

*Materials of Conferences***THE CARBON MARKET FORMATION  
PERSPECTIVES IN FOREST  
CLUSTERS OF THE RUSSIAN  
AND THE KOMI REPUBLICS**

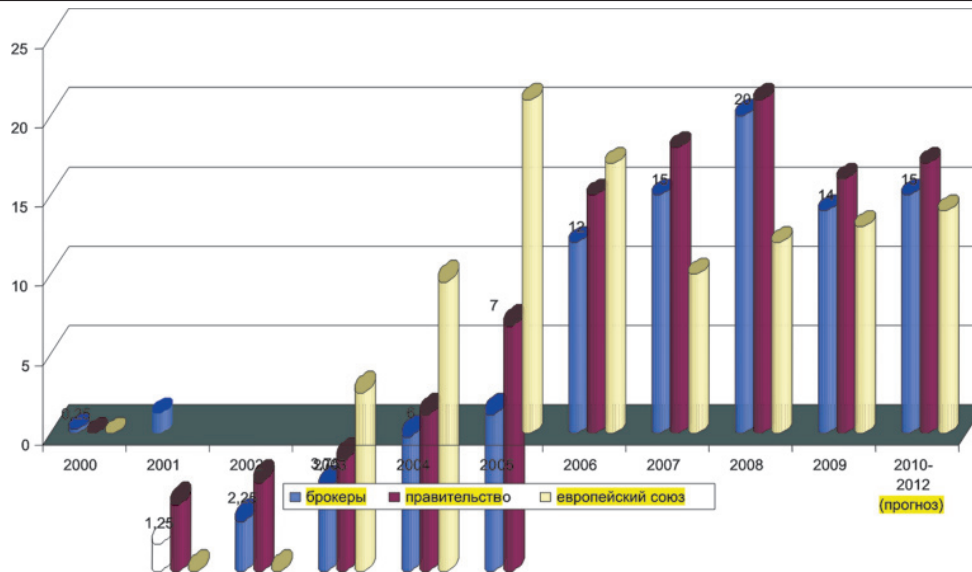
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Economical development is impossible without new market tools and instrument formation. The fact approved by both scientists and politicians, as well as the President of the Russian Federation, D.A. Medvedev. The carbon market development might become one of those perspective trends of RF development, which can create additional opportunities and improve its status on the international arena. Reducing the greenhouse gases emission corresponds to the long-term development of the Russian economics and current tendencies of the leading countries development, particularly, the country should carry out the given obligations. The carbon market is developing rapidly, many new countries and economical sectors are involved and it becomes one of the main leading powers of the technical progress and economic growth, in Russia this sphere is in development stage. Russia can make obligations to limit 80% greenhouse gases emission until 2020, comparing to the basic year 1990. Today, there are 4 market mechanisms in the international carbon market: selling waste quotas; forest quotas sale; joint implementation projects; clean development mechanism. In the frame of the each mechanism there are special carbon market units: units of the fixed quantity; absorption units; reduction waste units; certified waste reduction. Each of the above – mentioned units has its own cost on the carbon market. Evaluating the cost dynamics (e.g. on the European market), for example, reduction units, one can see that the prices are different, and they are changing. The max was 21 euro per unit in 2005 (Appendix 1, diagram 1). This unstable situation is caused by the fact that legislative data base is still adapted, the criteria are also debatable. In general, we can suppose that in 2010-2012 – es, the price for that type unit is approximately 14-17 Euros per unit on the European market. There is the different situation on the North American market, where the price is less (about 1 dollar per 1 ton carbon), however, by 2050 (according to the Canadian colleagues information) the price might be increased by 250 dollars per ton. There are obvious reasons for the price difference: high demand in Europe, public activity and interest, legislative

base and historical factor, the first steps were made in Europe. But the most active is the Asian market. Evaluating the international carbon market, we can come to the conclusion- the formation process has not been completed yet. Russia might be become one of the biggest carbon units' sellers at both European and Asian markets (if we take into accounts, its geopolitical and economic positions). Having known the peculiarities and forest sector problems, we should notify: the most efficient product on the carbon market might become the joint implementation project. However, we should remember that forests in Russia are being owned by the State, that's why, the beneficiary and the mechanism of the carbon credit units should be defined. Forest projects are, in most cases, the long – term projects.

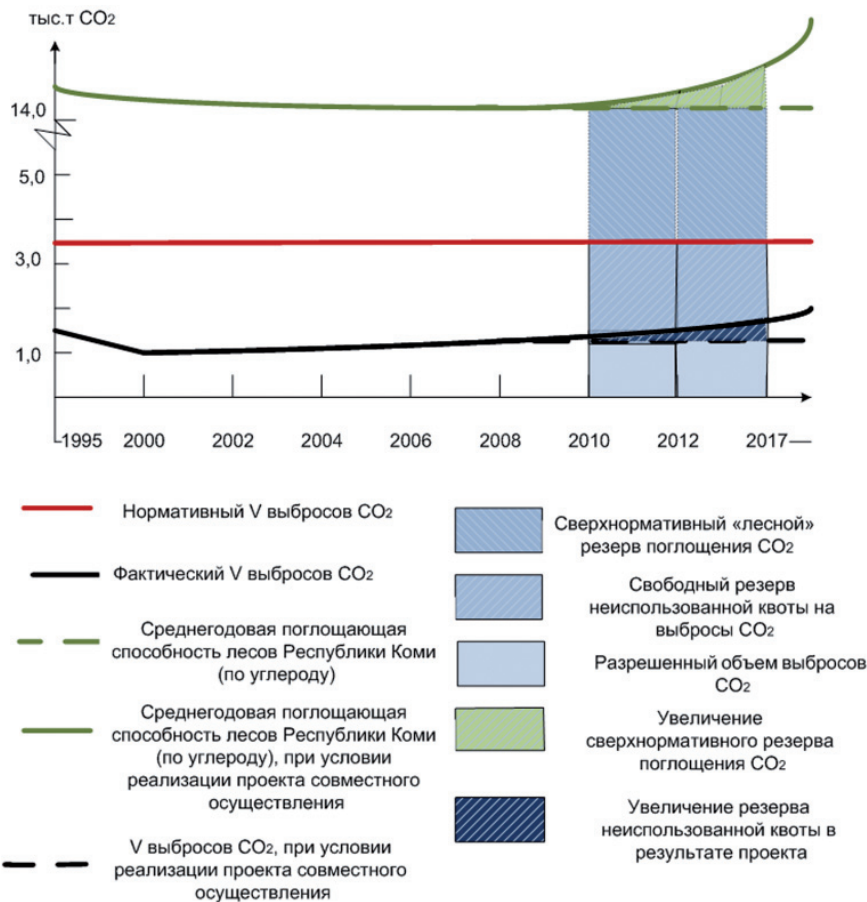
The Komi Republic can function on the international carbon market, as a federal constituent entity, under the condition that Russia is involved in the carbon market. Our region has a big volume stock. The total forest area in the Komi Republic is 38.9 mln. ha., where forest covered area – 30 mln. ha., and it makes 3,5% of All-Russian forests and about 50% of forests of the European North (e.g. boreal forests). Estimating the forest potential, we can be sure, that taking part in the carbon market can have only positive effect (e.g. the Appendix 2, picture 1). Analyzing the absorbing ability of the Komi Republic forests (e.g. 3,600 tons a year), if the current price is \$ 15 per ton, the profit is \$ 54 000 a year. While implementing joint projects, where cost of the unit is \$ 10 a year, the profit for the Komi republic might be \$ 29, 500 a year. If we have the clean development mechanism (unit cost \$ 17 a year), the profit is \$ 50, 150. (e.g. the Appendix 3, tables 1-2). But we should take into account, that not all forest resources of the Komi Republic might be included in the carbon market, because of the conditions, criteria of the carbon market. The mechanism of entering the market is not clear yet (e.g. carbonic deal participants; roles of the participants of carbonic deal; connections among participants).

To make the conclusion, it's necessary to say, that our country, the Komi Republic, is ready to become a participant of the carbon market: we have the resources, we can plan production setups of this resource to the market. But lack of initiative and administrative mechanisms prevent Russia from taking part in the market. Though the Russian Federation could have extra profit, to decrease waste amount and to improve techniques and equipment, by means of attracting the foreign investors in forest industry. There's the need of the efficient legislation, which doesn't exist today.



**Appendix 1:** Diagram 1. Dynamics of the price development for reduction units in 2000-2012 –es (e.g. the European carbon market):

- 1 – брокеры – the brokers;
- 2 – the Government;
- 3 – the European Union;
- 4 – the forecast



**Appendix 2:** Picture. 1. Carbon project potential of the Komi Republic forestry cluster

## Appendix 3:

Table 3

The Supply and Annual Consignation of the Carbon Distribution on the Forest Covered Area in the Komi Republic [2]

The Forest Covered Area	Units	Including by the Reserve Carbon (PC) Gradations, t./ha				Including by the Annual Storage Carbon (ZC) Gradations, t./ha.			
		3-39	40-47	48-55	56-110	0,4-3	3,1-3,5	3,6-4	4,1-6
29,229	th. ha.	22,602	3,891	1,036	1,699	2,277	26,951	-	-
100	%	77	13	4	6	92	8	-	-

Table 2

The Cruising Characteristics and Carbon Sequestration by the Forest Phytomass in the Komi Republic. The Carbonic Deal Participants and Their Roles.

The Pedigree Structure	The Mean Age	The Forest Covered Area, t./ha.	The Total Reserve (t/m <sup>3</sup> )	The Average Reserve, m <sup>3</sup> /ra	The Reserve Carbon in the Phytomass			The Annual Storage Carbon in the Phytomass			Relation (ZC/ PC), %
					Total (PC), th.t.	t./ha.		Total (ZC), th.t.	t./ha.		
						1 ha.	On total S		1 ha.	On com-mon S	
6E2C1B1Oc	140	29229	2855807	98	102957	35,2	27,4	50389	1,72	1,34	4,9

## References:

1. [http://www.natcarbon.ru/ru/analytical/carbon\\_market.ppt](http://www.natcarbon.ru/ru/analytical/carbon_market.ppt)
2. <http://www.natcarbon.ru/ru/analytical/concept/>
3. Alexander Ilinsky, Alexey Cherepovitzyn, "Conceptual Approaches to Kyoto Protocol Market Mechanism Implementation".//Proceedings of the the Nordic Minisymposium on Carbon Dioxide Capture and Storage, Finland, Espoo, September 8–9, 2005.