

# Results of “Workstream 1” on Scenarios

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# Content of the Workshop

- **Critical Points based on three presentations:**
  - presentation of main results of 2013 work: methodology, baseline scenario, driving forces and case studies
  - conclusions for energy transformation sector
  - impacts of implementation of the 20-20-20 targets on investment in energy transformation sector, final energy consumption, and end-user prices
- **Questions & Comments => explanations from the modelling team are required**
- **Discussion & Feedback => Suggestions & Tasks (to be fulfilled by the next GAC meeting)**
- **The aims of the scenario work: to create a uniform modelling environment; to investigate scenario stories; and to unite the scenario community on the likely outcomes of the stories;**
- **Overall question posed by the GAC: what does the achievement of the 20-20-20 targets mean for Russian gas i.e. will it increase/decrease/remain stable?**

# The Model: aims, drivers, methodology and preliminary conclusions

- Defining trajectories for reaching the 20-20-20 target with stable, increasing or decreasing Russian gas supply to the EU
- Drivers: dynamic indicators (oil price, gas price, EU GDP, RES subsidies, carbon tax etc) and events (EU shale gas development, ban on gas usage in new buildings etc)
- Scenario Tree:
  - REF (Low/High), SENS (import prices), SGC (resource availability, including European shale gas), EU ETS, CO2
- Model aims to suggest a price at which Russian gas needs to be sold for Russian supply to stay stable/increase/decrease and reveals that Russian gas supplies do not decline in any scenario by 2030 and remain stable (i.e. not growing) only in one (energy security) scenario due a 25% cap placed on Russian imports
- Demand side measures are necessary if the 20-20-20 targets are to be met
- Russia should support the EU 20-20-20 targets (as this would weaken coal's competitive position)
- Addition of European shale gas doesn't affect Russian gas supplies



# Questions & Comments:

## explanations required from the modelling team

- Lack of clarity whether the price of gas at the border (with which the model operates ) is in fact cost of delivery OR an oil-linked price?
- The price at the border should take into account not only of upstream costs but also cost of transportation to the European border (e.g. Nord Stream adds to the cost of gas imported via this pipeline)
- Might it be that the model favours Russian gas because it has no inbuilt (price) competition between different suppliers?
- European (is this EU?) demand of 600 bcm in 2015-20 is too high (but model says this level of demand is necessary to meet the 20-20-20 targets)
- Cost of shale gas in the model is too high given only 60 bcm production
- Model does not accept any gas from the Caspian and ME region despite the fact that the model must 'know' that a pipeline from that region is being built
- Does the model not include South Stream or Ukrainian capacity? Or does it substitute Nord Stream/South Stream for the Ukrainian capacity?
- Model shows that coal is being pushed out, but the reality is different and coal is growing in EU energy balance
- The model seems to operate with a welfare "shadow" price – whereas it should operate with a market "shadow" price



# Tasks & Suggestions

- To provide a 20-30 page description of the model and its assumptions, focusing on the clarity of assumptions on prices and capacity
  - Clarify whether the price of gas at the border (with which the model operates ) reflects cost of delivery OR oil-linked price assumptions
  - Clarify capacity constraints
- To run the model using either prices de-coupled from oil, or (if retaining oil-linked prices) at different HH prices and at different oil prices (e.g. using IEA scenarios)
- To re-calibrate the model based on 2011 or 2012 as the starting year (not 2010 as it was not a representative year)
- To differentiate between ETS and non-ETS sectors while applying a CO2 emissions cap, as non-differentiation might significantly impact gas demand (the model only caps overall CO2 emissions (i.e. some sectors could have higher CO2 emissions reductions than the others)
- Consider in greater detail the possibility of higher penetration of gas in the transportation sector
- Formulate several hypotheses as to what a “win-win” scenario benefitting the EU and Russia could be, which could form the basis for the development of “High Road” scenario



# Main Conclusions/Results of the Workshop

- The model suggests that Russian gas supplies do not decline in any scenario by 2030 and remain stable (i.e. not growing) only in one (energy security) scenario due a 25% cap placed on Russian imports...
- but there are a number of issues that need to be explained by the modelling team to lend higher credibility to this conclusion, including (inter alia) assumptions on prices, capacity, and CO2 emissions constraints (see “Questions & Comments”) on which...
- successful formulation of hypotheses for “win-win” scenarios benefitting both the EU and Russia will be conditioned and...
- which could form a basis for the “High Road” scenario the main components of which could be presented at a 2014 GAC meeting

