that the region faces in the context of inventory preparation will also be of interest to other non-Annex I Parties. Therefore linkages to the UNDP/NCSP global network of climate change teams, and to other international arenas, will be encouraged.

G. INSTITUTIONAL ARRANGEMENTS

65. UNDP will serve as the GEF implementing agency to strengthen and develop linkages with other relevant projects. UNOPS will be the executing agency.
66. During the project development, countries called for a decentralised structure in order to maximise national capacity development. There was minimal support for establishing a regional centre of excellence, although the use of regional experts is encouraged where possible. The institutional arrangements below reflect this approach.

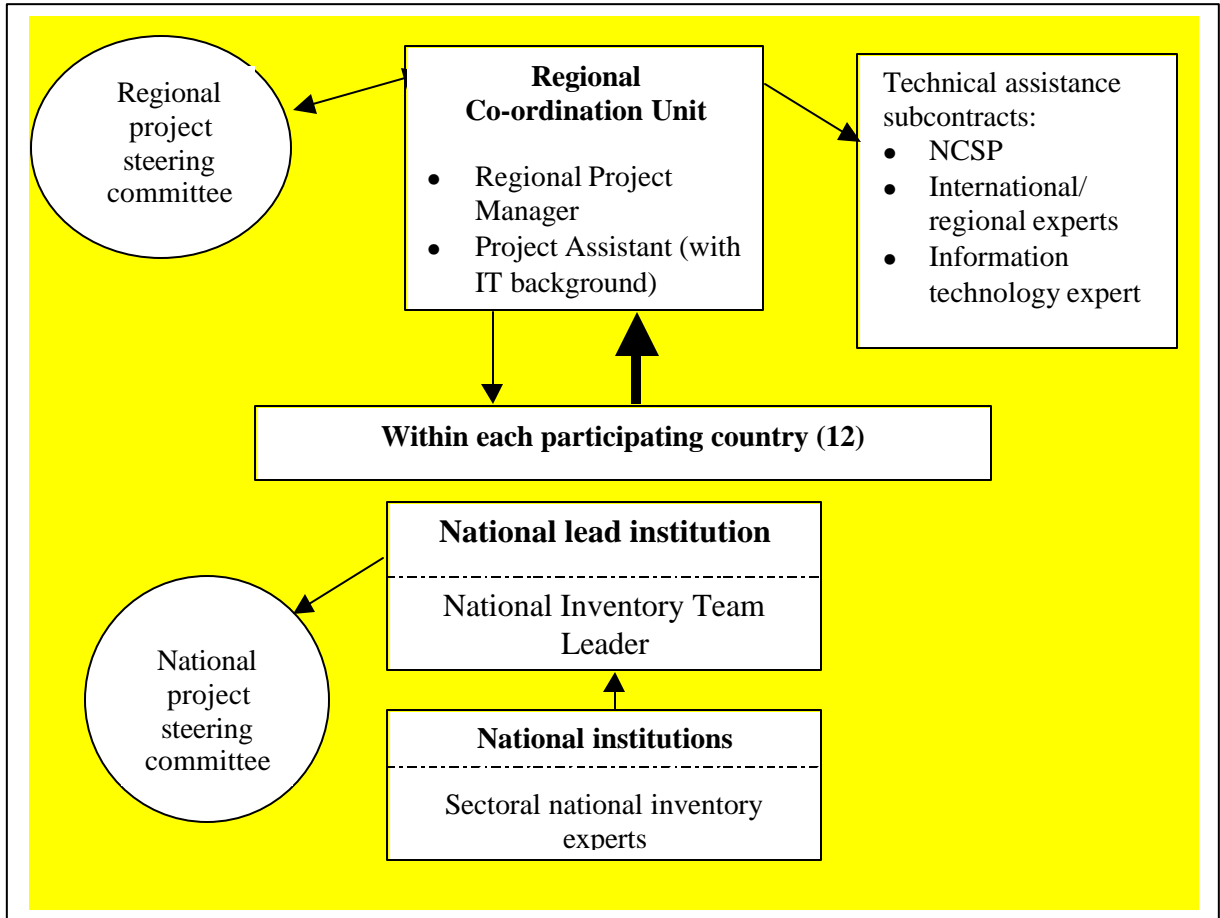
Regional level

67. A Regional Co-ordination Unit will be established, comprising a Regional Project Manager (RPM) and project assistant. If the assistant has an information technology (IT) background, he/she will maintain regional information exchange network. Alternatively, an IT consultant will be contracted on an ad hoc basis to oversee the regional networking activities. The RPM will be based in his/her home country, if it is one of the participating countries, or in the UNDP regional hub in Bratislava, Slovak Republic. The UNDP county office in which the RPM is based will become the lead office for this project.
68. International and regional consultants who are recruited under the project to provide technical assistance will report to the Regional Project Manager, as specified in their Terms of Reference. The UNDP/NCSP will also play an important role in technical backstopping, particularly on GPG and training activities.
69. As the co-ordination role of the Regional Project Manager will be crucial to the success of the project, the UNDP/NCSP will carry out a supervisory role of the Regional Project Manager and will be consulted during the hiring process.
70. A regional Project Steering Committee (PSC) will be established that includes representatives of the implementing agency (UNDP/NCSP), executing agency (UNOPS), and appropriate regional and international bodies, e.g. UNFCCC, IPCC Inventory Task Force Bureau, and the NCSP to ensure linkages with other global activities. Four project managers could represent the participating countries on the PSC, with the representation changing on an annual basis. The final composition of the Steering Committee will be identified during the start-up of the project. The UNDP/NCSP’s Technical Co-ordination Group on Inventories can provide policy guidance and evaluate project outcomes when requested. Regional/local NGO communities, private companies and donors, will be invited to participate to discuss policy or technical issues as these arise during project implementation.
71. All staff contracts will terminate at the end of the project unless non-GEF funds are found. There will be no possibility of contract extensions with the GEF under any circumstances.

National level

72. Within each country, a National Inventory Team Leader will be hired. This staff member cannot simultaneously be employed by government, in line with UNDP rules and regulations. One prerequisite is that the expert must have been involved in the preparation of the inventory for the First National Communication. It is envisaged that this person will be the inventory team leader of the first national GHG inventory.
73. Each National Inventory Team Leader will hire national inventory experts on an ad-hoc basis within their allocated budget, according to activity priorities. The National Inventory Team Leader will act as the focal point for the project, reporting to the Regional Project Manager for the National Communication.
74. In each country, a national Project Steering Committee will be created that includes the National Project Manager of the Climate Change Enabling Activity, the National Inventory Team Leader, and a UNDP Country Office staff member to observe and advise on UNDP rules, regulations, and procedures. The national Project Steering Committee will also include representatives drawn from appropriate government Ministries and other data providers, such as the private sector (see Annex O for potential committee members). The final composition of the Steering Committees will be identified during the start-up of the project; the existing National Climate Committee under the enabling activity might fulfill the steering committee role.
75. Figure 3 is an indicative organisational chart of the institutional arrangements.

Figure 3: Indicative organisational chart of project implementation arrangements



Linkages to regional and international initiatives

76. During project implementation, a high level of co-ordination will be carried out with relevant institutions and organisations to ensure that the project activities are distinct and fully complementary to other international, regional and national initiatives.
77. An especially high level of co-ordination is expected with the IPCC National Greenhouse Gas Inventories Programme, the inventory sub-group of the UNFCCC Consultative Group of Experts on non-Annex I National Communications, and the GEF Capacity Building Initiative and Phase II Climate Change Enabling Activities and Second National Communications.
78. Other potential synergies have been identified with projects and plans of the: United Nations Environment Programme, United Nations Institute for Training and Research, World Bank, Organisation for Economic Co-operation and Development, European Community and PHARE, United States Environmental Protection Agency, Canadian International Development Agency (Central and Eastern Europe Branch), Regional Environment Centre for Central and Eastern Europe, and the Hellenic Ministry of Environment, Spatial Planning and Public Works. Linkages were established under the PDF B and will be strengthened under the full project.

79. As well as the NCSP “*Training Tools for Good Practice Guidance and Uncertainty Management in National GHG Inventories*” under development, several other resources have been identified that could feed into project activities. These include:
- *INFRAS/BUWAL*¹⁵, Switzerland: Database tool for comparative plausibility analysis of GHG inventory data;
 - *European Commission*: Taskforce for Emission Inventory and Projections guidebook;
 - *CENef/WWF/PNNL*¹⁶: Training materials on inventory preparation and reporting. Also translating the GPG into Russian.

H. MONITORING, EVALUATION AND DISSEMINATION

80. The regional Project Steering Committee (PSC) will be responsible for monitoring and supervising project implementation as a whole. The PSC will meet on a quarterly basis to review the performance of the project. These meetings shall take place by teleconference, or during regional exchange workshops. The Regional Project Manager may convene 1-2 additional teleconferences during the start-up phase of the project, if required.
81. Each National Inventory Team Leader will prepare a progress report, revised workplan and a financial report on a quarterly basis and submit these to the Regional Project Manager in a timely manner. The UNDP country offices should be copied, for information. Disbursement of the subsequent installments of funds will be subject to the final approval of the national reports by the Regional Project Manager.
82. The Regional Project Manager will circulate a synthesis of the national progress reports, and a quarterly progress report and revised workplan for regional activities to the PSC prior to meetings. The monitoring and evaluation duties of the Regional Project Manager will be critical to the success of the project and will be subject to supervision by the UNDP/NCSP.
83. The project will be subject to an annual tripartite review. The PSC will decide on the representation of the Government at the tripartite reviews. The Regional Project Manager shall submit Annual Programme/Project Reports (APR) for the tripartite review meeting. Additional performance reports may be requested, as necessary, during the project.
84. A Project Terminal Report will be prepared for consideration at the terminal tripartite review meeting. It shall be prepared in draft sufficiently in advance to allow review and technical clearance by the Executing Agency at least four months prior to the terminal tripartite review.
85. An external, independent evaluation of the project will be conducted at the close of the project.
86. The UNDP will report on the project performance to the GEF at the annual PIR.
87. Financial auditing will be carried out according to UNDP rules and regulations.
88. The Executing Agency’s and the UNDP’s extensive experience in monitoring regional projects will be drawn upon to ensure that project activities and outputs are monitored and properly documented. The planning matrix of the project (Annex J) includes indicators to assist in the

¹⁵ Bundesamt für Umwelt, Wald und Landschaft, Switzerland

¹⁶ Russian Center for Energy Efficiency (CENef)/World Wildlife Fund (WWF)/Pacific Northwest National Laboratory (PNNL)

monitoring and external evaluation. Such indicators will allow, by means of established verification, the implementation of a final evaluation of the project.

89. A number of national and regional documents are being produced under the project. These will be disseminated widely to key stakeholders within the region to and to relevant international bodies (see paragraphs 58 and 59). Awareness-raising activities identified under the project will directly contribute to these efforts. Any results of the project that could be beneficial to other developing countries will be disseminated using the NCSP network that is already in place.
90. It is worth noting that, among the specified activities of the project, the implementation of an awareness-raising campaign is considered. The objective of the campaign is to publicise, to targeted policymakers and stakeholders, the importance of the inventory process. The establishment of a regional network will guarantee wide dissemination of both data and lessons learned, as they are substantiated. The project will make every effort to identify both successful and unsuccessful experiences so that they can be learned from quickly. Linkages to international and regional initiatives have also been identified under the project.

I. PROJECT FINANCING

91. The cost of this project has been estimated at \$US 3.257 million in total, of which \$2.313 million is cash and \$944,100 is in kind. The GEF is asked to contribute costs of \$2.263 million (including the PDF B of US\$ 338,000).
92. The NCSP package, "*Training Tools for Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*" is being developed using funds from the PDF B for this project (RER/01/G31) and a similar PDF B project for West Africa (GLO/01/G41). The Training Package is designed as a complementary tool to the IPCC 1996 *Revised Guidelines for National Greenhouse Gas Inventories* and the *GPG*. The package will consist of:
 - 1) a practical Workbook Syllabus to complement the IPCC guidelines;
 - 2) a CD-Rom containing supplemental tools and resources;
 - 3) overheads for workshop training.

For a full description of the training materials, see Annex Q.

93. The Swiss Government is co-financing this project through a contribution of US\$50,000 for the further elaboration of the "*Training Tools for Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories*".
94. An output budget, including the in-kind and cash contributions from participating governments can be found in Annex K. Most governments are providing in-kind contribution towards the cost of premises, office overheads, communications, workshop materials and accommodation, and transportation. A few countries have also indicated that they will contribute staff salaries towards administration, the provision of inventory data, and the participation of government staff in the oversight of the project. (Inventory experts will be paid by the project.)
95. The output budget has been calculated based on the cost of the activities carried out under the Regional Co-ordination Unit plus the aggregate for all national activities. However, countries may choose to apportion national allocations slightly differently, according to national priorities, outside of the common regional activities.

96. The Regional Co-ordination Unit activities amount to approximately 50% of the budget total. However, apart from two full-time staff (13% of the total), all of this sum is targeted for 2 regional and 3 sub-regional training workshops, technical assistance sub-contracts for the regional and international experts who will aid countries at the national level, peer review of the key-source inventories, translation and dissemination of technical materials prepared under the PDF, establishment of the network of inventory experts and for information exchange. Monitoring and evaluation is also included.
97. The national activities account for the remaining 50% of total funds. The National Inventory Team Leaders are the only full-time staff members, accounting for 15% of the total budget. The remainder of the national allocation will be used to improve emission factors and inventory methods, to institutionalize the inventory process, to strengthen procedures for archiving data, and quality control of the inventory data. Experts will carry out this work on an ad-hoc basis thereby avoiding the creation of fully staffed national team. Based on in-country cost estimates, the average amount each country will receive is about \$26,000 per year.
98. Both regional and national budgets have been constructed in such a way as to minimize administrative overheads and to target project activities. At the regional level, this has been achieved by avoiding the creation of the regional center. At the national level, some of administrative overheads are minimized by linking this project to the lead institutions for inventories through the existing national arrangements for climate change.

ANNEXES

- J. Project Planning Matrix
- K. Output Budget
- L. Draft Workplan
- M. STAP Review and Response to STAP review

Supplemental annex 1 (separate document)

- N. OFP endorsement letters

Supplemental annex 2 (separate document)

- O. Stakeholders, by country
- P. Example of key source assessment, Uzbekistan
- Q. NCSP project development questionnaire
- R. Training package on Good Practice Guidance and Uncertainty Management in National Greenhouse Gas Inventories

J. PROJECT PLANNING MATRIX

Project Strategy	Verifiable Indicators	Means of Verification	Assumptions and Risks
Project Development Goal: To build capacity of countries to fulfill their commitments as Parties to the UNFCCC.			
Immediate objectives (project outcomes):			
1. Strengthened national arrangements for compiling, archiving, updating, and managing greenhouse gas inventories	Key organisations have strategy for compiling, archiving, updating, and managing greenhouse gas inventories	National quality assurance/quality control plan End-of-project report	
2. Sustainable inventory team created	Inventory experts employed by government	End-of-project report	Outreach campaign results in govt funding
3. Enhanced technical capacity for preparing national inventories	National experts able to prepare national inventory	Key-source inventory produced	
4. Improved methodologies and emission factors	At least 3 emission factors improved to reflect appropriate regional circumstances	At least 3 improved emission factors	
Impact: GHG inventory periodically updated and improved			
Outputs:			
1.1: Existing data collection strategy improved 1.2: Activity data gaps reduced	<ul style="list-style-type: none"> • Reduced gaps in inventory by end of project • “Country solutions” manual developed and disseminated 	<ul style="list-style-type: none"> • No. of new sources of institutional data • No. of manuals produced and received 	
1.3: Inventory system documented and described	<ul style="list-style-type: none"> • Manual by end of project 	<ul style="list-style-type: none"> • Manual 	
1.4: Regional information exchange network established	<ul style="list-style-type: none"> • REI network established • Website established • Peer/external review mechanism established 	<ul style="list-style-type: none"> • No. of experts using network • No. of countries using website • No. of reviews undertaken 	

Project Strategy	Verifiable Indicators	Means of Verification	Assumptions and Risks
2.1 Sustainable inventory team	<ul style="list-style-type: none"> Database established In-kind/in cash funding increases by end project No. of staff remains constant Awareness of government increased 	<ul style="list-style-type: none"> Database functioning 1 donor identified No. of meetings held Copy of awareness strategy 	Outreach campaign strengthens teams and institutions
3.1: Number of qualified national inventory experts increased	<ul style="list-style-type: none"> Experts qualified Materials disseminated 	<ul style="list-style-type: none"> At least 2 experts trained in GPG 8 trained at national level by trainers¹⁷ No. of national training workshops held No. of documents disseminated 	
3.2: IPCC Good Practice applied to extent needed	<ul style="list-style-type: none"> QA/QC plan created Inventory strategy prepared Key-source inventory compiled, reflecting use of GPG application 	<ul style="list-style-type: none"> Copy of QA/QC plan Copy of strategy Key-source inventory assessment 	
4.1: Increased reliability of emission factors	<ul style="list-style-type: none"> Selection process, assumptions and methods documented 	<ul style="list-style-type: none"> No. of emission factors documented 	
4.2: Improved and/or new emission factors for key sources	<ul style="list-style-type: none"> At least 3 EFs improved to reflect appropriate regional/national circumstances vs IPCC defaults Uncertainties reduced (by peer review) 	<ul style="list-style-type: none"> At least 3 improved emission factors Up to 3 workshops on EFs under improvement held Results of peer reviews 	
4.3: Methodologies to estimate emissions improved using national and/or regional approaches	<ul style="list-style-type: none"> Methods identified according to GPG (decision trees) 	<ul style="list-style-type: none"> Copy of compiled document 	

¹⁷

As a national activity, not funded under this project.

K. ACTIVITY BUDGET

OUTPUT	GEF	GOV'T in-kind	GOV'T in cash	Other	Total
Immediate objective 1: Strengthened national arrangements for compiling, archiving, updating, and managing greenhouse gas inventories					
Output 1.1: Existing data collection improved	116,000	94,410	0	0	210,410
Output 1.2: Activity data gaps reduced	130,000	94,410	0	0	224,410
Output 1.3: Inventory system documented and described	50,000	47,205	0	0	97,205
Output 1.4: Regional information exchange network established	275,000	47,205	0	0	322,205
Immediate objective 2: Sustainable inventory team created					
Output 2.1: Sustainable inventory team created	390,000	188,820	0	0	578,820
Immediate objective 3: Enhanced technical capacity for preparing national inventories					
Output 3.1: Number of qualified national inventory experts increased	110,000	47,205	0	0	157,205
Output 3.2: IPCC Good Practice applied to extent needed	310,000	141,615	0	50,000	501,615
Immediate objective 4: Improved methodologies and emission factors					
Output 4.1: Increased reliability of emission factors	58,000	47,205	0	0	105,205
Output 4.2: Improved and/or new emission factors for key sources	176,000	94,410	0	0	270,410
Output 4.3: Methods to estimate emissions improved/developed using national/regional approaches	310,000	141,615	0	0	451,615
Total	1,925,000	944,100	0	50000	2,919,100

L. DRAFT WORKPLAN

Activity	Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12
Hire CTA and project assistant												
Develop regional workplan												
Hire national experts												
Develop national workplan												
Draft terms of reference for consultants												
Immediate objective 1: Strengthened national arrangements for compiling, archiving, updating, and managing greenhouse gas inventories												
Output 1.1: (Existing) data collection improved												
1.1.1 Identify existing data gaps and possible sources of data												
1.1.2 Collect existing data from international and regional projects												
1.1.3 Collect existing data from prior/ongoing national sources												
1.1.4 Identify barriers to obtaining existing data												
1.1.5 Compile country solutions to overcoming barriers												
1.1.6 Utilise practices (country solutions) to overcoming barriers												
Output 1.2: Activity data gaps reduced												
1.2.1 Identify non-existing data that is required												
1.2.2 Compile [or develop] practices/methods (country solutions) for overcoming data gaps												
1.2.3 Identify ways to overcome data gaps												
Output 1.3: Inventory system documented and described												
1.3.1. Archive relevant national data												
1.3.2. Document the selection process												
1.3.3. Document method and assumptions used												
1.3.4. Validate conversion of units and other data												
Output 1.4: Regional information exchange network established												
1.4.1 Establish regional website												
1.4.2 Identify legislation/compliance measures for data collection												
1.4.3 Disseminate experience on reducing barriers												
1.4.4 Peer review mechanism												
Immediate objective 2: Sustainable inventory team created												
Output 2.1: Sustainable inventory team created												
2.1.1 Develop long-term in country programs												
2.1.2 Create database of national inventory experts												
2.1.3 Awareness-raising of policy-makers and stakeholders												
2.1.4 Identify linkages to Annex I countries												
2.1.5 Identify appropriate financing for end-of-project												
Immediate objective 3: Enhanced technical capacity for preparing national inventories												
Output 3.1: Number of qualified national inventory experts increased												
3.1.1 Train (of trainers) in IPCC GPG												
3.1.2 Distribute supporting materials/education kits												
3.1.3 Develop CD-Rom/internet interactive training module												
Output 3.2: IPCC Good Practice applied to extent needed												
3.2.3 Identify appropriate methods source by source												
3.2.4 Identify where recalculations needed and plan strategy												
3.2.5 Prepare QA/QC plan												
Immediate objective 4: Improved methodologies and emission factors (EFs)												
Output 4.1: Increased reliability of EFs												
4.1.1 Document the selection process of EFs												
4.1.2 Document method and assumptions												
Output 4.2: Improved and/or new EFs for key sources												
4.2.1 Compile local EFs within region												
4.2.2 Disseminate local EFs												
4.2.3 Compile EFs for older technologies												
4.2.4 Prioritise EFs for improvement												
4.2.5 Improve links to international EF databases												
4.2.6 Develop 2-3 EFs using "standard" methodologies												
Output 4.3: Methods to estimate emissions improved/developed using national/regional approaches												
4.3.1 Compile local methods within region												
4.3.2 Disseminate local methods within region and externally												
4.3.3 Assess disseminated methodologies at the national level												
X = workshop												

M. STAP REVIEW AND RESPONSE TO STAP REVIEW

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The project aims at building capacity for improving GHG inventories using good practice guidance of IPCC. This project is born out of genuine need of majority of non-Annex-I countries. Groups of developing countries have been urging for support for such cost-effective regional approaches for improving the quality of activity data and emission factors.

I strongly recommend GEF support to the proposed project from Europe/CIS region. The proposal has emerged from a good consultation process in the region and will contribute to global efforts to improve the quality of GHG inventories in non-Annex-I countries. It is highly replicable in other regions of the developing world as it is a cost-effective approach and it is technically sound (as based on GPG). If this project is approved quickly, there will be similar requests from other regions for capacity building, to utilize the GPG prepared by IPCC. Thus, GPG will become a useful tool to improve the GHG inventories. The following outputs projected clearly justify the project namely;

- creation of sustainable inventory teams,
- development of national inventory strategy,
- improved emission factors and activity data,
- trained technical teams and technical peer review process, and
- sustained improvement in quality of GHG inventory.

I have a few minor suggestions to improve the effectiveness of the proposed project. Some suggestions may involve changes in the expression (or language) or adding a few activities or marginally altering the process suggested. All these suggestions could be possibly incorporated without much effort.

1. **Sustainable Inventory Institution;** rather than a "team". Teams or individual members of the teams may sometimes change, but if institutions are identified for each sector such as LUCF, energy industry, agriculture etc., sustaining the process may become easier. Teams could be selected from such identified institutions. Building on existing infrastructure and technical capacity of these is already included in the activities. Thus, only a slight change in the focus is suggested.

While the GEF project should not directly fund permanent institutions, the idea of targeting institutions to strengthen them has been acknowledged on pg. 8, para 28. The point has been added as both a stakeholder function on pg 9, para 3 and a sustainability function on pg 15, para 50.

2. **Technical Peer Review;** as an 'in-country' process will be a winner. External review or verification is a sensitive issue for many non-Annex-I country governments, as they think that only Annex-I country inventories or National Communications can be reviewed. To be safe, I suggest that technical review is restricted to be an 'in-country' process, but the inventories could be presented at regional workshops, where regional and even external experts could comment or suggest improvements, if necessary.

During the Project Development Workshop in Bratislava, those countries that had received technical reviews of inventories through the National Communications Support Programme endorsed the process. This process was then proposed as one way of obtaining an external review or validation. However, the peer review mechanism remains to be fully developed. The STAP comments have been incorporated into the project brief on pg 9, para 34, and under Output 1.4, p. 12. Additionally, the reference in Activity 1.4.4 to the UNFCCC review process has been eliminated.

3. **Utility of Improved Activity Data or Data:** I have always argued that data or activity data or even some emission factors needed for quality GHG inventory are also needed for several national conservation and development programmes. For example, improved activity data on forest conversion and deforestation rates, biomass growth rates, milk yields, efficiency of many energy conversion processes etc., are needed for other national programmes as well. Thus, I suggest adding the following under justification and / or projecting-end-outputs.
 - to demonstrate the multiple benefits to the country from improved data or activity data, and
 - investment in infrastructure or technical capacity building will benefit the country beyond the GHG inventories

This important point has been added into the project justification on pg 8, para 26. It has also been noted within the awareness-raising strategy outlined in Immediate Objective 2, pg 12-13, and on p 15, para 48.

4. **Output 1.1 and 1.2:** Add on activity specifically aimed at "validation" and "quality check" for the existing data compiled as well as new data collected.

Activity 1.3.5 "validate conversion of units and validate data compiled" has been moved to page 11 under Output 1.1 (Activity 1.1.7) and Output 1.2 (Activity 1.2.4).

5. **Output 4.2 "New Emission Factors":** I suppose that Activity 4.2.1 and 4.2.2 also mean developing new emission factors; which are critical and regionally relevant. If not, a dedicated activity may be added to develop a few (three) regionally important emission factors, based on measurements and experiments.

Activities 4.2.1 and 4.2.2. refer to compiling existing local emission factors for dissemination within the region. After training in good practice and improvement of activity data, three emission factors will be identified for improvement or development which are critical and regionally relevant. However, countries agreed that any new emission factors will be developed using methods consistent with IPCC guidelines. No new methods for estimating emissions will be developed under this project due to the potentially high costs.

6. **Risk of Ensuring Sustainability of Inventory Teams:** This risk could be minimized by identifying appropriate institutions for different sectors in each country and supplementing the existing infrastructure and technical expertise at these institutions, national governments could also contribute to this activity.

This point has been added under sustainability on pg 15, para 50.

7. **Risk of Absence of Support from National Governments (suggested addition):** Attempts will be made to demonstrate that improvement in quality of data, activity data and emission factors will also be useful for the countries, beyond preparing quality GHG inventories. The investment made or capacity built will also provide quality data for the countries for other national programmes.

The awareness-raising strategy on pg 15, para 48 has been strengthened with this argument.

8. NCSP Project Development Questionnaire:

- it is a comprehensive and useful questionnaire developed by NCSP
- it is supposed to help countries to prepare PDF-B proposal on "capacity building:"
- is it necessary to include such a long questionnaire, may be O.K.

The questionnaire has been deleted, but is available upon request.

9. **The institutional arrangement given is simple, feasible and adequate**. A very intensive monitoring process is included and would be useful for other regions. Many of the activities, such as 'side events' at COP meetings at high political level, are innovative and will create awareness among policy makers of the region. In addition to the regional activities, rightly there is scope for activities based on national strategies.

Let me complement the national teams of Europe/CIS, NCSP team and UNDP for promoting this regional and cost-effective approach, which has been recommended by several GEF and UNFCCC workshops, where non-Annex-I Parties participated. I would be happy if similar regional programmes are initiated for other regions of the developing world.