

## WHAT IT TAKES TO WAKE-UP AND ENERGY EFFICIENT BEAR?

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### OVERVIEW

According to the study by McKinsey<sup>1</sup> there is realistic potential to reduce carbon emissions by 2030 by 54% with respect to 1990 levels. Over one third of this potential (down to 27% below 1990 levels) can be realised in Russia narrowly defined self-interest, i.e. with positive economic returns to the Russian society even without counting the benefits of avoided damages of climate change, auxiliary benefits of reducing local pollution and revenues from international carbon market. However, societal abatement cost curves are often viewed with scepticism by project developers and financial institutions alike. They can see in their everyday operations that many of the abatement opportunities that are deemed to be money-saving are not actually implemented in the marketplace. In reality their market penetration rates are lower than “on paper”. What may be economically viable for society is not always profitable for investors.

The traditional approach to modelling "societal perspective" overlooks the difference between theoretical economic costs of carbon abatement measures and their costs actually perceived by market players ("private or investors' perspective") when they purchase technologies and develop projects. Costs from investors' perspective include various price distortions (taxes, fees and subsidies), transaction costs of developing projects and several “hidden costs” related to sector-, and technology specific risks and barriers. Perceived risks increase the perceived costs since project developers face higher cost of funds for investments. Therefore investors undertake lower volume of investments than is efficient for society even disregarding auxiliary and global climate benefits. This study builds upon the McKinsey analysis of “*Pathways to an energy and carbon efficient Russia*” and extends it in the two directions:

- (1) By developing marginal abatement cost curve from the perspective of investors emulating current market incentives
- (2) by conducting quantitative assessment of the effectiveness of various policies that affect investors' costs

### METHODS

Given the societal perspective, we adjusted abatement costs for the barriers and risks investors face. The cost of capital is corrected from 8 percent to 20-30 percent, varying across sectors. Energy prices are increased to observable prices in 2009 and transaction costs are added. These changes result in our status quo scenario which is an hypothetical (and unrealistic) “what if” scenario assuming that historical market conditions that prevailed in 2009 in Russia would remain unchanged until 2030. The right mix of general economic and targeted climate policies can align societal and private perspectives and harness private investments to deliver ambitious government abatement objectives. Therefore, this study focuses on the effect of different policy mixes on investors' costs. The aim is to quantify the impact of different policy combinations on abatement opportunities and to show the resulting emission pathways.

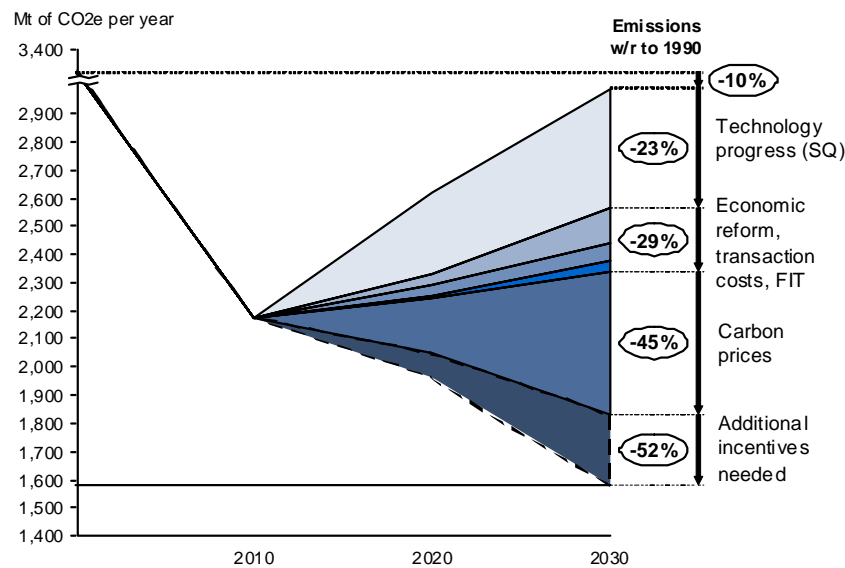
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<sup>1</sup> McKinsey & Company, 2009, *Pathways to an energy and carbon efficient Russia*

## RESULTS

The results show that the adequate mix of technology progress, economic reforms and targeted energy efficiency policies can significantly change the incentives to invest in greenhouse gases abatement in Russia. General market reforms provide necessary conditions and incentives to collect low-hanging fruits among energy efficiency opportunities and utilize low-cost renewable energy sources. They would be not sufficient, however, to achieve abatement pledged by Russian leaders, to say nothing of the one expected by the parties under UNFCCC negotiations. Targeted support to nascent energy efficiency and renewable energy markets is inevitable to achieve such abatement levels.

### Pathways to deliver up to 1.1 Gt of profitable abatement depending on the level of policy ambition



## CONCLUSIONS

This paper investigates the transition from abatement costs from a societal to an investors' perspective. It is clear that, under 2009 market and regulatory conditions before 2010, only limited CO2 abatement opportunities were financially attractive to Russian investors. The aim of this study is to investigate which policies have to be implemented to increase the abatement opportunities profitable for investors.

## REFERENCES

1. McKinsey & Company, 2009, *Pathways to an energy and carbon efficient Russia*, available at: [http://www.mckinsey.com/clientservice/ccsi/pdf/CO2\\_Russia\\_ENG\\_final.pdf](http://www.mckinsey.com/clientservice/ccsi/pdf/CO2_Russia_ENG_final.pdf)