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Russia and Compliance under Kyoto: An Institutional Approach

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Summary

- Russia's obligations under the Kyoto Protocol have institutional and quantitative elements. Institutional compliance is the main challenge for Russia – quantitative compliance is not expected to be a problem during the first commitment period.
- Elements of institutional compliance are domestic policies and measures, greenhouse gas (GHG) inventories, registry and reporting to the UNFCCC.
- The main shortcomings in Russia's current performance are related to GHG inventories.
- To ensure compliance Russia should:
 - Solve the data collection problems;
 - Improve cooperation and coordination between administrative units;
 - Start reporting to the UNFCCC annually and in the requested form;
 - Involve regions more.
- Full compliance should be possible and not very expensive for Russia.

Introduction

The Kyoto Protocol has a unique compliance system which is one of the most comprehensive and rigorous amongst multilateral environmental agreements. Russia is well-known for its shortcomings over greenhouse gas (GHG) inventories and reporting to the Secretariat of the United Nations Framework Convention on Climate Change (UNFCCC). But contrary to what some observers have argued, it seems that compliance under Kyoto would be possible and affordable for Russia.

Compliance under Kyoto has two main elements: quantitative and institutional. In this paper *quantitative compliance* refers to meeting emission limitation or reduction commitments. *Institutional compliance* covers all the other elements of compliance required by the Protocol, i.e. establishing a national system of emissions monitoring and reporting.

Rationale for Russian compliance

Total Russian GHG emissions have fallen dramatically since the base year 1990, from 3050 million tonnes of carbon dioxide equivalent (Mt CO₂e) to 1880 Mt CO₂e in 1999: a reduction of over 30%.¹ Official Russian scenarios indicate that emissions will not exceed the 1990 level before the end of the first commitment period in 2012.² It is unlikely therefore that Russia will experience any difficulties in achieving *quantitative compliance*, which tends to be the main concern in most countries. Consequently, *institutional compliance* is the main focus of the discussion on Russian domestic implementation.

Only full compliance will allow Russia to administer its Joint Implementation (JI) projects without external interference and to participate in International Emissions Trading (IET). Consequently, achieving full compliance should be an important priority for Russia.

Elements of institutional compliance

In order to be a Party to the Kyoto Protocol, a country has first to ratify the Protocol. This is a pre-requirement for participation in the Kyoto mechanisms, which is most likely to be the main interest of the Russian Federation. The recent Russian ratification establishes the basis for the need to achieve compliance under Kyoto.

The main elements of institutional compliance under Kyoto are that a Party must have:

- (1) implemented domestic policies and measures (PAMs);
- (2) implemented annual GHG inventories according to the IPCC guidelines;
- (3) established a registry to keep on track of domestic emissions and implementation of the Kyoto mechanisms in contrast to the commitments under Kyoto; and
- (4) reported all this to the UNFCCC Secretariat.

¹ Third National Communication of Russia 2002.

² Ibid. including 'The Energy Strategy of Russia'.

GHG inventories in Russia

Russian GHG inventories have been implemented and published in National Communications (NCs), as required by the Convention, and are available for the years 1990-99. Inventories have not been submitted since are consequently behind schedule. Inventories tend, however, to lag by some two years, so by late 2004 the Russian reporting gap is about three years.

Data for Russian inventories have been acquired mainly from federal-level statistics which are too aggregated to comply with the IPCC guidelines. NCs have improved over time; the Third NC in particular demonstrates progress. More gases have been added over the years and emission source categories clarified. However, no emitting factors or uncertainty estimates have been provided so far. The Common Reporting Format (CRF) has not been used, nor have National Inventory Reports³ (NIR) been submitted.⁴

Some private companies have implemented their GHG inventories outside government activities. The best reported case is the electricity giant RAO UES Rossii, which continues to implement annual inventories.⁵ Gazprom has implemented a GHG inventory but it has not yet been published. Other companies too have implemented GHG inventories, for instance the Solombala and Arkhangelsk pulp and paper mills⁶ and the aluminium giant RusAl. Most big companies have the relevant data available because of the requirement to report this information to the regional and federal statistics offices, but it is not public.

The Russian administration operates on two levels: federal and regional. Some regions have implemented GHG inventories.⁷ But so far, the federal level has dominated in the overall national climate policy, including officially reported GHG inventories. However, the regional level is extremely important from the point of view of GHG inventories: the detailed data required by the IPCC methodologies may not be available in the federal-level statistics but the data published by regional statistics offices can often fulfil the requirements of the 1996 Revised IPCC Guidelines.⁸

Russian experts argue that it would be possible to implement GHG inventories that are consistent with the IPCC Guidelines. The national information system on GHG inventories was improved in 2001 and currently includes activity data for different sectors of the national economy. Also a nationally adjusted version of IPCC software has been developed which should make it possible to produce inventories according to the 1996 Revised IPCC Guidelines and using the UNFCCC CRF. In addition, there have been further studies of country-specific emission factors in the agriculture and forestry sectors.⁹ Regional activities support this argument: the Arkhangelsk regional inventory has been implemented

³ NIR aim at explaining the national approaches to the IPCC guidelines and to describe the national inventory process and practices.

⁴ UNFCCC Secretariat, www.unfccc.de.

⁵ Zelinsky, Anatoli (2003), 'Emissions Trading System in RAO UES Reform' Presentation in Milan, 8 December 2003. Available at http://www.ieta.org/About_IETA/IETA_Activities/COP9/Dec8/IETA_COP9_Dec8_RAO.ppt#2.

⁶ Reported by the Arkhangelsk regional administration in Environmental Investment Center (2002), p. 8.

⁷ See Table 1.

⁸ Leneva, Marina (2002), *Possible Approaches and Next Steps for the Development of a National Inventory System in the Russian Federation*, Centre for Environmental Economic Research and Information (CEERI), p. 21.

⁹ *Ibid.*, pp. 20–21.

following the IPCC Guidelines.¹⁰ The experience of the regions indicates that source categories become much more accurate when regional-level data are used.

Quality and availability of Russian GHG inventory data

Energy production and consumption are quite well recorded in Russia and therefore it is fairly easy to estimate emissions from the energy sector. This is extremely important from the point of view of compliance since the energy sector is the dominant emitter of GHGs. However, data on energy use for transport, and municipal and residential fuel consumption have been assessed as low-quality.¹¹ In addition, there are no data available of the quantity of associated gas flared by oil producers or on how much coal-mine methane is emitted to the atmosphere. These omissions may cause problems with GHG inventories.

The **activity data for industrial processes** are in general quite well monitored and available at the federal level. However, some problems with identification of the types of industrial processes may occur. In addition, data on the emissions of some of the GHG categories defined by the Kyoto Protocol - HFC, PFC and SF₆¹² - are not available.¹³

The quality of regional **forestry inventories** varies and the forestry statistics data are not consistent with the IPCC requirements. The division of responsibilities between the federal and regional levels should be clarified.¹⁴ Russia could fulfil the requirements of Article 3.3,¹⁵ but the additional sinks under Article 3.4¹⁶ would most probably cause problems.

There are no federal statistics on the **waste sector**. But the number of landfills is manageable at the regional level and it would therefore be possible to collect the necessary data. Consequently, achieving compliance on waste emissions requires data collection and analysis. The role of the regions is crucial in this sector.

Relevant data from **agriculture** are not being collected. The structure of Russian agriculture has changed dramatically since the collapse of the Soviet Union when workers became free to leave state farms. Moreover animal ownership, which used to be centralized, has now been privatized and no statistics are available. But agriculture is not a big problem in the Russian inventories because it is a small category in terms of emissions — altogether about 4% of the total.¹⁷

¹⁰ Environmental Investment Center (2002), *Energy Sector Development and Climate Change Mitigation in Arkhangelsk Oblast*. GHG Inventory and Registry Bureau, p. 25.

¹¹ Leneva (2002), p. 38.

¹² Hydrofluorocarbons, perfluorocarbons and sulphur hexafluoride.

¹³ Leneva 2002, pp. 26, 38.

¹⁴ Arkhipov, V. and Lyubimov, A. (2003), 'Forest Inventory Reform in Russia' in Niskanen, A., Filiushkina, G. and Saramäki, K. (eds.) *Economic Accessibility of Forestry Resources in North-West Russia*, EFI Proceedings No. 48, pp. 22–23.

¹⁵ Land use change and forestry activities creating carbon sinks.

¹⁶ Land use activities creating carbon sinks.

¹⁷ Third NC, p. 10.

Non-compliance related to GHG inventory failure

The UNFCCC has introduced rules which regulate how compliance of GHG inventories is evaluated. According to the UNFCCC Secretariat,¹⁸ the following reporting failures cause non-compliance:

- Complete annual inventory (both Common Reporting Format and National Inventory Report) is not submitted within 6 weeks of due date;
- A large key source that accounts for 7% or more of annual emissions is missing;
- Total adjustments in any year are greater than 7% of submitted inventory;
- Sum of the total adjustments for any years of the commitment period exceeds 20% of submitted emissions; or
- A key source that accounts for 2% or more of emissions is adjusted in three consecutive years.

Even though there are obvious gaps in the Russian inventory data it should be possible to collect most of the missing data. The first potential failure on the list can be avoided by reporting inventories on time. The second rule leaves headroom for a problem area smaller than 7% of the total annual emissions – if associated gas flaring counts here it could potentially cause a problem. The third point may be dangerous to Russia unless the data collection system is reformed prior to the first report under the Protocol; currently it could be argued that the accuracy of the Russian inventory fails by 7% of the total. The reform of the data collection system would also solve any potential problems with the last two points on the list, concerning adjustments.

GHG inventories in Russian regions

Table 1 lists the Russian regions that have implemented or are planning to implement GHG inventories. If the listed regions finished and maintained their GHG inventories, about one-eighth of the regions would be covered. The volume of industrial production and the population of the Russian total have been used here as an example to demonstrate the importance of current regional efforts. But as Table 1 shows, only some of the regions are updating their inventories (ongoing activities), and quite a few of them finished their activities some years ago. The planned inventories reported by Leneva¹⁹ in Saratov, Kemerovo, Karelia and Moscow oblast have not been implemented so far and have not been included in the table. This may be due to the lack of clarity on the Russian ratification of the Kyoto Protocol that prevailed until recently: investing in regional inventories was less attractive because before ratification there were no guarantees that any Kyoto projects could be approved. In addition, the role of regions in implementing Kyoto remains unclear. However, there are some regions where new inventories are being initiated by the Ministry of Natural Resources, and since Russian ratification the Archangelsk region, at least, has taken further steps towards readiness to implement the Kyoto Protocol.

¹⁸ Presentation by the UNFCCC Secretariat in Moscow, 26 May 2004 in the first workshop on implementation of Article 6., Session 4: Meeting eligibility requirements. Available at <http://unfccc.int/sessions/workshop/260504/agenda.html>.

¹⁹ Leneva (2002); pp. 21–22.

Table 1: Status and importance of regional GHG inventories in Russia.

Regions	Start of inventory	GHG inventory implemented	Status of inventory activities	% of total Russian population (2001)	% of total Russian industrial volume (2001)
<i>Novgorod</i>	1999	1990 - 2001	Ongoing	0.49	0.41
<i>Sakhalin</i>	2000	1990 - 1999	Finished	0.41	0.56
<i>Chelyabinsk</i>	2000	1990 - 1999	Finished	2.52	2.90
<i>Khakassia</i>	2000	1990 - 1999	Finished	0.40	0.25
<i>Archangelsk</i>	2000	1990 - 2002	Ongoing	0.99	0.74
<i>Nizhny Novgorod</i>	2001	1990 - 2001	Finished	2.50	2.14
<i>Sverdlovsk</i>	2001	1990 - 2001	Ongoing	3.16	3.57
<i>Leningrad</i>			Planned	1.15	1.26
<i>Vologda</i>			Planned	0.90	1.50
TOTAL				12.52	13.33

Sources; Leneva (2002), pp. 21–22; Rossiiskii Statistitseskii Jezhegodnik 2002, p. 82–83; Promishlennost Rossii 2002, pp. 49–51.

On the basis of a major research and demonstration programme in 1999–2002, Russian experts argue that it is feasible for regional experts to implement a full regional inventory once they have gained a clear understanding of the IPCC guidelines, understanding of and access to the regional statistics, access to guidance on transforming the regional data to the IPCC format, and federal-level ‘hot line’ assistance.²⁰ Consequently, regional inventory activities could provide a major contribution to the Russian national GHG inventory.

Other elements of institutional compliance

Policies and measures. Some policies and measures (PAMs) have been introduced and reported as a domestic GHG reduction strategy in the National Communications. Even though problems have been experienced with implementation of these PAMs,²¹ this is unlikely to influence Russian compliance. Owing to the collapse of economic activities, and therefore also GHG emissions, as a result of the economic recessions, domestic emission reduction activities are not crucial to Russia during the first commitment period. Consequently, PAMs can for now be regarded as a reporting formality from the Russian point of view.

A **Registry** is a national log of emission balances and transfers of emitting rights between countries. To date no registry has been established in Russia; however, Russian experts argue that it would be quite an easy task. Such a national log would enable Russia to make international transactions at the state level. The registry can be operated at the federal level only if no national emissions trading will be established. Even though no plans to establish a registry exist so far, its establishment is unlikely to cause problems from the point of view of Kyoto compliance.

²⁰ Gritsevich, I; Kolesov, A; and Kokorin, A. (2002), ‘Multi-regional project to develop monitoring and reporting capacity for multiple greenhouse gases in Russia’ (2001), in *Energy Efficiency*, No. 34, Jan–Mar, p. 7.

²¹ The Expert Review of the Second Russian National Communication, FCCC/IDR.2/RUS.

National reporting, i.e. drafting National Communications and reporting annual GHG inventories, is the responsibility of the Federal Service of Russia for Hydrometeorology and Environmental Monitoring (Roshydromet) together with the Institute of Global Climate and Ecology. NCs submitted so far fulfil the requirements of the Convention; however, they are inadequate for compliance with Kyoto. Roshydromet drafts the sectoral chapters for the National Communications and then collects comments from the relevant sectoral ministries. The information would be more accurate if the sectoral ministries drafted the sectoral chapters and Roshydromet only coordinated the exercise. It is clear that no agency can cover all the ground required by a NC; consequently, better coordination would improve the quality of national reporting. Reporting itself is unlikely to be a problem as long as the quality of GHG inventories will be improved.

Problems and solutions

The GHG inventories, which are the basis of institutional compliance under Kyoto, are the main problem for Russia. Without a good-quality GHG inventory it is impossible to comply with the rest of the requirements of institutional compliance. The federal-level data which have been used so far are too aggregated; hence the involvement of regions and the application of the available regional data are crucial. Some additional data collection will be required as well.

The Russian GHG inventory methodologies are inconsistent with the IPCC Guidelines. This problem could probably be solved at the same time as reform of data collection, and by providing domestic experts with the necessary resources and training to apply this methodology.

The main gaps in inventory data are as follows:

- Forestry inventories not consistent with IPCC requirements, quality varies between regions;
- Data for gas flaring and coal-mine methane not available;
- Data for waste sector not available;
- Data for agriculture not available;
- Some problems with industrial activity data;
- Lack of data for transport, municipal and residential fuel consumption.

Some of these problems could be solved by the methodological reform mentioned above. The rest could be corrected by simply collecting additional data or using another better data set, which is already available and previously used, such as regional data. Involvement of the regions in the additional data collection is crucial in order to ensure the contribution of local knowledge to the quality of the data. There will be some gaps left in the data but they could probably be covered by the UNFCCC compliance failure rules discussed above.

The data have not been submitted in the required format or in the requested timeframe, i.e. annually. Currently, reporting of Russian GHG inventories is some three years behind schedule. Both of these problems sound more like coordination

or organizational, rather than technical problems; it should be possible to solve them once a good-quality inventory is in place.

A national registry needs to be established; however, this should be a fairly simple task just in order to secure compliance. If the registry were to be used for more complicated tasks such as domestic emissions trading, much more work would be required.

Element of compliance	Current status in Russia	
<i>Emissions</i>	Russia well below target	++
<i>Policies and measures</i>	enough to show activity	+
<i>Registry</i>	a simple registry is easy, quick and cheap to establish	-
<i>Reporting</i>	easy to improve if better inventories and more cooperation between administrative units	-
<i>Inventories</i>	Data missing, quality not consistent with IPCC requirements.	--

Status of Russian compliance:

- ++ will not cause problems;
- + will not cause serious problems;
- will cause problems but easy to solve;
- will cause problems, difficult to solve.

Affordability of institutional compliance

Currently GHG inventory calculations are based on federal statistics and no data are being collected at the regional level especially for the national inventory. Russian experts have suggested that regional-level inventories would deliver more useful data, and could close the current gaps. However, since there are 88 regions in Russia and the interest in climate change issues varies from region to region, giving the task of implementing the whole inventory solely to the regions would lead to duplication of effort. Therefore, at least some coordination is required, and the outcome would probably be most efficient if the regions were involved only in the data collection and analysis tasks that cannot be completed at the federal level.

The registry, a simple electronic log to coordinate international transfers, needs to be either developed domestically or bought/acquired other way from another country. Russian IT experts could develop a simple 3-4 account registry, or a simple registry system could be purchased. Improving the quality of reporting could also be quite cheap. Involving the sectoral federal bodies by allocating them time to draft the relevant chapters instead of allocating all the money to the coordinating agency could improve the outcome significantly.

It is obvious that the relevant expertise to establish a domestic compliance system is available in Russia. Therefore, relying on domestic civil servants and experts could deliver affordable institutional compliance. Using external (especially foreign) consultants instead of Russian civil servants would cost more.

Conclusions

The main conclusion of this study is that it is possible and feasible for Russia to achieve full compliance under Kyoto. This is in Russia's interest; full compliance is required for participating in the Kyoto mechanisms to avoid external interference.

Achieving full compliance would, however, require some extra work and attention by the federal administration. So far, the lack of coordination and cooperation between federal agencies has undermined Russian inventories and reporting to the UNFCCC. These problems should be easy to solve if there is a real political will to do so. That is more likely now that Russia has ratified the Protocol. The more difficult problems occur with the missing data required for a GHG inventory that delivers compliance. It should be possible to collect adequate data; however, the involvement of regional actors is crucial in order to collect good-quality data.

There are many well-trained Russian experts who are able to create an institutional system which delivers full compliance under Kyoto. The price of Russian compliance seems proportionate to the benefits and if the task is given to domestic experts their experience can be used in the future. It would be unlikely that foreign experts or consultants could generate a compliance system of better quality than the domestic experts. In any case, this would be a much more expensive option.

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