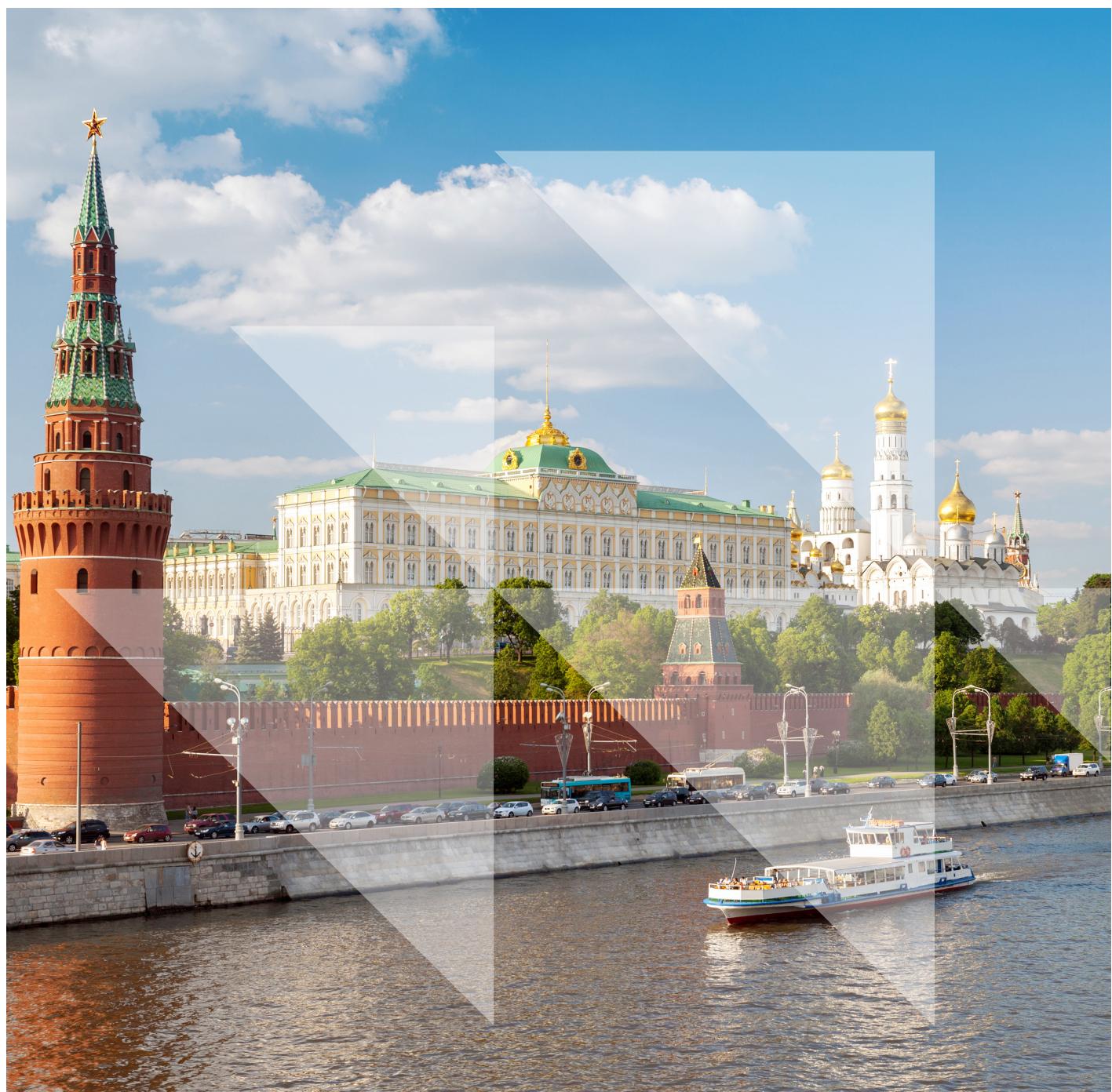


# CDP Russia Climate Change Report 2014

## On behalf of 767 investors with assets of US\$92 trillion

November 2014



CDP Turkey and Russia Partner

CDP Russia Local Support Partner

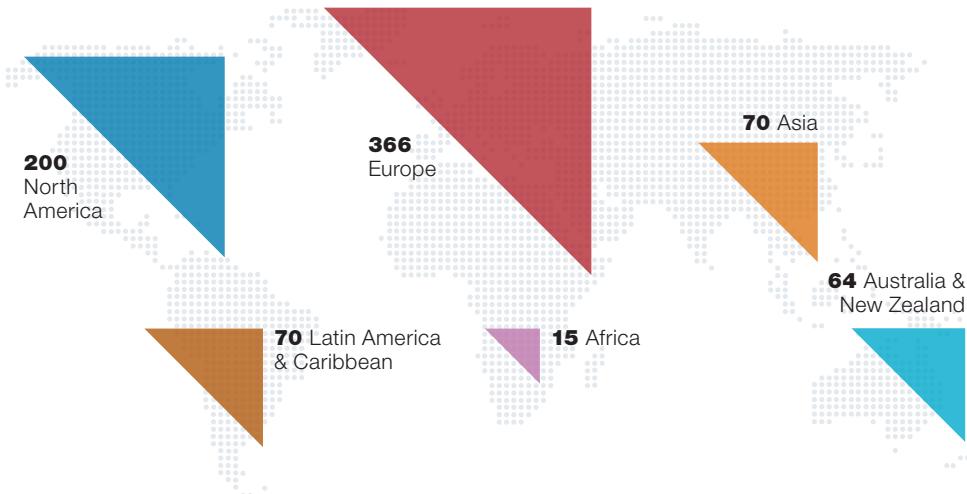
CDP Russia Scoring Partner

## Investor members

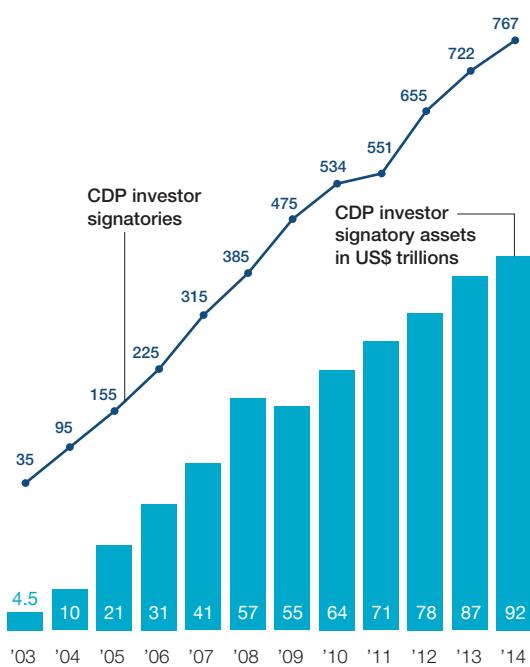


**CDP works with investors globally to advance the investment** opportunities and reduce the risks posed by climate change by asking over 5,000 of the world's largest companies to report their climate strategies, GHG emissions and energy use through CDP's standardized format. To learn more about CDP's member offering and becoming a member, please contact us or visit [www.cdp.net/en-US/WhatWeDo/](http://www.cdp.net/en-US/WhatWeDo/).

### Where are the signatory investors located?\*



### CDP investor base continues to grow\*



### Investors by type

312	Asset managers
256	Asset owners
152	Banks
38	Insurance
27	Other

### CDP investor members 2014

ABRAPP – Associação Brasileira das Entidades Fechadas de Previdência Complementar
AEGON N.V.
ATP Group
Aviva plc
Aviva Investors
Bank of America Merrill Lynch
Bendigo & Adelaide Bank Limited
BlackRock
Boston Common Asset Management, LLC
BP Investment Management Limited
California Public Employees' Retirement System
California State Teachers' Retirement System
Calvert Investment Management, Inc.
Capricorn Investment Group, LLC
Catholic Super
CCLA Investment Management Ltd
ClearBridge Investments
DEXUS Property Group
Fachef
Fapes
Fundação Itaú Unibanco
Generation Investment Management
Goldman Sachs Group Inc.
Henderson Global Investors
HSBC Holdings plc
Infraprev
KLP
Legg Mason Global Asset Management
London Pensions Fund Authority
Mobimo Holding AG
Mongerol Aegon Seguros e Previdência S/A
Morgan Stanley
National Australia Bank Limited
Neuberger Berman
Nordea Investment Management
Norges Bank Investment Management
NEI Investments
Petros
PFA Pension
Previ
Real Grandeza
Robeco
RobecoSAM AG
Rockefeller Asset Management, Sustainability & Impact Investing Group
Royal Bank of Canada
Royal Bank of Scotland Group
Sampension KP Livsforsikring A/S
Schroders
Scottish Widows Investment Partnership
SEB AB
Serpros
Sistel
Sompo Japan Nipponkoa Holdings, Inc
Standard Chartered
TD Asset Management
The Wellcome Trust

\* There were 767 investor signatories on 1st February 2014 when the official CDP climate change letter was sent to companies, however some investors joined after this date and are only reflected in the 'geographical' and 'type' breakdown.

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## CEO foreword



One irrefutable fact is filtering through to companies and investors: the bottom line is at risk from environmental crisis.

**The global economy has bounced back from crisis and a cautious optimism is beginning to pervade the markets. As we embrace recovery we must remember that greenhouse gas emissions continue to rise and we face steep financial risk if we do not mitigate them.**

The unprecedented environmental challenges that we confront today—reducing greenhouse gas emissions, safeguarding water resources and preventing the destruction of forests—are also economic problems. One irrefutable fact is filtering through to companies and investors: the bottom line is at risk from environmental crisis.

The impact of climate events on economies around the world has increasingly been splashed across headlines in the last year, with the worst winter in 30 years suffered by the USA costing billions of dollars. Australia has experienced its hottest two years on record and the UK has had its wettest winter for hundreds of years costing the insurance industry over a billion pounds. Over three quarters of companies reporting to CDP this year have disclosed a physical risk from climate change. Investing in climate change-related resilience planning has become crucial for all corporations.

Investor engagement on these issues is increasing. In the US a record number of shareholder resolutions in the 2014 proxy season led 20 international corporations to commit to reduce greenhouse gas emissions or sustainably source palm oil.

As mainstream investors begin to recognize the real value at risk, we are seeing more action from some of the 767 investors who request disclosure through CDP. The Norwegian pension fund, Norges Bank, with assets worth over \$800 billion, expects companies to show strategies for climate change risk mitigation and water management, and have divested from both timber and palm oil companies that did not meet their standards.

There is growing momentum on the policy front with President Obama's announcement of new federal rules to limit greenhouse gases in the US. In the EU, some 6,000 companies will be required to disclose on specific environmental, social and governance criteria as part of their mainstream reporting to investors. In China over 20,000 companies will be required to report their greenhouse gas emissions to the government.

There is a palpable sea change in approach by companies driven by a growing recognition that there is a cost associated with the carbon they emit. Measurement, transparency and accountability drives positive change in the world of business and investment. Our experience working with over 4,500 companies shows the multitude of benefits for companies that report their environmental impacts, unveiling risks and previously unseen opportunities.

We are standing at a juncture in history. With the prospect of a global climate deal<sup>1</sup> coming from the United Nations process, governments, cities, the private sector and civil society have a great opportunity to take bold actions and build momentum in the run up to the Paris 2015 meeting. The decisions we make today can lead us to a profitable and secure future. A future that we can all be proud of.

**Paul Simpson**  
Chief Executive Officer, CDP

<sup>1</sup> <http://www.un.org/climatechange/towards-a-climate-agreement/>

## Introduction



The project was initiated and managed by Sabanci University Corporate Governance Forum, the steward of the CDP Turkey operation, with the support of the Coca Cola Foundation.

Environmental scientists have long been studying the effect of carbon emissions on the environment and the atmospheric climate. The implications of climate change for economic development and business organizations are expected to be profound. These changes are unprecedented and will transform the way we live and work. First of all climate change will affect the provision of energy and water and lead to restructuring of value chains, including supply networks. Second, organizational resilience and adaptability will be fundamentally more important than size. Third, the anticipated changes will demand different approaches to managerial behaviour and decision-making. All these underpin the concerns of long-term investors, the signatories of CDP, and their request for disclosure of climate change relevant information.

This report summarizes the outcome of our efforts to encourage Russian companies to disclose climate change information to investors and to the public through the CDP Russia 2014 project. The project was initiated and managed by Sabanci University Corporate Governance Forum, the steward of the CDP Turkey operation, with the support of the Coca Cola Foundation. The project aimed to transfer our knowledge and experience in mobilizing multiple stakeholders in Turkey to improve climate change disclosure and facilitate a discussion on how Russian companies can contribute to the global efforts in combatting climate change.

Sabanci University School of Management, who host the CDP Turkey operation, receives an increasing number of students from different countries every year, including from Russia. Our faculty tries hard to develop our students as internationally competent

individuals, with a strong sense of social responsibility. Engaging with businesses through action projects like CDP in other countries helps our faculty to be better teachers and better scholars. Our attempt to share our experience in Turkey with Russian companies will undoubtedly add to our understanding of the interplay between regulatory interventions and market pressure in shaping business behaviour.

We hope that increasingly more Russian companies will use CDP as a platform to disclose information about their climate change risks, and improve their resilience in the disclosure process. We believe the information made available through their disclosures will also help the government to design better and more effective regulations that take into consideration the capacity and the needs of Russian businesses.

We are indebted to the Coca Cola Foundation for supporting this project, to EY Russia for their analysis and scoring of Russian companies as well as hosting workshops for companies, and to Michael Yulkin, our local advisor, without whom we would not be able to see this project through.

### **Melsa Ararat, PhD**

Director, CDP Turkey  
Sabanci University School of Management



## EY Russia commentary

EY Russia is proud to be the report writing and scoring partner for the CDP Russia Climate Change Report 2014. Our support of this project is just one of the many initiatives we, globally as a firm, are undertaking in order to help our clients transform into low carbon and energy efficient businesses, integrate their financial reporting with non-financial information and thus become part of the green economy.

As a resource-rich emerging economy strongly reliant on the production and sale of non-renewable hydrocarbons, Russia has seemingly little interest in making the transition to a low-carbon model. On the other hand, energy efficiency remains a clear priority of the Government and a prerequisite for global competitiveness. That is why energy efficiency improvements and greenhouse gas emission reduction are gaining importance for Russian enterprises, helping them manage risks and improve their market standing.

In 2013-2014 EY Russia completed research on industrial low carbon technology implementation in Russia as well as in Ukraine, Kazakhstan and Belarus that we titled "The Invisible Fuel". The survey demonstrated that the majority of participating companies recognize the importance of energy efficiency and are implementing effective technical and managerial solutions. Recent decisions from the President and the Government of the Russian Federation establishing national targets and an action plan on climate change, as well as wider publicity of the Russian meteorological agency's report on the negative effects of a changing climate should underscore the importance of business action against climate change.

In supporting this report we also hope that the positive experience of Russian participants of the CDP climate change program will help disseminate information on business response to climate change. This in turn will help wider business community recognize the need for specific action to reduce greenhouse gas emissions, adapt to the changing climate, and then to shift to a low-carbon growth model on macro and microeconomic levels.

Regrettably this year many largest Russian companies did not respond to the CDP information request. There may have been numerous reasons for that, but surely a lack of recognition of leaders in climate performance and transparency only contributed to the low response rate. The publication of the CDP Russia Climate Change Report 2014 and recognition from CDP of the best disclosure amongst Russian companies should help raise awareness about the challenges and opportunities that climate change and broader sustainability objectives are generating for businesses in Russia and globally.

We see that sustainability topics and in particular climate change issues are now more often being discussed in boardrooms and management meetings and taking their place among corporate strategy objectives. We would welcome further transparency and more action against climate change by our business leaders. Among other positive changes that would lead to increased participation and improved quality of responses to investors' requests for information via CDP Climate Change program next year.

Ksenia Leschinskaya, Partner,  
Head of Cleantech and Sustainability Services in the CIS

## Russia's climate profile and key trends

### Climate change: hitting the history highs

In the Report on "Climate Features on the Territory of the Russian Federation in 2013"<sup>1</sup> issued in 2014 Roshydromet, the Russian Federal Service for Hydrometeorology and Environmental Monitoring, confirmed that climate continues to warm across the country. From 1976 to 2013 the mean annual air temperature in Russia has been growing at an average rate of 0.43 °C every 10 years – that is two times faster than the global average.

2013 was one of the hottest years on record for Russia since 1886. The mean annual temperature was 1.52 °C above normal (1961-1990 average)<sup>2</sup> and 0.45 °C above 2012 averages. The seasons in 2013 were characterized by a very warm autumn (1.99 °C above normal, the 3rd warmest since 1936) and summer (1.29 °C above normal, the 5th warmest since 1936). November 2013 was the warmest in the history of weather monitoring (5.30 °C above normal).

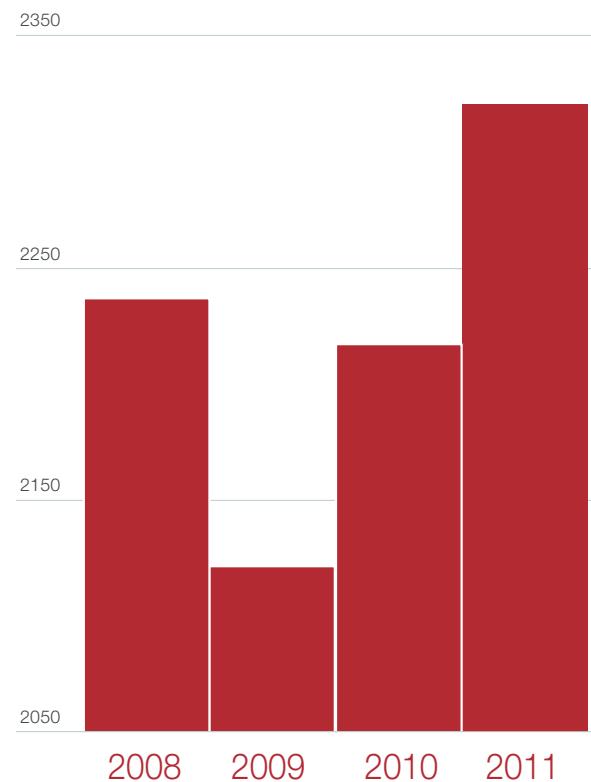
2013 was also marked by extreme precipitation which, on average, appeared to be the highest since 1936. The spring rainfall marked the highest, and the autumn rainfall – the second highest on record. In winter 2012/13 the maximum depth of snow cover across Russia was 8.9 cm above normal on average.

According to Roshydromet, the largest contribution to the temperature rise across Russia in the late 20<sup>th</sup> century to early 21<sup>st</sup> century was from changes in greenhouse gas (GHG) concentrations in the atmosphere.<sup>3</sup> The data obtained at Roshydromet's monitoring stations confirm the upward trend in carbon dioxide concentration, which has increased by 21 million<sup>4</sup>, or by 5.7%, over the last decade.

### GHG emissions: down from 1990, up from 2008

As per the requirements of the United Nations Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol, Russia conducts an annual inventory of its anthropogenic GHG emissions from sources and removals by sinks and submits the National Inventory Report (NIR) as well as the National Communication on Climate Change to the UNFCCC Secretariat. NIR is verified by the independent international experts. In 2013, NIR covering the period from 1990 through 2011 was submitted and verified.<sup>4</sup> According to the 2013 report, GHG emissions, excluding land use, land use change and forestry (LULUCF), grew in 2011 by 103.56 million metric tons CO<sub>2</sub>e marking a 4.47% increase from 2010. In 2010 GHG emissions also increased by 4.52% from 2009 levels, but that was mostly associated with the industry recovery following the drop caused by the economic crisis of 2009. Despite such growth, GHG emissions

**Figure 1** Russia's overall GHG emissions in 2008-2011 (excluding LULUCF), million metric tons CO<sub>2</sub>e



Source: 2013 Russian Federation GHG Inventory Submission to UNFCCC ([http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/7383.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php))

in 2010 remained below pre-recession levels of 2008. However, in 2011, GHG emissions were 83.41 million metric tons CO<sub>2</sub>e, or 3.73%, higher than 2008 levels.<sup>5</sup>

A more detailed breakdown of GHG emissions in 2008-2011 is provided in Table 1.

<sup>1</sup> <http://www.meteorf.ru/upload/iblock/7ce/ob-osobennostjach-klimata-RF-2013.pdf>

<sup>2</sup> Mean annual global surface temperature in 2013 was 0.50°C above normal.

<sup>3</sup> See Second Assessment Report on Climate Change and Its Consequences in the Russian Federation, 2014 – <http://voikovmgo.ru/download/2014/od/od2.pdf>

<sup>4</sup> Go to [http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/7383.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/7383.php)

<sup>5</sup> In 2014, Russia submitted new NIR (2014 NIR) covering the period 1990-2012 (available on the UNFCCC website [http://unfccc.int/national\\_reports/annex\\_i\\_ghg\\_inventories/national\\_inventories\\_submissions/items/8108.php](http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8108.php)) in which new estimates of GHG emissions over 1990-2011 period are provided alongside GHG emission estimates for 2012. According to this 2014 NIR, GHG emissions (excluding LULUCF) in Russia went up by 1.71% in 2011 and by 2.2% in 2012 compared to 2008 level. Without any prejudice to these numbers that might very well be true, it has to be noted here that GHG emissions reported in 2014 NIR appeared to be a bit higher than in the previous 2013 NIR for each and every year from 1990 through 2010 and lower than that – for the year 2011. Particularly, the new GHG estimate for 1990 base year is 11.4 million metric tons CO<sub>2</sub>e and for 2008 – 8.4 million metric tons CO<sub>2</sub>e up from 2013 NIR, while the newly reported emissions in 2011 are 35.6 million metric tons CO<sub>2</sub>e down from 2013 NIR. The reason for that is not clear. However one should bear in mind that 2014 NIR has not been verified yet. That's why further on in this report only verified data provided in 2013 NIR are considered.

The CCGS study<sup>1</sup> shows that GHG emissions growth between 2008 and 2011 was mainly caused by:

- Motor vehicles: CO<sub>2</sub> emissions from fuel combustion increased by 64.7 million metric tons CO<sub>2</sub>e;
- Oil and gas industry, including oil refining: GHG emissions grew up by 30.6 million metric tons CO<sub>2</sub>e due to:
  - methane leakages from oil and gas production, transportation and storage – 10.7 million metric tons CO<sub>2</sub>e,
  - natural gas and associated petroleum gas flaring – 10.6 million metric tons CO<sub>2</sub>e,
  - fuel combustion for oil refining – 9.2 million metric tons CO<sub>2</sub>e;
- Other industries: CO<sub>2</sub> emissions from fuel combustion grew by 10.2 million metric tons CO<sub>2</sub>e;
- Housing and public utilities: CO<sub>2</sub> emissions from fuel combustion grew by 7.8 million metric tons CO<sub>2</sub>e;
- Waste management: methane emissions grew by 6.5 million metric tons CO<sub>2</sub>e.

Over the same period, the largest reductions in GHG emissions were due to:

- Coal industry: GHG emissions reduced by 12.2 million metric tons CO<sub>2</sub>e;
- Agriculture, fishing industry and forestry: overall GHG emission reduced by 9.6 million metric tons CO<sub>2</sub>e;
- Chemical industry: GHG emissions from industrial processes reduced by 7.4 million metric tons CO<sub>2</sub>e;
- Iron and steel industry: CO<sub>2</sub> emissions from fuel combustion reduced by 5.8 million metric tons CO<sub>2</sub>e;
- Transport (other than motor vehicles): CO<sub>2</sub> emissions from fuel combustion reduced by 5.6 million metric tons CO<sub>2</sub>e.

In 2011, Russia's GHG emissions stood 30.8% below their base year (1990 level) without LULUCF (50.8% if LULUCF is considered)<sup>2</sup>. However, emissions have increased from 1990 base levels by 15.3% in the oil and gas industry, by 5.1% in the motor transport, and by 31.1% in the housing and public utilities (see Table 2).

Table 1 **Russia's GHG emissions in 2008-2011 (excluding LULUCF), million metric tons CO<sub>2</sub>e**

<b>GHG emissions</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Carbon dioxide (CO<sub>2</sub>) - total</b>	<b>1 609.3</b>	<b>1 526.4</b>	<b>1 598.2</b>	<b>1 684.4</b>
Including:				
- emissions due to fuel combustion	1 426.8	1 360.6	1 411.7	1 491.1
- emissions due to industrial processes	157.2	139.7	153.3	157.3
<b>Methane (CH<sub>4</sub>) – total</b>	<b>492.9</b>	<b>464.7</b>	<b>491.1</b>	<b>506.6</b>
Including:				
- leakage from production, storage and transportation of fuel, including flaring of natural and associated petroleum gases	372.7	341.2	369.2	382.1
- emissions due to waste handling	70.3	74.1	73.6	76.6
<b>Nitrogen oxide (NO<sub>2</sub>)</b>	<b>116.2</b>	<b>116.8</b>	<b>113.8</b>	<b>117.6</b>
<b>PFCs</b>	<b>3.7</b>	<b>2.5</b>	<b>2.7</b>	<b>2.5</b>
<b>HFCs</b>	<b>14.4</b>	<b>10.1</b>	<b>10.9</b>	<b>9.1</b>
<b>SF6</b>	<b>0.8</b>	<b>0.8</b>	<b>0.7</b>	<b>0.5</b>
<b>Total GHG emissions</b>	<b>2 237.4</b>	<b>2 121.4</b>	<b>2 217.3</b>	<b>2 320.8</b>

Source: 2013 Russian Federation GHG Inventory Submission to UNFCCC ([http://unfccc.int/national\\_reports/annex\\_ii\\_ghg\\_inventories/national\\_inventories\\_submissions/items/7383.php](http://unfccc.int/national_reports/annex_ii_ghg_inventories/national_inventories_submissions/items/7383.php))

<sup>1</sup> M. Yulkin, D. Schekoldin. Analysis of a sectoral structure and dynamics of the GHG emissions in Russia in 2011. [http://ccgs.ru/publications/articles/\\_download/analysis.GHG](http://ccgs.ru/publications/articles/_download/analysis.GHG)

<sup>2</sup> According to 2014 NIR, in 2011 GHG emissions in Russia reduced from 1990 level by 32.1% without LULUCF and by 51.5% with LULUCF included; in 2012 – by 31.8% and 50.3%, respectively.

**Table 2 GHG emissions by sectors in 1990 and 2011 (excluding LULUCF), million metric tons CO<sub>2</sub>e**

Sectors	1990	2011	Emissions in 2011 as a percentage of 1990 emissions
<b>GHG emissions – total</b>	<b>3 351.9</b>	<b>2 320.8</b>	<b>69.2</b>
<b>Of the total amount:</b>			
<b>Fuel and energy complex</b>	<b>1 608.5</b>	<b>1 317.4</b>	<b>81.9</b>
Including:			
- Power generation	1 176.0	829.6	70.5
- Oil and gas, including crude oil refining	359.4	414.4	115.3
- Coal industry and other industries of Fuel and Energy Complex	73.0	73.4	100.6
<b>Production of goods and construction</b>	<b>475.0</b>	<b>320.9</b>	<b>67.6</b>
Including:			
- Iron and steel industry and non-ferrous industry	203.7	143.0	70.2
- Chemical industry, including manufacturing of polymers	51.0	35.6	69.7
- Other industries of Production and Construction sector	220.2	142.3	64.7
<b>Agriculture, forestry and fishing industry</b>	<b>379.1</b>	<b>165.1</b>	<b>43.5</b>
<b>Transport – total</b>	<b>342.4</b>	<b>283.6</b>	<b>82.8</b>
Including:			
- Motor transport	177.5	186.7	105.1
- Pipeline transport	110.5	80.2	72.6
- Other types of transport	54.3	16.7	30.8
<b>Housing and public utilities</b>	<b>92.7</b>	<b>121.6</b>	<b>131.1</b>
<b>Other industries</b>	<b>393.2</b>	<b>31.5</b>	<b>8.0</b>
<b>Waste management</b>	<b>61.1</b>	<b>80.9</b>	<b>132.3</b>

Source: CCGS, [http://ccgs.ru/publications/articles/\\_download/analysis.GHG](http://ccgs.ru/publications/articles/_download/analysis.GHG)

## Mitigation and adaptation: targeting measures and measuring targets

The Russian Government's activities in climate change mitigation and adaptation build upon the "Climate Doctrine of the Russian Federation"<sup>1</sup> and the "Comprehensive Plan for Implementation of the Climate Doctrine for the Period up to 2020".<sup>2</sup> The first "Progress Report for the Climate Doctrine Implementation Plan" was published by the Russian Ministry of Natural Resources and Environment in November 2013;<sup>3</sup> the second report summarizing the results of 2013 was released in April 2014.<sup>4</sup>

According to the report, the Russian Government implemented various measures in 2013 to facilitate climate change mitigation and to ensure GHG emissions reductions in different sectors. Those measures included:

- Development and implementation of cross-sectoral GHG limitation strategies, including:
  - Economic instruments for GHG emissions limitation and reduction from the industry;
  - Reducing market distortions, improving financial and tax policies to provide incentives for GHG emission limitation and reductions;
- GHG emissions limitation in industry and energy sectors, including:
  - Measures aiming to increase the use of renewable energy sources;
  - Introduction of innovative nuclear energy technologies;
  - Development and implementation of innovative utilization methods for methane containing emissions;
- Development and implementation of GHG emissions limitation in transport sector, including:
  - GHG emissions limitation measures in civil aviation;
  - Enhancing energy efficiency of Russian marine ships and river transport vessels;
- GHG emissions limitation in design and operation of buildings and structures, including:
  - Measures to extend services provided by energy service companies;
  - Implementation of energy metering systems in buildings;
- Operations improvement in forestry and agricultural sectors, including:
  - Protection and quality improvement of forests that serve as natural carbon sinks and reservoirs,

application of sustainable forest management methods;

- Providing incentives for climate change adaptation activities in agriculture.

The most important event of the year was the Russian President's "Decree on Greenhouse Gas Emissions Reduction" (No. 752 of September 30, 2013)<sup>5</sup> which sets a short-term goal to reduce GHG emissions by 2020 by at least 25% below 1990 levels.<sup>6</sup> Pursuant to this Decree, the Russian Government developed and, in April 2014, approved the Action Plan to achieve this goal.<sup>7</sup> The plan consists of three parts:

- Implementation of GHG emissions accounting and reporting systems at both regional and corporate level;
- Projection of GHG emissions for the period up to 2020 and towards 2030 as well as GHG emissions reduction potential by economy sectors;
- Development of GHG emissions regulation mechanism, including the mechanism aimed at providing incentives and support for GHG emissions reduction projects.

Much attention was also given to short-term and long-term climate change adaptation measures aimed at reducing natural disaster damage and other negative climate change effects by taking preventive actions and building capacities to effectively respond to negative climate events. "The 2014 Progress Report on the Execution of the Climate Doctrine Implementation Plan" states that measures and solutions were developed in 2013 to address issues such as:

- Minimization of disease and death rates among high risk population groups, including the spread of infection and parasitic diseases caused by climate change;
- Development and implementation of measures aiming to prevent growth in the frequency of forest and peat fires and to minimize their negative effects in the context of a higher risk of drought in some regions of the Russian Federation;
- Mitigation of production loss risks in agriculture (including the risk of reduction in livestock productivity and crop yields);
- Limiting negative impacts caused by more frequent floods due to higher rainfall, flood rate and rising sea levels;
- Mitigation of mountain glaciation degradation, dangerous mudflow and avalanche activities;
- Development and implementation of a set of measures aiming to reduce the impacts of hurricanes, including damage caused to power lines and facilities.

<sup>1</sup> Adopted by the Order of the Russian President No. 861-rp of December 17, 2009 (<http://kremlin.ru/acts/6365>)

<sup>2</sup> Adopted by the Resolution of the Russian Government No. 730-r of April 25, 2011 (<http://www.rg.ru/2011/05/03/klimat-doktrina-site-dok.html>)

<sup>3</sup> <http://www.mnr.gov.ru/regulatory/detail.php?ID=131748>

<sup>4</sup> <http://www.mnr.gov.ru/regulatory/detail.php?ID=134236>

<sup>5</sup> See <http://www.kremlin.ru/acts/19344>

<sup>6</sup> The Decree does not explicitly clarify whether LULUCF net impact is considered or not. However the common understanding tends to exclude LULUCF which actually generates net GHG removals rather than GHG emissions in Russia. Still the uncertainty remains and should be accounted for.

<sup>7</sup> See <http://government.ru/media/files/41d4d0082f8b65aa993d.pdf>

In 2013, several Russian regions set about developing regional climate strategies. The first regional strategy was developed as early as 2009 for the Murmansk Region. In mid-2013 the Government of St Petersburg announced drafting of a climate change adaptation strategy.

Finally, at the end of 2013 the Arkhangelsk Regional Government initiated the development of a climate strategy for the Russian sector of the Barents Euro-Arctic Region. This region includes five constituents of the Russian Federation, namely: Murmansk and Arkhangelsk Regions, Republic of Karelia, Komi Republic and Nenets Autonomous Area. It is expected that the project will be implemented within the framework of Barents cooperation in accordance with the "Climate Change Action Plan" adopted at the 11<sup>th</sup> Meeting of the Environment Ministers of the Barents Euro-Arctic Council (BEAC) held in Inari (Finland) on December 5, 2013.<sup>1</sup>

Despite the measures undertaken at the federal and regional levels, GHG emissions in Russia have continued to grow, the carbon intensity of the Russian economy (GHG emissions per \$1 PPP GDP) remains one of the world's highest<sup>2</sup> affecting the competitiveness of domestic producers that are facing increasing pressure from clients interested in reducing their carbon footprint. Hydro-meteorological (weather-linked) disasters are becoming more abrupt and inflict higher damages.<sup>3</sup>

### **Involving Russian business in climate actions**

Prior to 2013, the participation of Russian businesses in climate change mitigation actions was limited mainly to Joint Implementation (JI) projects under Article 6 of the Kyoto Protocol. Some companies took further steps and made long-term commitments to climate change mitigation and adaptation as an integral part of their business strategy aimed at increasing their value and strengthening their position in the market. However for the majority of Russian companies JI providing the opportunity to sell emission reductions achieved in the course of projects implementation was the only economic reason to involve in climate change actions.

<sup>1</sup> [http://www.barentsinfo.fi/beac/docs/Environment\\_Ministers\\_Meeting\\_4\\_5\\_Nov\\_2013\\_Inari\\_Action\\_Plan\\_Climate\\_Change\\_ENG.pdf](http://www.barentsinfo.fi/beac/docs/Environment_Ministers_Meeting_4_5_Nov_2013_Inari_Action_Plan_Climate_Change_ENG.pdf)

<sup>2</sup> According to IEA, in 2012 Russia's CO<sub>2</sub> emissions from fuel combustion per \$1 PPP GDP amounted 0.76 kg CO<sub>2</sub>/US dollar while the world's average was 0.38 kg CO<sub>2</sub>/US dollar and OECD average – 0.31 kg CO<sub>2</sub>/US dollar (please see <http://www.iea.org/publications/freepublications/publication/KeyWorld2014.pdf>).

<sup>3</sup> In September 2013 Russia's Far East was badly hit by severe floods caused by heavy rains and catastrophic rising of the water levels in the Amur River. For a few days the flow in the Amur stayed at 2.5–3 times its normal rate. No such floods have ever been registered in the region over the 115-year monitoring period. Due to the disaster, over 200 population centers, 11,000 residential houses with over 70,000 residents, and around 50,000 private households and homesteads were flooded; 130,000 people were affected. The damage to the agricultural industry only amounted to at least RUR 10 billion (USD 300 million). A year earlier catastrophic floods caused by heavy rains hit Krasnodar Krai in the Russian South. Torrential rains led to the Rivers Aderba, Bakanka and Adagum bursting their banks and battering the town of Krymsk and other settlements like a tsunami. The water level of the flow was as high as 4 and sometimes even 7 meters. The flooding affected over 34,000 people, claimed 171 lives, destroyed or damaged 7,200 residential houses. It also affected gas, energy and water supply infrastructure. The economic costs of the floods are estimated at about RUR 20 billion (USD 600 million). The insurance claims totaled RUR 1 billion (USD 35 million).

Russia's domestic regulation for JI projects approval and implementation was adopted in 2007, but then it changed two times, in 2009 and 2011. Finally, Sberbank of Russia was appointed as the authorized Carbon Units Operator to facilitate JI projects evaluation and selection as well as Emissions Reduction Units (ERUs) issuance and transfer.

The first JI project was approved by the Russian Ministry of Economic Development in June 2010, the last one – in May 2012. Over this period 108 JI projects submitted by 75 companies were approved. Altogether these projects were estimated to result in 311.5 million metric tons CO<sub>2</sub>e of GHG emission reductions between 2008 and 2012. By the end of 2013 in total 263.4 million ERUs<sup>4</sup> were issued for 86 JI projects. Of this amount, 237.5 million ERUs from 74 projects were sold and transferred to foreign buyers.<sup>5</sup>

At present joint implementation is no longer an opportunity for Russian business since Russia has refused to assume any quantitative commitments with regard to GHG emissions limitation and reductions in the second Kyoto Period (2013–2020) which makes the Kyoto flexible mechanism unavailable. Another important factor was the slump in the EU carbon market which was the only available market for Russian ERUs. ERU prices in Europe dropped down to several cents per unit, which caused disappointment among Russian sellers.

Still Russian companies remain committed to GHG emission limitation and reduction. More so, the year 2013 saw an example of Russian business moving from implementation of isolated emission reduction projects to regular GHG emissions monitoring, accounting and management as per international standards.

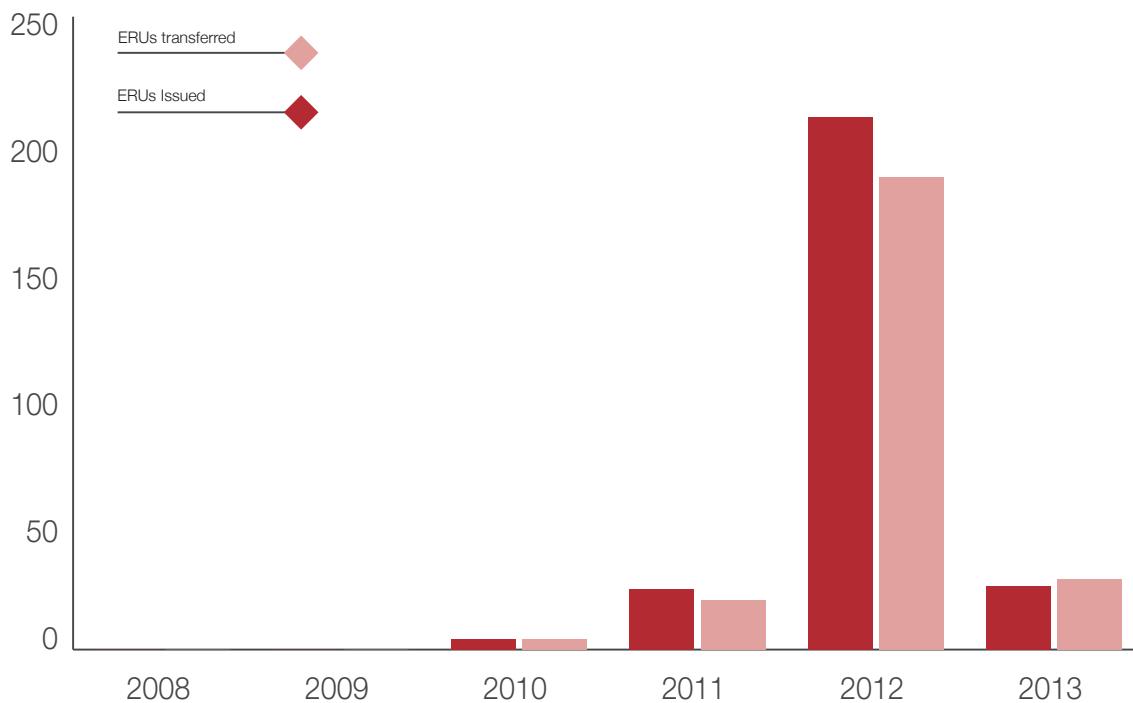
Arkhangelsk Pulp and Paper Mill (Arkhangelsk PPM) took the lead as the first Russian company to certify its corporate GHG management systems to the ISO 14064-1:2006 standard. In addition to monitoring, accounting, and reporting, Arkhangelsk PPM's GHG emissions management system also includes an emission limitation and reduction strategy for the period up to 2020 and an action plan to ensure that the targets set forth in this strategy are achieved.

The Russian Government is now planning to make carbon reporting mandatory for major Russian companies. The decision to introduce it has already been made and the details of its implementation are included in the Russian Government's Action Plan approved in April 2014. It is also anticipated in the Action Plan that, by the end of the current decade, GHG emissions control and regulation mechanisms will be introduced including the mechanisms to incentivize and support GHG emission reduction projects.

<sup>4</sup> 1 ERU = 1 metric ton CO<sub>2</sub>e.

<sup>5</sup> In fact the numbers could have been even more impressive. But in 2011 the Russian Government decided to put a 300 million metric tons CO<sub>2</sub>e limit on JI projects by capping the overall number of ERUs that can be issued for the projects. Later this limit was abandoned, however the overall carbon value of approved JI projects still remained capped.

**Figure 2** Issue and transfer of ERUs under Russian JI projects (as of 27.11.2013), million units



Source: calculated using the data from the official Russian Carbon Registry's website ([www.carbonunitsregistry.ru](http://www.carbonunitsregistry.ru))

A few platforms are used for involving businesses in the discussion of GHG emissions monitoring, reporting and regulation. The most representative is the Joint Working Group on GHG Emissions Regulation, which was established on the initiative of the Russian Ministry of Economic Development and Delovaya Rossiya business union with participation of the Russian Union of Industrialists and Entrepreneurs (RSPP) and some other business associations. The Interagency Working Group on climate change and sustainable development under the Administration of the Russian President also includes representatives of RSPP and Delovaya Rossiya.<sup>1</sup>

#### Climate change and social activism

Climate change mitigation and adaptation are high on the agenda of Russian non-governmental organizations (NGOs). The efforts of WWF Russia<sup>2</sup> in Moscow and of the Socio-Ecological Union<sup>3</sup> in St Petersburg should be recognized. WWF Russia has a dedicated Climate and Energy Program, and the Socio-Ecological Union has set a Climate Secretariat specifically to deal with climate change issues. Among NGOs that were set up recently to focus specifically on climate change, 350.org<sup>4</sup>, the Russian arm of the same international environmental organization, should be mentioned as a good example.

Russian NGOs employ highly qualified staff with strong experience in energy and climate issues, conduct large-scale awareness-raising campaigns, prepare and publish research, reviews and articles on their websites, organize meetings and conferences, come forth with various initiatives, and participate as observers in international climate negotiations. They also sit in all major climate change working groups in Russia and make invaluable contributions towards understanding of the current situation and trends and elaboration of appropriate solutions to climate-related challenges.

#### Looking forward and beyond

Having come to a consensus on its short-term plans towards 2020, Russia is still hesitant about its longer-term climate and GHG emission reduction strategy. Scientific groups, government bodies, NGOs, and business associations put forward forecasts and visions on what this strategy should look like and what opportunities Russia has to contribute to global climate change mitigation efforts by reducing its GHG emissions. Some of these studies demonstrate that Russia's GHG emissions can stabilize after 2020 and even reduce by half (compared to 1990) if certain policies and measures are undertaken.

The "Forecast of Socio-economic Development of the Russian Federation by 2030"<sup>5</sup> adopted by the Russian Government on March 26, 2013 suggests that Russian GHG emissions will reach 75% of 1990 levels by 2020,

<sup>1</sup> The working group was set up in 2013 following the order of the Russian President No. 563-rp of December 13, 2012. See <http://graph.document.kremlin.ru/page.aspx?1642603>

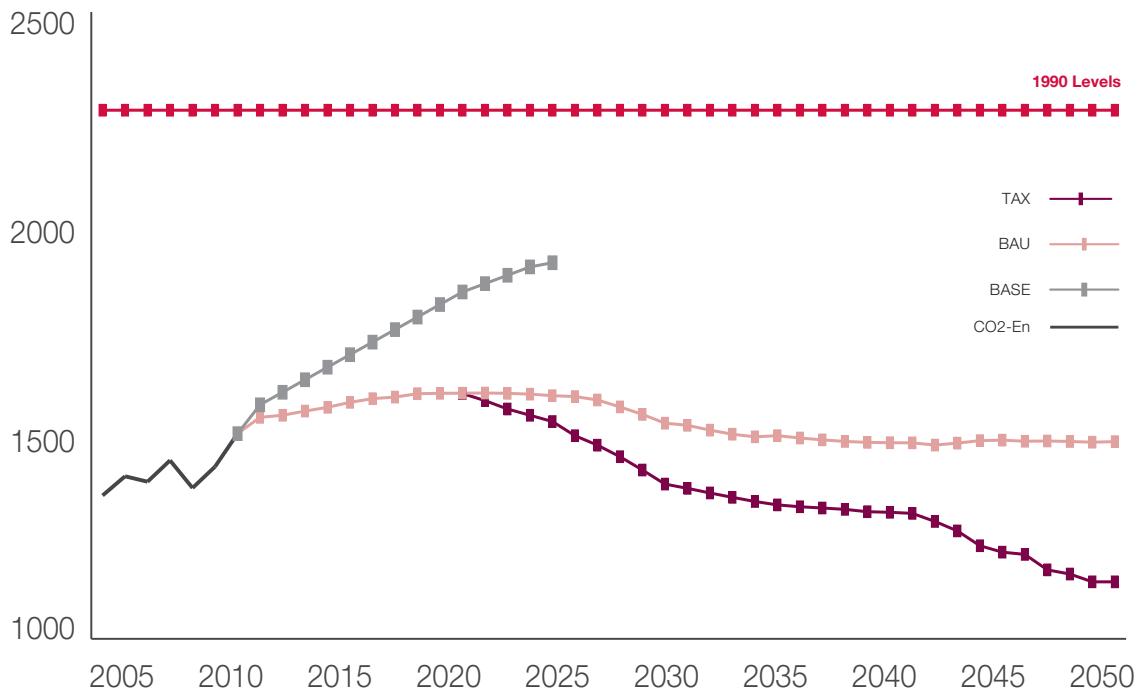
<sup>2</sup> <http://www.wwf.ru>

<sup>3</sup> <http://www.rusecounion.ru>

<sup>4</sup> <http://www.world.350.org/russian>

<sup>5</sup> See [www.economy.gov.ru](http://www.economy.gov.ru)

**Figure 3** Scenarios of CO<sub>2</sub> emissions from fuel combustion in Russia towards 2050, million metric tons CO<sub>2</sub>e



CO2-En – CO<sub>2</sub> emissions from fuel combustion in 2005–2011; BASE – Hypothetical scenario, only old technologies deployed; BAU – Business-as-usual scenario at 3% GDP growth rate; TAX – Carbon tax scenario aimed at reducing GHG emissions by 50% of 1990 level in 2050 (carbon tax grow from 15 USD/t CO<sub>2</sub> in 2020 to 50 USD/t CO<sub>2</sub> in 2050)  
 Source: A.O. Kokorin, I.G. Gritsevich & D.S. Gordeev Greenhouse Gas Emission Scenarios for Russia and Rest of the World, 2013, Review of Business and Economic Studies (ROBES), vol.1, no. 1, pp.55–66. <http://www.fa.ru/projects/rbes/about/Pages/default.aspx>

thereafter continue to decline reaching 70% in 2030 as a result of energy-efficiency measures, increased labour productivity, and renewable energy policies.<sup>1</sup>

The recently renewed "State Program on Energy Efficiency and Energy Development (for the period till 2035)"<sup>2</sup> presented by the Ministry of Energy suggests that a 40% reduction in GDP energy intensity by 2020 will be achieved partly through technological improvements (13.5%) and most importantly through structural transformation of the economy (26.5%). With this trend, CO<sub>2</sub> emissions from the energy sector (contributing 80% of Russia's overall GHG emissions) will grow to reach 79.3% of 1990 level by 2035 after achieving about 75% of the 1990 levels in 2020.

BP has come to the same figures in their "Energy Outlook 2035".<sup>3</sup> According to BP, CO<sub>2</sub> emissions from the energy sector in Russia will rise as high as 80% of 1990 levels by 2035, with the forecast for 2020 at 73–75%. The Energy Institute of the Russian Academy of Science (ERI RAS) predicts in its turn that CO<sub>2</sub> emissions from fuel combustion for energy generation will stabilize in the 2030s at 85–88% of 1990 levels after reaching 81–83% in 2020.<sup>4</sup>

<sup>1</sup> LULUCF net impact is not considered. This also applies to all other studies mentioned in this section.

<sup>2</sup> Ministry of Energy. Alexey Kulapin. Presentation of the New Version of the State Program on Energy Efficiency and Energy Development (for the period by 2036). Analytical Centre of the Russian Government, Moscow, 27 Jan. 2014.

<sup>3</sup> BP-2035, C. Ruhl, Energy Outlook 2035, IMEMO, Moscow, 17 Jan. 2014. [www.bp.com/energyoutlook](http://www.bp.com/energyoutlook)

<sup>4</sup> ERI RAS, Alexey Makarov, Scenarios of Russian Energy Strategy, Gaidar

The Centre for Energy Efficiency (CENEf) has estimated CO<sub>2</sub> emissions reductions under different policy scenarios.<sup>5</sup> According to their estimates, the *Current Policy* scenario will lead to 70% of 1990 level by 2020 given a conservative 2% GDP growth rate; and to 75% if a 3% GDP growth rate is considered. However, in the outlook for the 2030s, the *Current Policy* scenario shows CO<sub>2</sub> emissions stabilizing at 80% of 1990 levels assuming GDP growth at 3% on average.

The *New Policy* scenario assumes implementation of measures already announced by the Russian Government as desirable including the wide use of energy service companies, certification, subsidies, sufficient growth of labour productivity, fuel saving in motor vehicles, etc. With this policy GHG emissions may reach 70–74% of 1990 levels by 2020 and stabilize thereafter at this level.

Finally, the so called *Resolute Policy* scenario entails wide support to renewable energy, biofuels and nuclear energy, sufficient carbon price and implementation of Carbon Capture and Storage (CCS) technology if the carbon price exceeds 58 USD/t CO<sub>2</sub>. These measures could reduce CO<sub>2</sub> emissions down to 60–65% of the 1990 levels by 2020 and further to 50% by 2050.

The Institute of Economic Policy (IEP) and the Russian Presidential Academy of the National Economy and Public Administration (RANEPA) jointly estimated Russia's future GHG emissions for a number of scenarios using a well-known TIMES model.<sup>1</sup> The calculations show that the business-as-usual (BAU) scenario will see minor GHG emissions growth until 2015 and stabilization by 2020 at 72–75% of the 1990 levels while this level persists in the next decades. In case carbon tax is introduced starting from 15 USD/t CO<sub>2</sub> in 2015 and gradually increasing to 50 USD/t CO<sub>2</sub> by 2050, GHG emissions might decrease to 60–65% of the 1990 levels by the end of the period. IEP and RANEPA have also prepared the scenarios, CAP50 and CAP75, that demonstrate the feasibility of limiting GHG emissions to 50% and ambitious 25% of the 1990 level by 2050; both include enhanced biofuel use and CCS.

Some experts, however, do not agree that from now on Russia's economy can only grow slowly as it is assumed in the above studies, and challenge their GHG forecasts by applying higher growth rates. The IEA analysed the same policy scenarios as CENEf and IEP-RANEPA based on higher economic growth rate assumptions and come to the following conclusions:

With the *Current Policy* scenario GHG emissions will reach 80% of the 1990 level by 2020 and 90% by 2030;

With the improved *New Policy* scenario emissions will not exceed 78% of 1990 level in 2020 and will then grow to 82.5% of 1990 level by 2035;

Only targeted 450 ppm scenario shows stabilization of CO<sub>2</sub> emissions at 73.5% of the 1990 level in 2020 and then decarbonisation to 58% of the 1990 level by 2030 and to 52% by 2035.

The final decisions about Russia's GHG emissions target and strategy post 2020 are yet to be made. However, at Ban Ki-moon's Climate Summit in New York in September 2014, Mr. Alexander Bedritsky, the chair of the Russian delegation, suggested in his plenary speech<sup>2</sup> that Russia's target towards 2030 could be to keep GHG emissions at 70-75% of 1990 levels.<sup>3</sup> This is not an official commitment but rather a qualified opinion. Still, it offers some hints that give more grounds and certainty for the expectations and further actions in the sphere of climate change in Russia.

<sup>1</sup> IEP-RANEPA, O. Lugovoy, V. Potashnikov & D. Gordeev, Prognostic Scenarios of Greenhouse Gas Emissions in Russia. Gaidar Economic Forum, Moscow, 16 Jan. 2014.

<sup>2</sup> <http://state.kremlin.ru/face/46679>

<sup>3</sup> Hopefully, LULUCF is not considered here although in the speech this issue was not distinctly articulated

## Russian companies' response to climate change: an overview of responses submitted to CDP

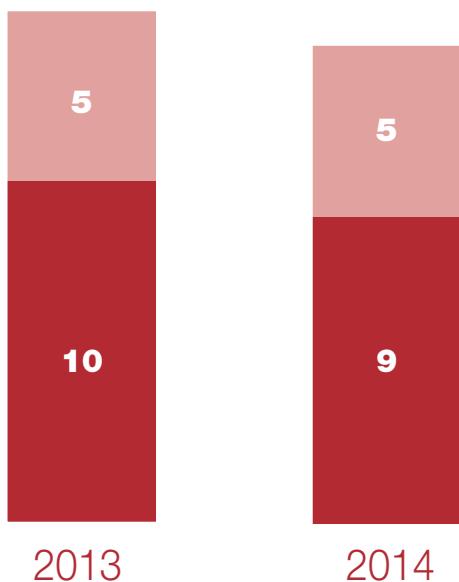
### Responding companies

Since 2003, CDP has requested annual climate change disclosures from major Russian companies<sup>1</sup> of various sectors. The information is collected in a single format with the help of the CDP's Climate Change questionnaire, which may be filled out by companies using the CDP Online Response System.

In 2013, 15 Russian companies responded to the requests or volunteered to participate in the CDP Climate Change program. Out of this number, 10 companies submitted their information in the questionnaires and five companies referred to their data being included in the response submitted their data being included in the response submitted to CDP by their parent company. In 2014 14 companies participated in the CDP Climate Change program in Russia: nine companies responded to CDP and five companies provided information through another company's CDP response (see Figure 4).

**Figure 4** Number of responding companies, by type of response

- ▼ AQ - Answered the Questionnaire (including late respondents)
- ▼ SA - See Another: Companies provided data through another company's response.



<sup>1</sup> Russian companies herein mean companies registered in Russia or companies registered in other jurisdictions but operating in Russia.

These response rates are highest so far: the CDP Climate Change program has never attracted that many participants from Russia before<sup>2</sup>.

In general, the list of companies that have responded to the CDP climate change information request in 2014 hasn't changed much compared to the previous year (see Table 3). Of the companies that responded to the CDP in 2013, three companies chose not to provide information in 2014. There were also two new respondents in 2014, and one of those two provided information to CDP for the first time.

The long-time participants include, most notably, Gazprom and NOVATEK. These companies demonstrate their commitment to transparency and consistently provide their information in response to CDP's Climate Change program information requests. Arkhangelsk Pulp and Paper Mill responded to CDP for the first time in 2014 and provided a comprehensive response demonstrating commitment to managing climate change risks and to the implementation of relevant policies and procedures.

Responding companies represent a number of different sectors: energy, primarily oil and gas, materials, including metals, fertilisers and paper, and utilities (power producers and electric utilities), as well as financials.

### Key findings

In general, many Russian companies are reluctant to participate in the CDP Climate Change information request and disclose information about their climate change-related activities and results. The overall numbers of Russian companies participating in the CDP in 2013 and 2014 are much lower compared to other developed and leading emerging economies, including Brazil, India, China and South Africa.

Low activity can be explained by various factors, including limited international investor reach into the Russian stock market, unavailability of carbon markets and Kyoto flexibility mechanisms to Russian companies and absence of an adequate national substitute for such markets and mechanisms, as well as the lack of provisions for mandatory corporate carbon accounting and reporting in the Russian legislation, and so on.

Russian companies' responses seldom present comprehensive information or a good analysis of climate aspects, corresponding risks and opportunities. Most companies remain silent on such topics as their climate change impacts and climate strategy. This is not unusual for countries where corporate GHG emissions accounting, reporting and management are not sufficiently developed.

<sup>2</sup> No Russian companies have responded to the first two CDP requests in 2003 and 2004; 3 companies from Russia have provided their information in 2005; 7 Russian companies responded to the CDP request in 2009; only 6 companies participated in 2010 (including one company referring to parent response), 12 companies from Russia participated in the CDP Climate Change program (including 8 companies participating indirectly) in 2011, and 8, including 3 companies indirectly, in 2012.

On the other hand, responding to CDP signals a commitment of the company to manage climate change risks and opportunities, and investors may consider this alone an indication of proactive sustainability management.

We can expect the number of responding companies in Russia to increase and the quality of their responses to improve as the companies recognize the benefits of

participating in the CDP climate change program and develop their expertise in GHG emissions and climate risk management. This trend has already become visible. The number of companies responding directly to the CDP has grown over last few years, and the quality of responses by the comparable range of companies has notably improved in 2014 compared to 2013.

**Table 3 The list of the companies responding to CDP Climate Change program from Russia**

	Company Name	Sector	2013	2014
<b>AQ*</b>	Arkhangelsk Pulp and Paper Mill	Materials	—	✓
	EVRAZ PLC	Materials	✓	✓
	Gazprom	Energy	✓	✓
	Krasnoyarskaya GES	Utilities	✓	✓
	Lukoil	Energy	—	✓
	MOESK	Utilities	✓	—
	NOVATEK	Energy	✓	✓
	Surgutneftegas	Energy	✓	✓
	TGK-1	Utilities	✓	—
	United Company RUSAL	Materials	✓	—
<b>SA**</b>	Uralkali	Materials	✓	✓
	V. Bank - Vozrozhdenie Bank	Financials	✓	✓
	E.ON Russia	Utilities	✓	✓
	Enel OGK-5	Utilities	✓	✓
	Fortum	Utilities	✓	✓
	Raspadskaya	Energy	✓	✓
	Wimm-Bill-Dann Foods	Consumer Staples	✓	✓

\*AQ – Companies that answered CDP questionnaire (including late respondents)

\*\*SA – Companies provided data through another company's response

### Climate change governance, risks and opportunities

Our analysis of responses from companies in 2014 has identified some promising trends in the governance and decision making processes regarding climate issues. All companies reported that they have placed their climate change strategy under responsibility of the top management (senior manager/officer), member of the Board of Directors or a committee appointed by the Board. Detailed evaluation shows that climate change issues are the responsibility of executives responsible for environmental protection or overall health, safety and environment, energy efficiency, quality, or of top executives overseeing emission trading among other topics (see Figure 5).

In their 2014 submissions, the majority of the responding companies (55%) emphasized climate change-related risks driven by expected introduction of mandatory GHG emissions monitoring and reporting. Some companies consider as risks to them the possibility of introduction of GHG emissions limits (quotas) or carbon taxes. These concerns have been, apparently, raised by the Russian Government's activity on climate change mitigation in 2013 and 2014 (see previous section for details). Legal risks that may arise from the adoption of new regulations relating to the Russian Federation's involvement in the global binding climate change agreements should be attributed to the same category.

Most of the responding companies (89%) state in their answers that they incorporate climate change issues into their general business strategy. It is important to note that these are not mere claims; respondents describe approaches they use to address specific climate change risks. Still some responding companies do not have documented processes and procedures for assessing and managing climate change risks and opportunities, and some are just starting implementation of GHG reduction initiatives (see Figure 6).

Several companies have implemented specific instruments for GHG emissions management. In addition to the ISO 14001 environmental management system providing overall framework for implementing environmental policy, some responding companies also use the ISO 14064 standard for greenhouse gas accounting and management.

Just over half of the responding companies identified and declared measurable absolute and/or intensity GHG emissions reduction targets. The remaining companies, apparently, limit their climate change management activities to general environmental procedures; their current position can be characterized as being on the "business as usual" route.

The most common GHG emissions reduction measures taken by the companies include projects to limit flaring of associated petroleum gas by increasing its utilization (typical for oil and gas production companies), and implementation of energy efficiency retrofit programs

**Figure 5** Allocation of the responsibility for climate change among decision makers, % of the total number of the respondents

#### 2013

<b>20%</b>	Environmental Management
<b>30%</b>	Health, Safety and Environmental Management
<b>10%</b>	Quality, Health, Safety and Environment
<b>20%</b>	CEO, Deputy CEO or Senior VP
<b>10%</b>	Energy Efficiency and Environmental protection
<b>10%</b>	Not specified



#### 2014

<b>22%</b>	Environmental Management
<b>34%</b>	Health, Safety and Environmental Management
<b>11%</b>	Quality, Health, Safety and Environment
<b>22%</b>	CEO, Deputy CEO or Senior VP
<b>11%</b>	Energy Efficiency and Environmental protection
<b>0%</b>	Not specified



based on operations development strategies and third party energy audit recommendations (common for all responding companies).

### **Emissions reporting and external verification**

Many Russian companies prepare and publish GHG emissions data. Of the CDP Climate Change program respondents in Russia in 2014, 78% reported Scope 1 emissions, and 67% provided Scope 2 data. However, in most cases the GHG emission assertions of Russian companies and public reports containing them are not independently verified. This general observation was confirmed by responses to CDP questionnaires in 2014, which indicated that 33% of the participating Russian companies used third party assurance.

The main drivers for Russian companies to obtain external verification are providing verified data for their public sustainability reports, requirements and audits<sup>1</sup> of public authorities, and meeting of ISO 14064 requirements. Interestingly, participation in emission trading schemes, particularly EU Emissions Trading Scheme (ETS) for companies with assets subject to EU requirements is not a driver for external verification of GHG emissions. Not a single company has identified this factor in their responses.

Given the current efforts to establish a regulatory framework for GHG emissions management and reduction in Russia, it seems reasonable to expect that the Russian companies' interest in carbon verification and assurance would increase in the coming years.

### **Company scores**

The company responses submitted were scored using the CDP methodology<sup>2</sup>. Companies receive a CDP climate disclosure score and, if their disclosure level is sufficient, a CDP performance score (See Table 4 on page 22). The scoring approach is explained in this report.

Russian companies' scores for 2013 and 2014 are presented in Table 4 on page 22.

In 2014, Arkhangelsk Pulp and Paper Mill received the highest score, suggesting that they are the most transparent company with regards to climate change disclosure in Russia.

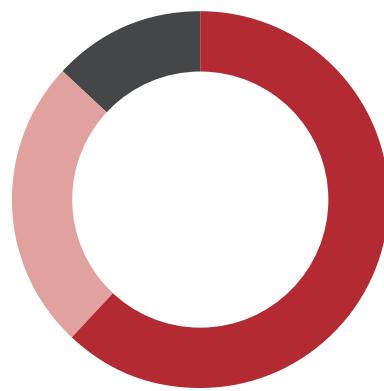
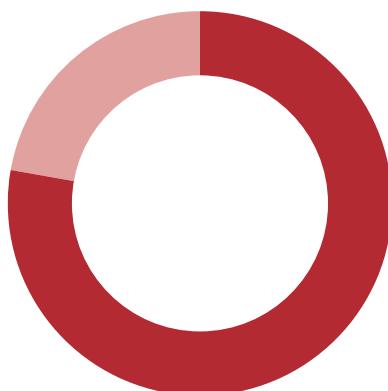
**Figure 6** Snapshot of companies' climate change risk management procedures, % of the total number of the respondents

#### **2013**

- 78%** Integrated into multidisciplinary company wide risk management processes
- 22%** There are no documented processes for assessing and managing risks and opportunities from climate change
- 0%** A specific climate change risk management process

#### **2014**

- 62%** Integrated into multidisciplinary company wide risk management processes
- 25%** There are no documented processes for assessing and managing risks and opportunities from climate change
- 13%** A specific climate change risk management process



<sup>1</sup> Used to be a requirement in Russia for GHG emission reports developed within the framework of JI project implementation as provided for by Article 6 of the Kyoto Protocol.

<sup>2</sup> <https://www.cdp.net/en-US/Pages/guidance-climate-change.aspx#scoring>

## Scoring results

### CDP RUSSIA 2014 COMPANY WITH THE HIGHEST DISCLOSURE SCORE

Arkhangelsk Pulp and Paper Mill

Paper Products

Table 4 **CDP Scores in 2013 and 2014**

Company	CDP Score 2013	CDP Score 2014
Arkhangelsk Pulp and Paper Mill	—	77 C
Gazprom	62 C	66 C
Krasnoyarskaya GES	—	63 E
Evraz	22	62 E
Novatek	40	50 E
Uralkali	41	40
Surgutneftegas	23	23
V. Bank – Vozrozhdenie Bank	—	22
Lukoil	—	16

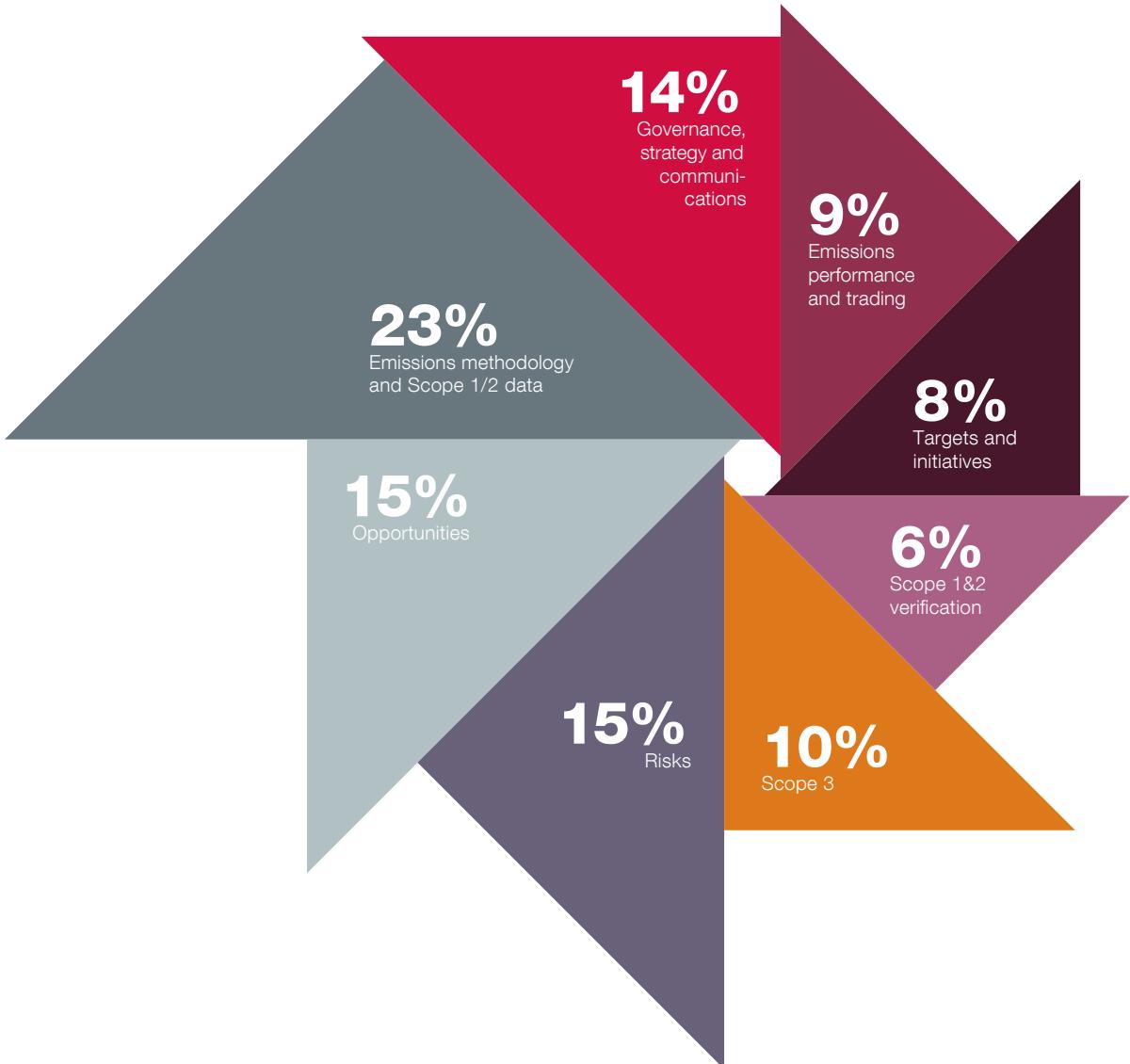
## Responding companies snapshot: Russia 2014



## Understanding CDP disclosure scores and performance bands

### Relative weight of elements in determining the disclosure score

The disclosure score assesses the completeness and quality of a company's response. Its purpose is to provide a summary of the extent to which companies have answered CDP's questions in a structured format. A high disclosure score signals that a company provided comprehensive information about the measurement and management of its carbon footprint, its climate change strategy and risk management processes and outcomes.



### How the disclosure score is calculated

$$\frac{\text{Disclosure points earned}}{\text{Disclosure points available}} \times 100 = \text{Disclosure score \%}$$

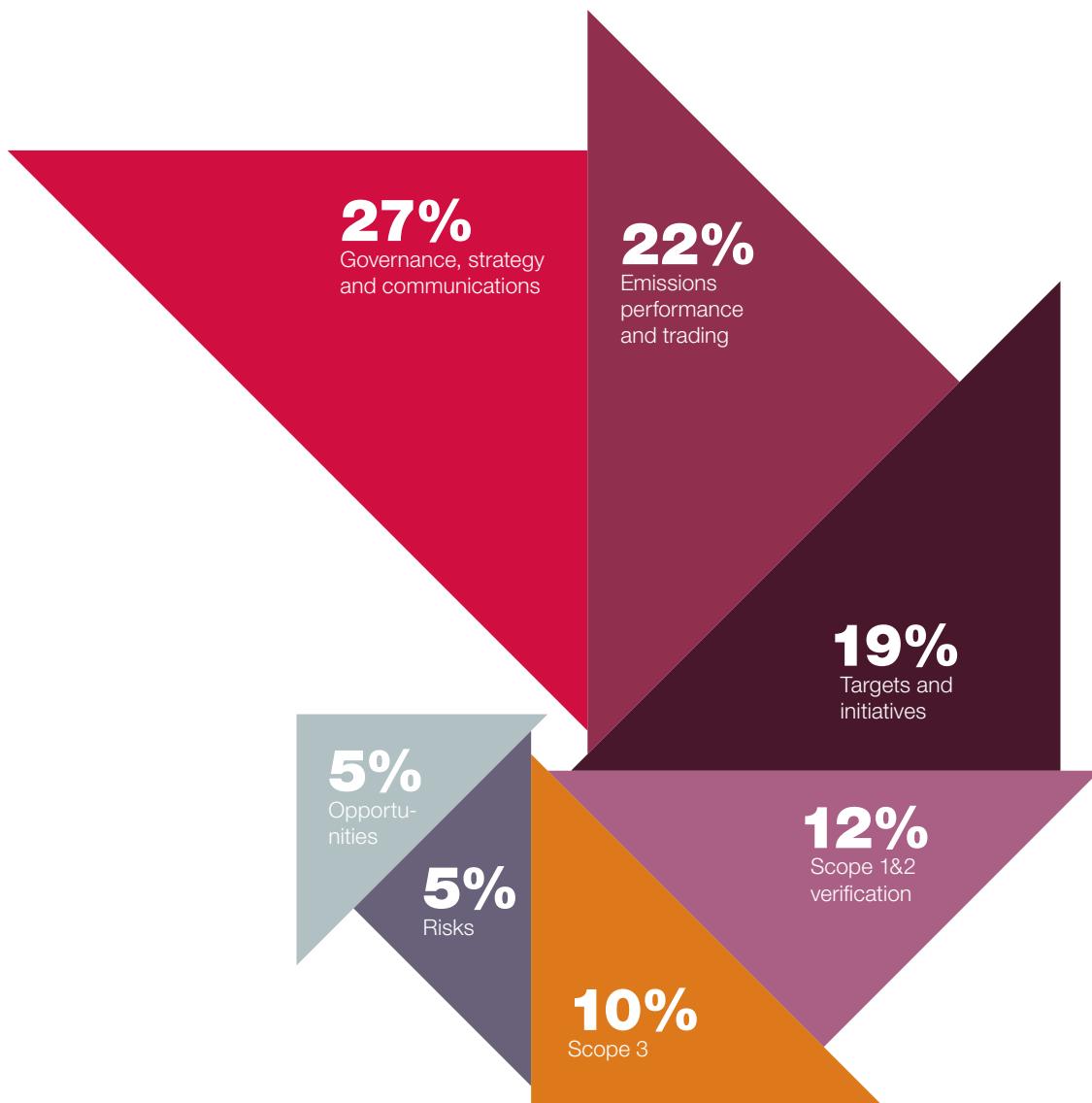
**0 to 100**

>50% disclosure = scored for performance

<50% disclosure = not scored for performance

### Relative weight of elements in determining the performance bands

The performance score assesses the level of action, as reported by the company, on climate change mitigation, adaptation and transparency. Its intent is to highlight positive climate action as demonstrated by a company's CDP response. A high performance score signals that a company is measuring, verifying and managing its carbon footprint, through actions such as setting and meeting carbon reduction targets and implementing programs to reduce emissions in both its direct operations and supply chain.



### How the performance score is calculated

$$\frac{\text{Performance points earned}}{\text{Performance points available}} \times 100 = \text{Performance score \%} = \text{Performance band}$$

**A to E**

## Russian companies' response to CDP Climate Change program in 2013 and 2014

Company Name	2013 Response Status	2013 CDP Score	2014 Response Status	2014 CDP Score	2013 Response Status	2013 CDP Score	2014 Response Status	2014 CDP Score
<b>Consumer Discretionary</b>								
Avtovaz	NR		NI		Open Investments (OPIN)	NR	NI	
M Video	NR		NR		PIK Group	NR	NR	
Sollers	NR		NR		Rosbank	NR	NR	
<b>Consumer Staples</b>								
Dixy Group	NR		NR		Sberbank	NR	NR	
KBK Cheryomushki	NR		NI		V. Bank (Bank Vozrozhdenie)	AQ (L)	*	AQ 22
Magnit	DP		DP		VTB Bank	NR	NR	
Wimm-Bill-Dann Foods	SA		SA		<b>Health Care</b>			
<b>Energy</b>								
Bashneft	DP		DP		Pharmstandard	NR	NR	
Exillon Energy	NR		NR		<b>Industrials</b>			
Gazprom	AQ	62 C	AQ	66 C	Aeroflot	DP	DP	
Gazprom Neft	NR		NR		Kamaz	NI	NR	
Lukoil	DP		AQ	16	Mostotrest	NR	DP	
Novatek	AQ	40	AQ	50 E	Novorossiysk Commercial Sea Port	DP	DP	
Raspadskaya	SA		SA		Svetlana	NI	NR	
RN Holding	NI		NR		Teploobmennik PDC	NI	NR	
Rosneft	NR		NR		Tomskenergoremont	NI	NR	
RusPetro	DP		DP		Trest Gidromontag	NI	NR	
Slavneft	NI		NR		Tupolev PSC	NI	NR	
Surgutneftegas	AQ	23	AQ	23	UTair Aviation	NR	NR	
Tatneft	NR		NR		Vanino Commercial Sea Port	NI	NR	
TNK-BP Holding	NR		NR		<b>Materials</b>			
Transneft	NR		NR		Acron	DP	DP	
Udmurtneft	NI		NR		Alrosa Company Ltd	NR	NR	
Ufaneftekhim	NR		NR		Arkhangelsk Pulp and Paper Mill	NI	AQ	77 C
Yamal LNG	NI		DP		Evraz PLC	AQ	22	AQ 62 E
<b>Financials</b>								
Bank of Moscow (Bank Moskvy)	NR		NR		Koks	NI	NR	
Bank St Petersburg	NR		NR		Mechel	DP	DP	
LSR Group	NR		NR		MMC Norilsk Nickel	DP	DP	
Moscow Exchange MICEX-RTS	NI		NR		MMK (Magnitogorsk Iron & Steel Works)	NR	NR	

<b>Company Name</b>	<b>2013 Response Status</b>	<b>2013 CDP Score</b>	<b>2014 Response Status</b>	<b>2014 CDP Score</b>	<b>Company Name</b>	<b>2013 Response Status</b>	<b>2013 CDP Score</b>	<b>2014 Response Status</b>	<b>2014 CDP Score</b>
Polymetal	DP		DP		Quadra – Power Generation Company	NR		DP	
Polyus Gold	NR		NR		Rosseti (Russian Grids)	NR		NR	
Severstal	NR		NR		RusHydro	DP		DP	
Sibirskiy Cement	NI		NR		TGC-1	AQ (L)	*	NR	
TMK	NI		DP		TGC-5	NR		NR	
United Company RUSAL	AQ (L)	*	NR		TGC-6	NR		NR	
Uralkali	AQ	41	AQ	40	TGC-9	NR		NR	
Uuzhuralnikel	NI		NR		Volga (Volzhskaya) TGC	NR		NR	
VSMPO AVISMA	NR		NR		WGC-3 (OGC-3)	NR		NR	
<b>Telecommunication Services</b>									
AFK Sistema	DP		DP		Yenisei TGC (TGC-13)	NR		NR	
MegaFon	NI		NR		The list includes Russia's Top 50 companies, as well as companies taken from other samples and companies who responded voluntarily.				
Mobile TeleSystems	NR		NR						
Rostelecom	NR		NR						
VimpelCom Ltd	NR		NR						
<b>Utilities</b>									
Bashkirenergo	NR		NR						
E.ON Russia	SA		SA						
Enel OGK-5	SA		SA						
Far Eastern Energy Company	NI		NR						
FGC UES	NR		NR						
Fortum	SA		SA						
INTER RAO UES	DP		DP						
Irkutskenergo	NR		NR						
Kamchatskenergo	NR		NR						
Krasnoyarskaya GES	AQ (L)	*	AQ	63 E					
Kuzbassenergo	NR		NR						
MOESK	AQ (L)	*	NR						
Mosenergo	NR		NR						
Novosibirskenergo	NI		NR						
OGK-1	NR		NR						
OGK-2	NR		NR						
OGK-6	NI		NR						

AQ - Answered Questionnaire

AQ (L) - Answered Questionnaire (Late)

DP - Declined to Participate

NI - Not Invited to Participate

NR - Not Responded

SA - See Another – provided data through another company's response

(\*) - Company not scored due to late submission

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CDP Turkey and Russia Partner



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Sponsor



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CDP Russia Local Support Partner



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CDP Contacts	Partner Contacts	Local Partner Contacts	Report Writer Contacts
<b>Sue Howells</b> Co-Chief Operating Officer	<b>Melsa Ararat</b> Director	<b>Michael Yulkin</b> EIC	<b>Michael Yulkin</b> EIC
<b>Daniel Turner</b> Head of Disclosure	<b>Mirhan Köroğlu Göğüş</b> Project Manager	<b>Vladimir Dyachkov</b> EIC	<b>Sergey Dayman</b> EY Russia
<b>James Hulse</b> Head of Investor Initiatives	<b>Sabanci University</b> Orhan Tuzla 34956 Istanbul Turkey Tel: +90 (0) 2164839682 cdpturkey.sabanciuniv.edu cdp@sabanciuniv.edu	<b>Yulia Schastnaya</b> EIC	<b>Kositantyn Taranets</b> EY Russia
<b>Antigone Theodorou</b> Director, Global Operations		<b>Valeria Moskvina</b> EIC	<b>Melsa Ararat</b> CDP Turkey
<b>CDP</b> CDP Head Office 3rd Floor, Quadrant House 4 Thomas More Square Thomas More Street London, E1W 1YW United Kingdom Tel: +44 (0) 2038183900 <a href="http://www.cdp.net">www.cdp.net</a> <a href="mailto:info@cdp.net">info@cdp.net</a>		<b>Sergey Dayman</b> EY Russia	<b>Kostiantyn Taranets</b> EY Russia

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**Boris Porfiriev**  
Russian Academy of Sciences

**Alexey Kokorin**  
WWF Russia





**Kohtakrabi CDP**

Sue Howells

Daniel Turner

James Huile

Antigone Theodore

Лінгектоп ну мекліяхапоғажон

Абетіріхочті

no пәготе с наектамета

Рыкобоғнатең, ғарасптаамета

no пактпінде нифопмалын

Мириан Koroғlı Goguis

Melisa Ararat

Лінгектоп

Мелегжекпіндең тақоғатта

T: +90 (0) 216 483 9682

Cтамбул, Түркія

cdph@sabanciuniv.edu

Баренбін Мокбенова

Лін

О phax Тыңғыра 34956

Yнебепкент Гагарин

Лін

Джамал Гагарина

Лін

Мелес Арарат

Лін

Мириан Koroғlı Goguis

Лін

Мелес Арарат

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Universitesi

Лаптев CDР Б Турийн н Погони

Sabancı · UNIVERSİTESİ



Yhactne pocgnckx komnahn b uporrame CDP  
no nsmeheno knimata B 2013 n 2014 rr.

24

OT A ADO E

$$\frac{\text{Пентиhr} \times 100}{\text{еффектнбочтн}} = \text{нтиреban пентиhrа}$$

МАКНМАНПО БО3МОКХО  
Гарноге роннхечто  
Ло3ы4ехое роннхечто  
Гарноге роннхечто

## КАК ПАССИВИБАЕТСЯ ПЕНТИHR ЭФФЕКТНБОЧТН



Ленхаке тоctабоk.

Былогообе н пе3ын3ыя нупрсамби ми чинкенио ытепод4оемкотн б памкаx со3тбехон Азети3ахотн н б  
б нине3ене кинната, н артено ытпажнэт ми, хапннеп, ытхажннгаа н доктира 4ен ми чинкенио  
Бисокн пентиhr пе3ын3ахотн нока3пблет, ято комнанна о3енбнбает н ытпфундпгет брой бкн4а.  
но3нти3хие д3инктн б с3еpe н3мехенна кинната, котоппие лок3ахаи б отете комнанна ha ашеты CD-R.  
бнннана ha кинната, а3латаннн k еро н3мехенна о3енчнбн, ончаххпх б ахкте комнанн, ми смр4ене3  
Пентиhr пе3ын3ахотн о3енбнбет ытпеб 'д3инктн', ончаххпх б ахкте комнанн, ми смр4ене3  
О3ХОНТЕНПБИЕ БЕCA 3РЕМЕХТОB НПН О3ПЕДРЕННН ПЕНТИHR ЭФФЕКТНБОЧТН

<50% откликов = меньшее количество ответов

от 0 до 100

Максимальное значение откликов

Сумма всех ответов

× 100 = Процент откликов

>50% откликов = большее количество ответов

## Как рассчитывается процент откликов



Оценка эффективности опроса основана на проценте откликов

## Как определяется кинематическая скорость CD?



**ԿՐՏՔՆ ՕՅԾՈ ՕՏԵՐՈ ՊՈՅՆԿԽ ԿՈՄԱՀՆ (2014 Ի.)**

<b>KOMIYAHNA</b>	Penitnhr CDP 2013 r.	Penitnhr CDP 2014 r.	Apxahrejnblkni LBK	62 C	66 C	EBPA3	HOBAT3K	Ypatkauinn	CyprYheftera3	Bashk «Bo3po4Aehne»	JYKOJN
			—	77 C	—	63 E	40	41	23	—	22
			—	—	—	62 E	50 E	40	23	—	22
			—	—	—	—	—	—	—	—	16

Taginua 4. Penitnhr CDP B 2013 n 2014 rr.

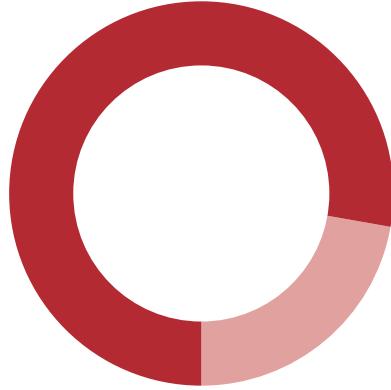
**KOMIYAHNA C HANJYAHNA PENITNHRM CDP B POCNN N O TOLAM 2014 L.**

## KUIMATNECKNE PENITNHR CDP



13%	Челнинатхекинн нычкакан н бозмокхочтамн
25%	Челнинатхекинн нычкакан н бозмокхочтамн
62%	Челнинатхекинн нычкакан н бозмокхочтамн
90%	Челнинатхекинн нычкакан н бозмокхочтамн

2014



78%	Нічternінgпoбaрbi B KopтoppaтnBphie	Myжpтиlнuчкuиunишpahphie Upoлeccbi YtpaBteHnBa	OtcyctBytOT AtoMyMehnpoBapBhphie	Upoлeccbi YtpaBteHnBa KJUMaTHeCKMn	ДpcaMn n Bo3MoKHOCTBaM	ChneHaBphin Upoлecc biYtpaBteHnBa	0%
22%	ДpcaMn	Upoлeccbi YtpaBteHnBa	OtcyctBytOT AtoMyMehnpoBapBhphie	Upoлeccbi YtpaBteHnBa KJUMaTHeCKMn	ДpcaMn n Bo3MoKHOCTBaM	ChneHaBphin Upoлecc biYtpaBteHnBa	0%

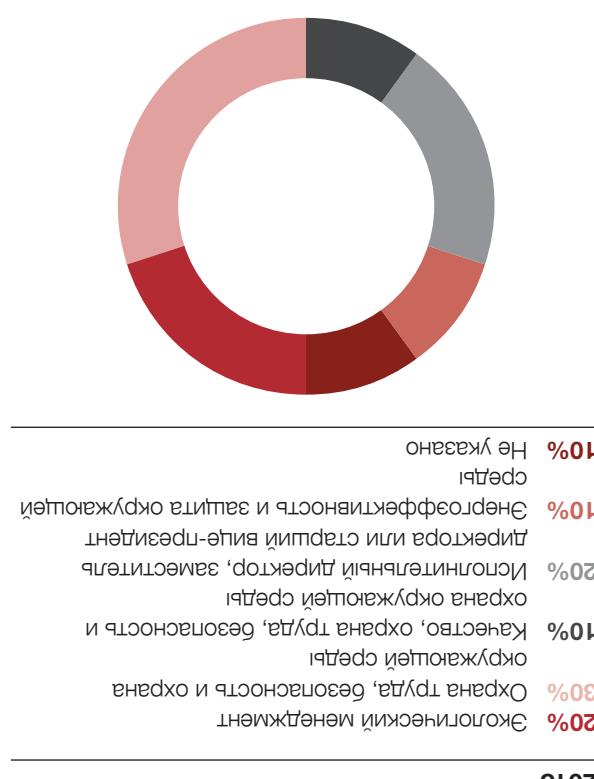
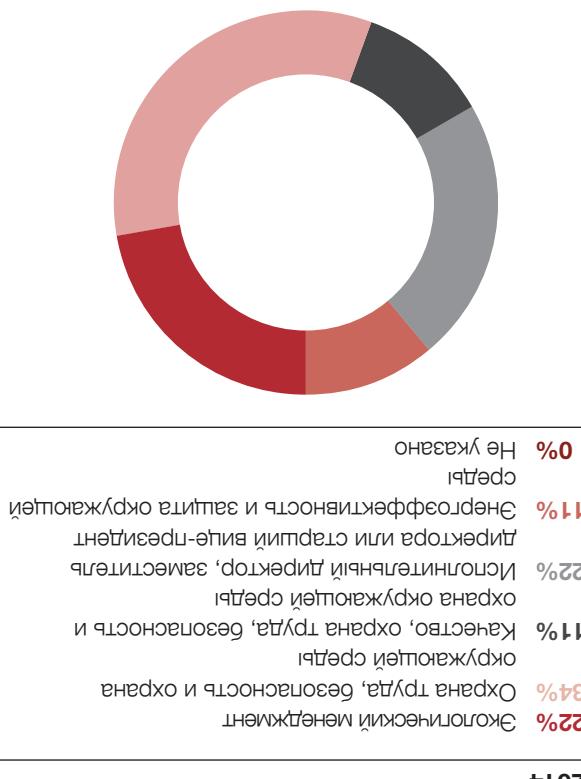
2013

**Pnchyok 6.** Aharuns koplumpatnbix tipoulelyp ynpabrejehna krunmatnheckmn nmcgann n bo3mokhctjan, B %

50, to taken kormahn pentnir sfekefnihocni he nbcnebanactc.  
E - esmim hnsknn. Emn pentnir orkprcton kormahn member  
B - Bnpaksektcrs B - D.E - A - uaknmabno bckoknn  
C - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
D - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
E - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
F - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
G - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
H - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
I - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
J - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
K - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
L - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
M - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
N - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
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R - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
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T - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
U - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
V - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
W - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
X - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
Y - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm  
Z - Cnppetctbnn C - anpocm. Cnppetctbnn C - anpocm

Ци нотирам 2014 г. кампін білокорин пентінг кејан  
погоннікінському комітетінн тоюйнн Альхареллуккын ھБК,  
котоппін нүпептібірнан һандоюе тоаподорин ортегі о  
біржаннан жарташпіктіннан ھандоюе тоаподорин ортегі.

#### KINMATHESKE PENTHIN KOMAHLIN



**3. ENCYCLOPEDIA OF CHINESE CONSTITUTION-DECISIONS** (hereinafter referred to as "Encyclopedia") is a % of the Chinese Constitution-Decision Encyclopedia.

Год		Наименование коммунальной услуги		Годы предоставления	
Наименование предоставляющей коммунальной услуги	Адрес	Год предоставления	Срок предоставления	Признак предоставления	Признак исполнения
Апхаренбекин ЛБК	Матепнааби	-	+	+	+
Бахк «Бо3пок4Лене»	Фнахчи	+	+	+	+
EBPA3	Матепнааби	+	+	+	+
Ланпом	Эхепреника	+	+	+	+
Kpacюohapckar L3C	Коммюнальные услуги	+	+	+	+
ЛУКОИЛ	Эхепрниа	-	-	+	+
МО3CK	Энергоподакение	+	+	+	+
HOBAT3K	Эхепрниа	+	+	+	+
OK «PYCAЛ»	Матепнааби	+	+	+	+
Cyрlyтheфтерa3	Эхепрниа	+	+	+	+
TTK-1	Коммюнальные услуги	+	+	+	+
Yparakunin	Матепнааби	+	+	+	+
BMM-Buntp-Lах	Лотпегнтиеркне тобаппi	+	+	+	+
Pacna4лкаa	Эхепрниа	+	+	+	+
Optym	Коммюнальные услуги	+	+	+	+
3HEI OLK-5	Коммюнальные услуги	+	+	+	+
3.OH Poccna	Коммюнальные услуги	+	+	+	+

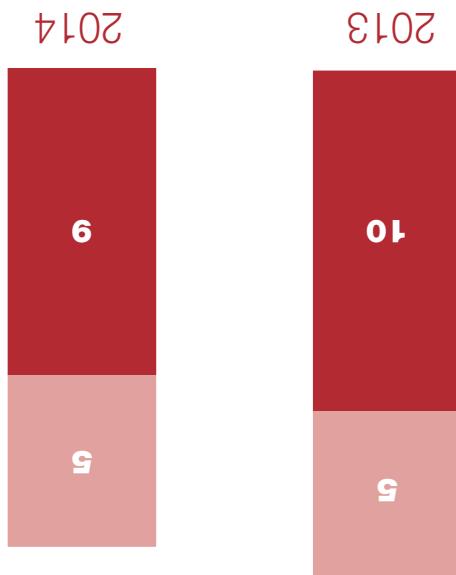
Tagline 3. Гмнок посснкнх комнхнн, обртнбум хв боппоби нупрпамби СДР ну ниме亨но

YUHABREHNE, OHHEKA PNCKOB N BO3MOKHOCten,  
CB3AAPPix C NMEHENNE KJNIMATA  
TOHOBZONI BIIRRNTB HEKOTPPIE OCOGEHOCtN  
AHATUNIS TPE4LTCAJEEHHBIX KOMTAHNMN CEAEHENIN  
MOHOOGEELAHOULNE TEHAEHNN B Cfelpe YUPABREHNA  
N IHPHRTINA PEMEHNN, XAPAKTEPHIE TUA POCCHNCKX  
KOMTAHNN. CYJA NO SKETAM, BO BECX KOMTAHNNX-  
PETHCHN AETHAX BOMPOCBI NMEHENNA KJNIMATA  
OTHECEHBI K KOMNETEHNN BPICMELO NCIOZHNTEPHLO  
PYKOBOPACtBA KOMTAHNN NUN QPCHLO N3 JHESOB  
COBETTA ANPDKTPOB (KOMNETA COBETTA ANPDKTPOB)  
KOMTAHNN. BOTPOCBI, KACAHUNGECA NMEHENNA  
KJNIMATA, BXO4LT B OGA3AHOCtN BPICMX  
PYKOBOPACtBA KOMTAHNN NUN B HEJROM 3A OGECHENHE  
J/DEATPESHOCHTB NUN B HEJROM 3A OGECHENHE  
PYKOBOPACtBA, OGA3AHOCtN, OXPAYA TPy/AA n  
MPOMPIJUHEHON Ge3OAHOCtN, OXPAYA TPy/AA n

ЛІТЕРАРНОСТЬ ПОСЛАННЯ КОМАНДИ Б СПІВЕ НІМЕХНЯ  
КІНМАТА: АХАЙНС ОТРЕТОР ХА БОНПОГІІ СДР

3. Итогом, починки котла и замена его конструкции оправданы. Составлен проект реконструкции котла с заменой трубы и обшивкой. Время выполнения работ 10-12 недель.

4. Выводы: в результате выполненных работ установлено, что котел имеет износ рабочих органов, что требует замены. Котел не соответствует требованиям технической эксплуатации и эксплуатировать его необходимо с ограничением производительности на 10% от номинальной. Рекомендуется заменить котел на новый, соответствующий нормам технической эксплуатации.



ACQ - KOMTAKHIN, KOTOPPIE PUPHAKHIN  
HELOCPEPLCTEHHOE YACATNE B APOCC  
NUPHAKTAKHIN CDP NHOPOMALLAH B OBTET HA  
BOLTOPCII SHKETPI  
SA - KOMTAKHIN, KOTOPPIE PUPHAKHIN OTOCPEPLDBASHOHE  
YACATNE B APOCC, COCSABUNMC HA TO, THAT  
COCTETCTBYOLLINE CEPJAHENRA BKJIOJQHEBPI B SHKETPI  
AJPYLNX (masteplnchnk) KOMTAKHIN.

**Pnagyok 4.** PacapeAerthehe komtsahn-pechtchAethor  
to bapnathy obteeta CDp

DChOBPHIE BpIBOApI

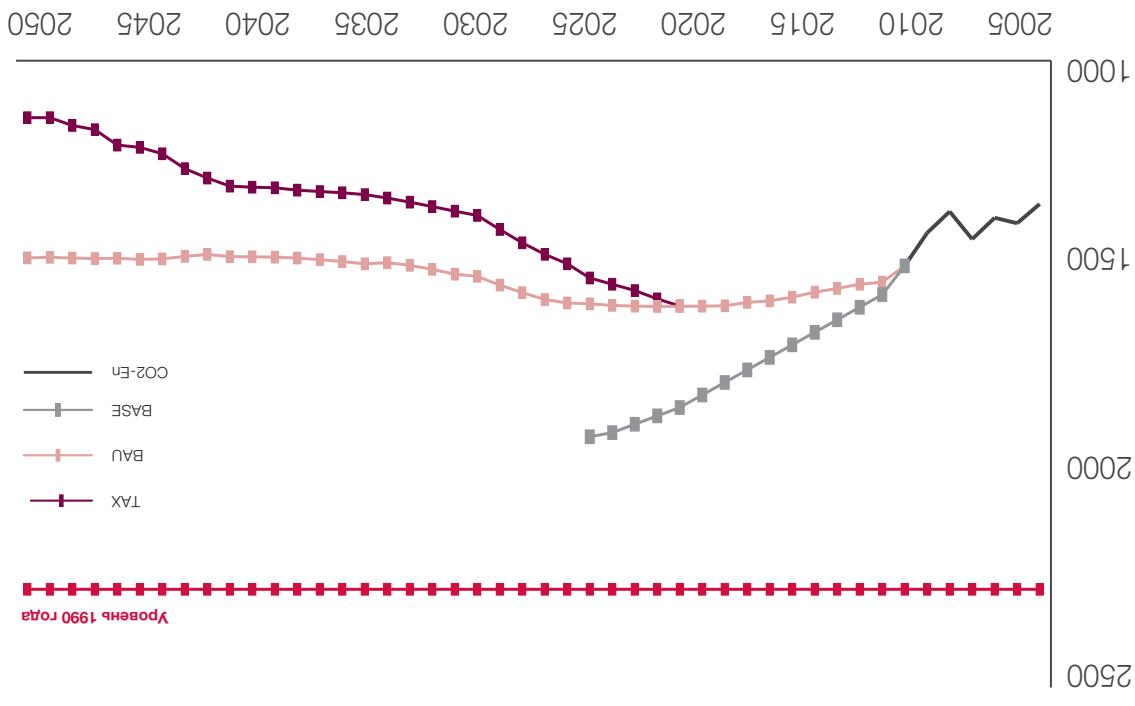
2035 L:

- LPn PEANINSAUHN PLOTOVHNTESLPHX HOBPI WEP  
BPIGPCCBI LF B 2020 L HE UPBPIGCB 78% OT YPOBHA  
A 3ATEM BPICTPDE CHNKHENHE BPIGPCCOB LF 58% OT

YPOBHA 1990 L, K 2030 L, N LF 52% - K 2035 L.

- OKHATENPHOE PEMHENHE O HLERAX TO CHNKHENHE  
BPIGPCCOB LF N O KUNMATHNECKON CTPATERNIN HA  
NPHNATB, BPICTYMAA HA KUNMATHNECKON CAMMNT  
NPHNATB, BPICTYMAA HA KUNMATHNECKON CMMNTE  
NPHNATB, BPICTYMAA HA KUNMATHNECKON CTPATERNIN  
OCH B HPO-NOPKE B CHTA6PDE 2014 L, LRABA  
OCH B HPO-NOPKE B CHTA6PDE 2014 L, LRABA  
OT 1990 L, B NEPNOA AD 2030 L, N XOT A HAHOOE  
NPHNATB, BPICTYMAA HA KUNMATHNECKON CTPATERNIN  
OHO, TEM HE MHEE, YKABIBAET OGLIEE HANTPABRNENE  
N 3A4AET OPLP4JERHBBIN YPOBEBH OKNIAHAN B  
OTHOHENHN JZURHENEHM ALNCTBN POCNN B

KUNMATHNECKON CFEPPE.



**Pnchyok 3.** Cjehapun Bplgocob CO<sub>2</sub> ot cknrarhna toljnina B Poccni A0 2050 l., mzh T CO<sub>2</sub>-3kb.

3arñAñpiBAA B 6yAYulee

5 CM. WWW.ECONOMY.GOV.RU  
6 БИНГАННЕ ГЕКТОПА 3НДЛХ ВИНТПЛАЕТСА. ГЛО ТАККЕ ОТНОЧНТСА Н КО ВСЕМ

Монокорбукн Летпд то аффектнбомы  
онсюнчюндоа бандо ахепринн (ЛЭЧФ) нуперс оутеки  
параннхпхя биргбодоба монжнб  
бабнчмочн от непрлнннаменбнх меп. <sup>10</sup> Ло  
бабнчмочн от непрлнннаменбнх меп. <sup>10</sup> Ло  
оутекам ЛЭЧФ, нупа созпахеинн гуцектнбулен  
тюнтина н меп биргбоди ЛТ К 2020 г. гоцтарт 70%

Б СРОМ Лпорхоее пасрнти мпогрои аспрнти  
АО 2035 г. - BP пнмира пнмепои к тем ке  
Бблбозам. Горячои охееке BP, BRIGPOCBi CO<sub>2</sub> от  
цектопа аспрнтик B Poccнн AДснтикту K 2035 г.  
импнгнннтепо 80% от ypoбpa 1990 г.; нроhоs ha  
2020 г. - 73-75%.

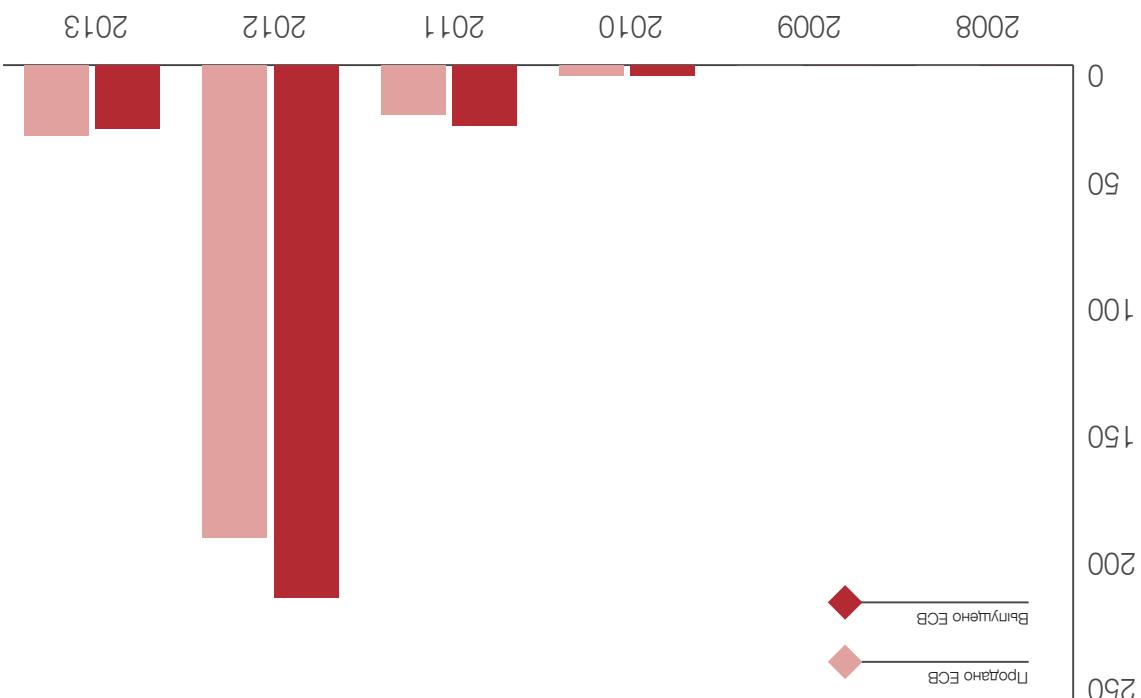
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Погодні та метеорологічні умови в Україні впливають на розвиток ринку земельних  
угод та земельного підприємства. Важливим фактором є земельна політика держави та  
регіональних адміністрацій, які встановлюють нормативи земельної вартості та  
земельні ресурси, а також створюють умови для приватизації та продажу земель.  
Важливими факторами є також економічні та соціальні умови, які впливають на  
потребу в землі та її цінність.

ЛІТЕРАТУРОВА

**N3MEHNE KJNMA TA N OGLJECB EHHA**

МНОГОХИК: ПАЧИНТАХО С НІЧІЛІРДІСІРДЕАННЕН МАЛШАПІСІ ОФИННАІРДІСІРДЕАННЕН ПАЧИНКАРО ПОСІНІКСІРДЕАННЕН КЕРІПІСІРДЕАННЕН ПАЧИНКАРО ПОСІНІКСІРДЕАННЕН МАЛШАПІСІРДЕАННЕН



**Pnicyhok 2.** Bilyyck B odepalihe ne n tipohaka ECB (to coccotashko ha 27.11.2013), mith eanhnu

База даннихи охиреене тарзан таңынан көбүркөн көтөрүлгөн макулдусу менен 200 жылда даңылданып калады. Аның таралығынан көнбайынан көтөрүлгөн макулдусу менен 200 жылда даңылданып калады. Аның таралығынан көнбайынан көтөрүлгөн макулдусу менен 200 жылда даңылданып калады.

Бактерицидно-антибактериална обработка на обекта със съвръхгладки и антистатични покрития

Wachtene poecilicoro gnececa b'renctbrax no  
cmreheno nsmehnra krmata

3. BHE3SATPHIN n pa3yqumtejhphimn .  
2. KJUNMANTHECKMNN fakrtopamn, ctahobracta Bce Gorje  
1. Vrtrpepojhoro crtefa. A Y4appi ctinxnn, bpi3abahprie  
0. Jvnehtor, sanhtrpeccobashpxi B chinkehnn coero  
-1. Ncnpitpibarot ha cge Bce Bo3pac3tahoufie J4arjene  
-2. Otehectbehpxi Tora3polun3Bo4ntrerien, kotpopele  
-3. Heratnbho ck3apibaretca ha rokypethocnoco6ochtn  
-4. (LIC) ocratca o4h0n n3 camhix Bpiconx B mngc<sup>2</sup>  
-5. Poccincirkn skohommn (Bpibpocbi Ll) ha 1 j0rn. Bll  
-6. TLL B Poccnn npo4jorakrot pacnt, yrtepo4f0emkocxb  
-7. qfet4pabnphon n pernohanphom yprobhe, Bpibpocbi  
-8. Hecmoptpa ha np4elthpnmmamebje mepbi ha

6 CM, <http://www.kremmlin.ru/media/files/1d4da0082fb65a93d.pdf>  
6 CM, [http://geovnement.ru/media/files/3n3tjx\\_nckuhocactc8\\_cnyi\\_toro\\_4to\\_o\\_fkahnecken\\_oqpehneret\\_hnchcyglo\\_bcdgplhno\\_llta\\_1he\\_hnbpcgk\\_llta\\_1en\\_he\\_mhee\\_e.html](http://geovnement.ru/media/files/3n3tjx_nckuhocactc8_cnyi_toro_4to_o_fkahnecken_oqpehneret_hnchcyglo_bcdgplhno_llta_1he_hnbpcgk_llta_1en_he_mhee_e.html)  
6 CM, <http://www.kremmlin.ru/media/files/19344>

• Меппі ROCYAПCTBEHHOLO PERJNIPOBRAH  
БBIPGOCOB тaпhнOKOBPIx лa3OB, B TOM HнCHe Meppi  
CTMynJNIPOBRAH нa ROCYAПCTBEHHOJ лoJЛEPBKKH  
BbIPGOCOB, HaлuBaRJUeHHPIx Ha COKPAJUeHHe  
LJ. BbIPGOCOB LL.

• **oheka nuprhois bpi6pcoob Ll' ADO 2020 D . n  
ha nepcneterkny ADO 2030 L , bkrjioaa oltehyk  
motehlnarla cokpaluhna bpi6pcoob Ll' no  
cektopam ekojomnnk;**

• **HACTN:** opmnogbahe cncetmbi yheta bplgpcob LTL  
kak ha koplupartnbhom, tak n ha pernozahrphom  
vordrakh.

Ykraaa i plesnAhetra Fd ot 3U cethropba ZU13 f N152  
«O cokpallenin bliprocob naphnikobpix razoo», b  
Ykraaa i plesnAhetra Fd ot 3U cethropba ZU13 f N152  
kotopom oppeAsehra gunkanuaa herb - cokpantb  
bplgocci LT k 2020 l. rak ninnihym ha 25% otyprob  
1990 f. Bo nctoizhehne atoro Ykraaa Lpabnentubcteo  
Pf paapagoato n B antpere 2014 f. tytpeBAnito  
Lnah meponpnattn, hantpaizrjehphn ha Aocntkene

KUNMATHNECKM N3MEHENRNM.

- **XOSANICBAA;** **ctnmyjnpobashne Aheteslphocn no sflamtauhn**

ПРИЧИНОЙ НЕДОСТАТОЧНОСТИ ПОДАЧИ  
ГАЗА В МЕТОДИКУ ВЕЛЕНЬЯ МЕЧУЛО

- Отримання залізної руди від біогенних паботів
- Створювання залізних руд від біогенних паботів
- Оцінка ефективності використання біогенних паботів для створення залізних руд

- BHEJPEHNE CNCTEM YHETRA NOTPESGERHENNA  
- SHePРОДЕСЫРСОВ B 3FATHNAX;

- *deutschsprachige Bibliothek für Kinder- und Jugendbuchwissenschaften*

- Организация бюджета Центра по работе с гражданами

Бюджетната политика на РБ е съсредоточена върху подпомагане на производството и поддържане на работните места.

- *tpachnophthon cektope, b tom hincje: paspaotka n peatnaujna med no orpanhehno*

Digitized by srujanika@gmail.com

1) **ИССЛЕДОВАНИЕ ПРОЦЕССА РЕГУЛЯТОРНОГО ДЕЙСТВИЯ** (исследование механизма регуляции в клетке).  
2) **ИССЛЕДОВАНИЕ ПРОЦЕССА РЕГУЛЯТОРНОГО ДЕЙСТВИЯ** (исследование механизма регуляции в клетке).  
3) **ИССЛЕДОВАНИЕ ПРОЦЕССА РЕГУЛЯТОРНОГО ДЕЙСТВИЯ** (исследование механизма регуляции в клетке).  
4) **ИССЛЕДОВАНИЕ ПРОЦЕССА РЕГУЛЯТОРНОГО ДЕЙСТВИЯ** (исследование механизма регуляции в клетке).  
5) **ИССЛЕДОВАНИЕ ПРОЦЕССА РЕГУЛЯТОРНОГО ДЕЙСТВИЯ** (исследование механизма регуляции в клетке).

METAH;

Cektopa		Bplgpcbi 2011 г. %	1990 г.	2011 г.	от Bplgpcbi 1990 г.	Bplgpcbi razsob - Bcero	1 317,4	1 608,5	Tomninho-cherpenieckin komnirek	N3 hnx:
70,5	- Cherktpo3heperteinka	1 176,0	829,6	70,5	- Heftrahaa n razooba npomplimrehhocb, Bkrjhohaa	359,4	414,4	115,3	- Yorphaaa npomplimrehhocb n fpyryne otpacjn T3K	73,0
100,6	- Heftrahaa n razooba npomplimrehhocb, Bkrjhohaa	73,0	73,4	67,6	- Lpomplimrehhocb n ctpontrejpcbo	475,0	320,9	67,6	- Hephaa n libetaha Metarautyprina	203,7
70,2	- Xmnihedcka npomplimrehhocb, Bkrjhohaa	51,0	35,6	69,7	- Xmnihedcka npomplimrehhocb, Bkrjhohaa	220,2	142,3	64,7	- Lpohne otpacjn npomplimrehhocb n ctpontrejpcbo	165,1
70,2	- Hephaa n libetaha Metarautyprina	143,0	203,7	43,5	Cerpeko, rechhoe n pphoe xosanicbro	379,1	165,1	82,8	Tpachnotopt - Bcero	342,4
82,8	B TOM HNCje:			82,8	B TOM HNCje:			82,8	B TOM HNCje:	
64,7	- Lpohne otpacjn npomplimrehhocb n ctpontrejpcbo	142,3	220,2	64,7	- Abtomognutphbin tpachnotopt	177,5	186,7	105,1	- Tpy6onpobo/aphbin tpachnotopt	110,5
72,6	- Abtomognutphbin tpachnotopt	186,7	177,5	72,6	- Lpohne otpacjn tpachnotopta	54,3	16,7	30,8	- Lpohne otpacjn tpachnotopta	16,7
30,8	- Lpohne otpacjn tpachnotopta	16,7	54,3	131,1	Knniulho-kommyharuphoe xosanicbro	92,7	121,6	131,1	Lpohne otpacjn	31,5
132,3	Lpohne otpacjn	31,5	393,2	8,0						

ot cknrashnra toljrnba cocatabnja 5,8 mrt h;!  
hephra metaruzjyprna: cokpaujehne bplgpcocb Co<sub>2</sub>  
coktarnuto B ogtlen chrokhoctn 7,4 mrt t Co<sub>2</sub>-3kbe;  
bplgpcocb Ll ot nplomplurhix lpolueccob  
xnmnhecka nplomplurhochtb: cokpaujehne  
chrokhoctn 9,6 mrt t Co<sub>2</sub>-3kbe;  
cokpaujehne bplgpcocb Ll coktarnuto B ogtlen  
cerpckoe, plphoe n rjechoe xo3ancbtb:

Hauhnouahpore kaaCtpe 2013 r., noxtpepkAehhie he3aanmcmin  
be3nphaknoro, naabe e hecetullme cnoanby3er torhro, aahhie  
tO Hauhnouahpore kaaCtpe 2014 r. eule neupole se3anmcmy  
zoro he bnohe sckl. Cyxtemm 301r, a tracke pñhankni tia  
t CO<sub>2</sub>-ske, nuge, hem e Hauhnouahpore poxraze 2013 r. Ochobemnra tia  
kaaptege 2013 r., ha 11,4 mñt CO<sub>2</sub>-ske, a Pnra 2008 r. - ha 8,4 mñt CO<sub>2</sub>-  
ohskaa biplococe Ll. Anra 62a080 roza Biue, hem e Hauhnouahpore  
bura coopekntpobera sñhs, ctopoy chukhnebn. Baachctn, bora  
nepeBlyuuen Hauhnouahpore poxraze 2013 r., ksoptre 2014 r.  
moryt okaatpca Aocctoepbmn, ctopoy, 301r, ochehnk  
1,7%, a B 2012 r. - ha 2,2%. He cnoapbera triñhfpn, ksoptre bnohe  
biplococe Ll. Ge3 yhera 3N3JX) Poccnn nepeBch 2008 r. ha  
ineunotres sumissons/sumissons/items/8108.php). Crraachc oherm anahpm, B 2011 r.  
[http://unicc.in/national-reports/annual-figs\\_inventories.html](http://unicc.in/national-reports/annual-figs_inventories.html)  
1 B 2014 r. Poccnnkoon qepeahnen Biue nepeAcbarer hoberm kaaCtpe  
n Aha uehehaa biplococe Ll. 3A 2012 r. (aaevelnhaa centre PnK OOH  
2008-2011 r., nepeAcbarer huke B tagunjie 1.

Buree noApoghaa pa3gnika biplococe Ll. 3A neponoA  
3,73%.  
Ypobehp 2008 r. ha 83,41 mñt T CO<sub>2</sub>-ske, nijn ha  
Ypobehp 2008 r. A B 2011 r. biplococe Ll. nepeBnoin  
2010 r. biplococe Ll. octabainic huke Mokpnincncho  
Bp3babihoro akohomnheekni knpncooc. Ljpn atomb  
craaJa n pompliJuehoro lponsoBCTB a 2009 r.,  
4,52%. Ho To Gpui BOCTAHOBNTENHPIHIN poct nocoie  
natohnik Hauhnouahpore kaaCtpe ahponehpx biplococe Ll., nepeAcbarer huke B Ckeperepart PnK OOH B 2013 r.  
[http://unicc.in/national-reports/annual-figs\\_inventories.html](http://unicc.in/national-reports/annual-figs_inventories.html)

Mñro biplocoei napinkobix r3oob	2 237,4	2 121,4	2 217,3	2 320,8
Biplocoei rekafotponja cepbi	0,8	0,8	0,7	0,5
Biplocoei rnpapofotopyrntepoAob	14,4	10,1	10,9	9,1
Biplocoei nepfotopyrntepoAob	3,7	2,5	2,7	2,5
Biplocoei sarkncn 301ra	116,2	116,8	113,8	117,6
- biplocoei ot ogpauhena c otroxPamn	70,3	74,1	73,6	76,6
- Ytehkn lpuñ Jögphie, xpahehn n tpachcnopnpoBke	372,7	341,2	369,2	382,1
N3 hnx:				
Biplocoei metaha - BCero	492,9	464,7	491,1	506,6
- biplocoei ot n pompliJuehpx nponleccob	157,2	139,7	153,3	157,3
- biplocoei ot cknlarhna Tornjneba	1 426,8	1 360,6	1 411,7	1 491,1
N3 hnx:				
Biplocoei yrneknjoro r3a3a - BCero	1 609,3	1 526,4	1 598,2	1 684,4
Biplocoei napinkobix r3oob	2008 r.	2009 r.	2010 r.	2011 r.
Ta3nula 1. Biplocoei napinkobix r3oob Poccnn 8 2008-2011 r. (Ge3 yhera 3N3JX), mñt T CO <sub>2</sub> -ske.				

## OCHOHPIE KJINMATAHCNE TEHAEHNIN B POCCHN

### NMEEHENIE KJINMATA: noraA gbet pekoPabi

CORJACHO OFUNJAHPIHMY AOKJAJAY "O6

OCOGHEHOCCKA KJINMATA HA TEPPLTOPPIN POCCHNICKON

FEPEHOCCKA 3A 2013 ROA, ONYGINOKBAHOMY

POCCHNICKON 3A 2013 ROA, OCHOBHON BKJAJA

TRUGOJAHPIHON TEMMEHPATYPIH.

OCOGHEHOCCKA KJINMATA. CPEHAKA CKOPOCCT POCCKA

NOTENIHENE KJINMATA. CPEHAKA CKOPOCCT POCCKA

CPEHAKA 3A 2013 ROA, POCCHNICKON 3A 1976

TO 2013 ROA, B POCCHNICKON (0,45 °C 3A KAKJAJIE 10 JET)

HOGEPB 2013 ROA, B POCCHNICKON 3A BECK NEPENOA

C 1936 (R), N JETE (+1,29 °C: HA NATROM MECTE C 1936 (R).

OTKUOEHENE OT HOPMBI +1,99 °C: HA TEPPEH MECTE

MACKNMARJAHON BIJIA CYMMA OCAAKBO OKAANUACB

BO TEPPEH TOSOBNE XX B. — HAHAZEE XXI B. BOCHNT

NOMBILIHENE TEMMEHPATYPI HA TEPPLTOPPIN POCCHN

LUO OUEHKAM POCCHNICKOMETA, OCHOBHON BKJAJA

HOPMBI.

MARKNMARJAHON 3A NEPENOA C 1936 (R). TAKKE

(LU) A ATMOCHEPE. LAZHPIE O KOMIHEHTPAJIN

NOMBILIHENE KOMIHEHTPAJIN NEPHAKHOBIX RAZOB

POCHNICKOMETA, HOUTTEPKAJAOT TEPPEH MECTY

LU, NOUYEHHEHIE HA CHATHNAK MONTOPNHLA

POCHNICKOMETA, HOUTTEPKAJAOT TEPPEH MECTY

3A NOUCHEHIE MEPEHNCJURO RAZA (CO<sub>2</sub>) B ATMOCHEPE.

KOBEHJUNN OH 06 NMEEHENIE KJINMATA (PKNK)

B COOTETCBIN C TEPPEHANHM PAMOHON

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

PA3AGATBIPABOTCA N PAPGATBIPABOTCA B CEKPEETPANT

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

N KNOTKORO NPOTOKORA B POCCHNICKOMETA (PKNK)

KOBEHJUNN OH 06 NMEEHENIE KJINMATA (PKNK)

B COOTETCBIN C TEPPEHANHM PAMOHON

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

3A COOTETCBIN N MOTJOTNETURAM NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

N KNOTKORO NPOTOKORA B POCCHNICKOMETA (PKNK)

KOBEHJUNN OH 06 NMEEHENIE KJINMATA (PKNK)

B COOTETCBIN C TEPPEHANHM PAMOHON

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

3A NOUCHEHIE MEPEHNCJURO RAZA (CO<sub>2</sub>) B ATMOCHEPE.

KOBEHJUNN YMEPEHNCJURO RAZA (CO<sub>2</sub>) B ATMOCHEPE.

POCHNICKOMETA, HOUTTEPKAJAOT TEPPEH MECTY

LU, NOUYEHHEHIE HA CHATHNAK MONTOPNHLA

(LU) A ATMOCHEPE. LAZHPIE O KOMIHEHTPAJIN

NOMBILIHENE KOMIHEHTPAJIN NEPHAKHOBIX RAZOB

BO TEPPEH TOSOBNE XX B. — HAHAZEE XXI B. BOCHNT

NOMBILIHENE TEMMEHPATYPI HA TEPPLTOPPIN POCCHN

LUO OUEHKAM POCCHNICKOMETA, OCHOBHON BKJAJA

HOUPMBI.

NOUCHEHIE MEPEHNCJURO RAZA (CO<sub>2</sub>) B ATMOCHEPE.

3A NOUCHEHIE MEPEHNCJURO RAZA (CO<sub>2</sub>) B ATMOCHEPE.

KOBEHJUNN OH 06 NMEEHENIE KJINMATA (PKNK)

B COOTETCBIN C TEPPEHANHM PAMOHON

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

3A COOTETCBIN N MOTJOTNETURAM NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

3A COOTETCBIN N MOTJOTNETURAM NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

3A COOTETCBIN N MOTJOTNETURAM NAPHAKHOBIX RAZOB

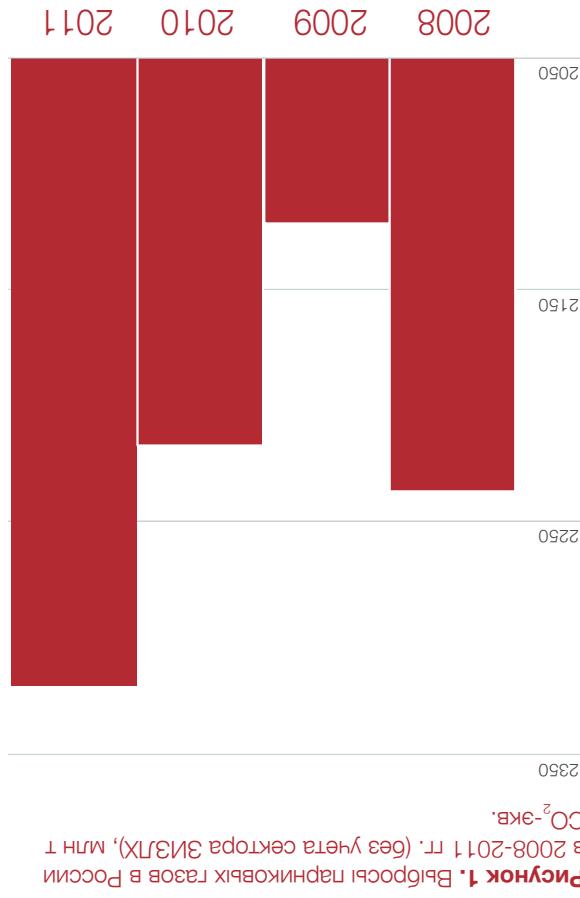
PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB

EKEERJAHNA NEHETAPNASHA NAPHAKHOBIX RAZOB

PKNK HAHNOHARJPHIN AOKJAJAY O KAJJAJA O KAJJACTPE

BLIPGOCOB N MOTJOTNETURAM NAPHAKHOBIX RAZOB



## OCHOHPIE KJINMATAHCNE TEHAEHNIN B POCCHN

KOMMЕТАПНН ЕY РОССИЯ

pharhan3alnlo npoekta.

Mewchony Kochyjprathy, a ero heoluhnmipr skrajl a  
cemnashopr Jura hnx, a tarkke r-Hy Ma. Hskny, hanemy  
n qheky utreto pocnincirk romuanin n pharhan3alnlo  
3a uoJtAepkry npoekta, romuanin EY Poccna 3a ahunes  
Mbi bpiakadem npyokyio gsalapahocp phoAy Coca Cola

notpegehotin pocnincirklo nshchec.

npaboson Gasabi, rotoperd Gyjtet ynhntabt bosmokhochi n  
pharhan B paapagothe soure effektibno honmatnbo-  
pakkpialewra hepes CD, nomoket rocyApcbhphim  
nshchecnam. Jura tarkke ybephri, tto nhofpmalun.

mobiliua n cbo yctohnhocb k knmatnheckm  
qhohepmeho B xoxle ahunesa n nholotobn nhofpmalun  
Mbi haApeemca, tto co bpemek hem bec pocnincirk  
koumanin 6yjt nchotpsoarb CDP B kachece urafophmbi  
Jura packpinta nhofpmalun o knmatnheckm pckax,

polin a fopmnpobahnin npaktink Bejehna nshchec.

peljupnypouln oprahne n Jazrehnen pikhra, a tarkke nx  
homnahanne Bsanmocbabseen mekAy Bemutatpbcob  
hecomhenni, hecet kbrajl n hame pocchbhoe  
nulyhenhpi B Typlin orhrom C pocnincirk romuanin,  
upofecchachapbnon n hgyhnom urache. Lounptka nqjelintpca  
kar CDP, nomoraeet cotpjyhakam fakayurterta padanabatpca B  
upedlunhnhmataren B Apyrix ctpbarax hepes take ne npoekti,  
otrebctbehocbn. Bsanmogjehtcen c padanuhpmi lpymlan  
mekAyhappachoro ypoera c padanuhpmi ybcteon collnabion  
phakyjnpert otpemntca bmlgckatp chelynnicteb

as padanuhpmi ctpbar nmpa, bkhioraa Poccna. Han  
Typlin, kakAplin rof haugpaeet bec pocnincirk  
pictyntaujlin opahansatopon /aeterejhocbn CDP B  
phakyjnpert MewEjkmehta Yhnepcnetera Gagahn,

phakyjnpert CDP B Typlin, npn uoJtAepk

phoAy Coca-Cola.

phakyjnpert CDP B Typlin, npn uoJtAepk

Изобража 3к0номика оптимизациб от кпнинага, н а pHикax 3ахиbет нрeоднратаb 3тепекшви  
отнимннм. ОГако, BCTB Ha нуtр 3к0номиекорo okнbиbеня, мbi He Aтorkиb 3aгпббат o TOM, тo  
Bpилpобci Maпhикoбxi 3a3oB npoAпoнkaгoт pacти n Ato BnepeAн HaC MoлT oкнAтaB He npoCтo Kpиниcнbie  
Bpилpобci Maпhикoбxi 3a3oB npoAпoнkaгoт pacти n Ato BnepeAн HaC MoлT oкнAтaB He npoCтo Kpиниcнbie  
Bpилpобci Maпhикoбxi 3a3oB npoAпoнkaгoт pacти n Ato BnepeAн HaC MoлT oкнAтaB He npoCтo Kpиниcнbie  
Bpилpобci Maпhикoбxi 3a3oB npoAпoнkaгoт pacти n Ato BnepeAн HaC MoлT oкнAтaB He npoCтo Kpиниcнbie



# CoApekahe

- 4 LpdeAñcjoBne rehepañphoro AñperektoPa CDp
- 5 BBeAñhne
- 6 Komehtapn EY PoCCnA
- 7 Ochohpie kurnatnhecke tehAñehlun B PoCCn
- 16 LgeAñphocb PoCCnckx kurnahn B cfpce nsmehnra kurnata; aheunis otretoB ha Botpocbi CDp
- 20 kurnatnhecke pentnhrn CDp
- 21 kpartkn ogoop otretoB PoCCnckx kurnahn B 2014 r.
- 22 kak opeAñfazotca kurnatnhecke pentnhrn CDp?
- 24 yacne poCCnckx kurnahn B uporPame CDp no nsmehnra kurnata B 2013 n 2014 r.

Членархору нпелгтабнтея Лпегнлгета Погннгкюн  
Фелгепаину н о болпогам кунмата А.Н. Белгунькюро  
ха нрехапном заселнин Кунматнекюро камнта  
ООИ, Нпро-Нлопк, 23 севтбрь 2014 г.

Собственна посннка якість підприємства є основою оптимізації виробництва. Це можна зробити, використовуючи технології, які дозволяють отримати точну інформацію про стан обладнання та процесів в реальному часі. Це дозволить підвищити ефективність виробництва, зменшити витрати на ремонт та підвищити якість продукції.

Логічне зображення об'єкта відображає його функціональність та структуру.

Poccna bratjeet 19 npoylehtamn mnpobpxi sanacob boppeabphix recob, koteqneunhpjyrt bzbqe dojbum ylrepobla, hem jirogaan ha3emhaa skocncte qto nmeeet dojbumoe shahene lula chnkemna atphonorehnoj harpy3kn ha jinmat ...

Лаптев н о сибирской  
номинации

Лаптев н о сибирской  
номинации

Лаптев н о сибирской  
номинации



Horopb 2014 r.

Локтев CDP от номинации 767 номинации в категории 92 тру. Аналisis CIMA

## Номинации КИМата. Россия 2014