



# METHANE TO MARKETS

## **RUSSIA:COUNTRY'S UPDATE**

Steering Committee Meeting

30 October -1 November 2007

Beijing, China



# National Priorities:

- INNOVATIVE DEVELOPMENT
- ADVANCES TECHNOLOGIES
- DIVERSIFICATION
- ENVIRONMENTAL POLICY AS A PART OF ECONOMIC & SOCIAL DEVELOPMENT



# National R&D program

Priority Areas of the Russian scientific and technological complex development for 2007-2012:

- Rational Nature Management
- Energy & Energy Saving



# LANDFILL & AGRICULTURAL WASTE UTILIZATION PROJECTS

- utilization of organic wastes accompanied by pyrocarbon and H<sub>2</sub>-enriched gas generation
- aerobic fermentation of SMW
- method for the solid wastes biodegradation into fertilizers and products that can be used in wood industry and landscape architecture.
- processing of the SMW suites into syngas combined with production of composite construction materials
- utilization of agricultural wastes into ethanol, fertilizers and pressed fuels)
- Method of deep purification of landfill biogas for its conversion into clean energy carrier

# ASSOCIATED GAS CAPTURE & PROCESSING TECHNOLOGIES



- construction of a reactor with nanoporous catalytic membranes for processing of the associated gas
- Method of in-situ industrial utilization of oil associated gas
- Oil associated gas processing into methanol, motor oils and other products
- creation of a technological basis for structural modernization of the large-scale polyolefin production facility



# NATURAL GAS SECTOR

- Improving reliability of oil & gas transportation systems (improved anti-corrosion protection, seamless pipes, etc)
- gas leakage prevention through improved detection equipment and technologies

# Integrated coal-mine methane



## utilization system

### Pilot project at Kirova coal mine

an integrated coal-mine methane utilization system would include:

- construction of a pipeline network combining multiple methane sources both inside the mines and on the surface;
- construction of a number of modular cogeneration units and flares for utilization of remainder methane, all to be supplied by the methane piping network;
- construction of a local electric distribution network transmitting electricity from cogeneration units to the degasation pumps, ventilation equipment and other local electric consumers;
- generated heat is delivered to the buildings and installation of the mine by the existing heating network.

Installation of an integrated system reduces the risk associated with inconsistent methane flow from a single source and ensures a more reliable heat and power supply to local users.



# PUBLIC OUTREACH

- Conference “Enhanced Oil & Gas Recovery” (organized by All-Russian Oil and Gas Research Institute named after Krylov)
- International Congress “Bioenergy -2007”
- Russian-American Workshop on Landfill Gas Utilization