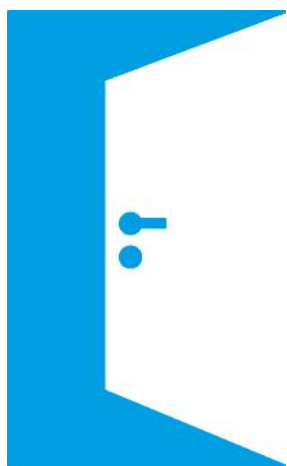


ENERGY EFFICIENCY FACT PACK



Swedish Trade Council

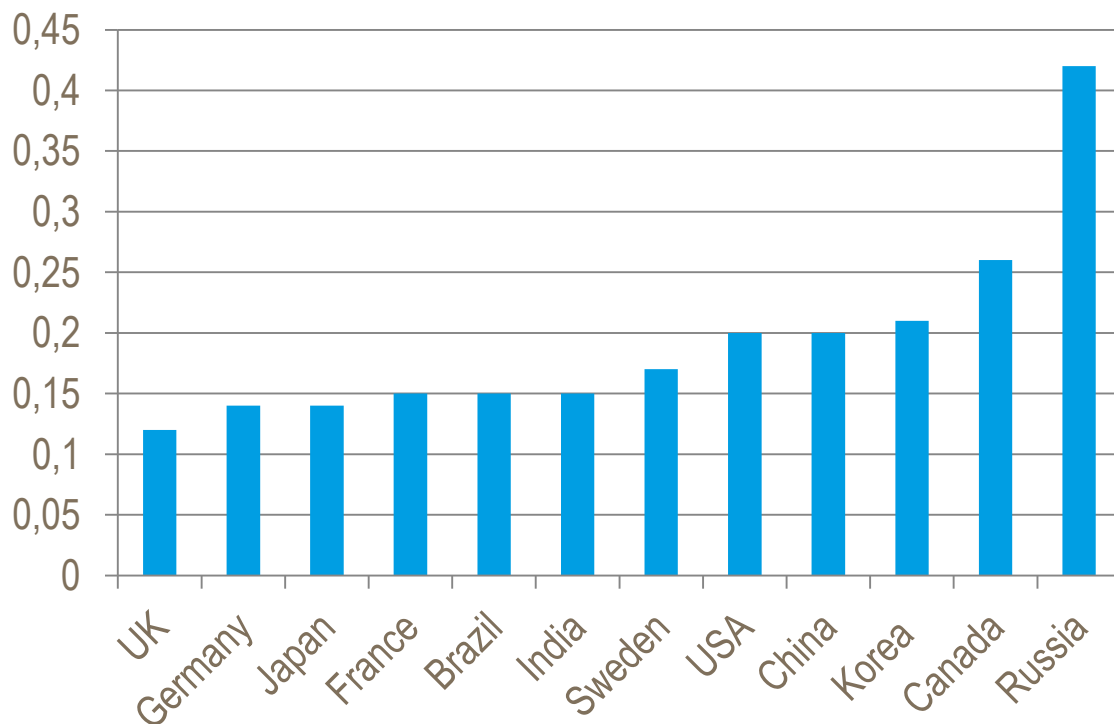
Moscow, February 2010

AGENDA

- Current Situation with Energy Efficiency in Russia
- Russian Energy Strategy 2030
- Anticipated Effects of the Energy Strategy 2030
- Planned investments

RUSSIA USES ABOUT TWICE AS MUCH ENERGY PER UNIT OF OUTPUT AS OTHER LARGEST ENERGY CONSUMERS DO

Energy Intensity of 10 largest energy consumers plus Brazil and Sweden
Tons of oil equivalent per thousand 2000 USD PPP



Russia is the third largest energy consumer in the world after the USA and China and spends more energy per unit of output than any of the TOP-10 energy consumers

WRONG INCENTIVES AND POOR KNOWLEDGE REMAIN THE MAIN OBSTACLES TO ENERGY EFFICIENCY IN RUSSIA

- Insufficient understanding of importance of energy efficiency (in all aspects and on all levels Russians do not realize the potential gains from energy saving. The short-sited mentality prevents long-term investments)
- Lack of statistical data and awareness (lack of data and analysis lead to lack of understanding of potential effects from energy saving – both by policy makers and end users)
- Unclear or contradictive stimuli (often those who can invest in energy efficiency and those who benefit from it are not the same agents which demotivates the investments)
- External environmental factors (negative effects of air pollution and emissions are not accounted for in energy prices)
- Tariff setting methodology (prices are too low to inspire energy saving)
- High transaction costs (initial costs for starting up a financing division for energy efficiency project as well as evaluating and making a decision on individual projects are very high)
- Lack of competition (in the energy supply sector)

RUSSIAN POWER GENERATING SECTOR NEEDS RESTRUCTURING

Current problems in the sector include:

- Deficit of generative and circuit capacities in some regions
- Lack of peak and semi-peak capacities
- High runout of basic production assets
- Low energy and economic efficiency of power generation
- High dependency on natural gas
- Absence of retail market of electric power and capacity
- Lack of investment resources
- Cross-funding between different groups of consumers and between electric power and heat in domestic market

AGENDA

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THE GOALS OF THE RUSSIAN ENERGY STRATEGY ARE AIMED AT BUILDING AN INNOVATIVE AND EFFICIENT ENERGY ENVIRONMENT

Reducing Energy Consumption

- Guaranteed energy safety of Russia and its Regions
- Reduction of dependence of the Russian economy on its oil&gas sector
- Reduction of Russia's energy intensity by 2,3 times

Updating and Expanding Infrastructure

- Energy exploration of new Regions
- Innovational renewal of production facilities and energy infrastructure
- Creation and development of new energy types and energy technologies
- Growth of financial sustainability and budget effectiveness of fuel & energy sector players, achievement of their stable investment security

Raising Awareness Among People

- Development of social partnership between the energy business and the society

Becoming a More Environmentally Friendly Country

- Ecological safety and effectiveness of development and functioning of the fuel & energy complex with reduction of greenhouse gas emissions

THE STRATEGY IS DIVIDED INTO 3 INTERMEDIATE STAGES WITH CLEAR EMPHASIS EACH

1st Stage (up to 2013-2015)

- Modernization of gas-fired power plants
- Decommissioning of old-fashioned and depreciated equipment
- Creation of legal frameworks for attraction of investment in power generation
- Realization of state program for construction of nuclear and hydro power plants
- Creation of domestic competitive market of electric power and capacity
- Development of public assistance in supplying electric power at social norms

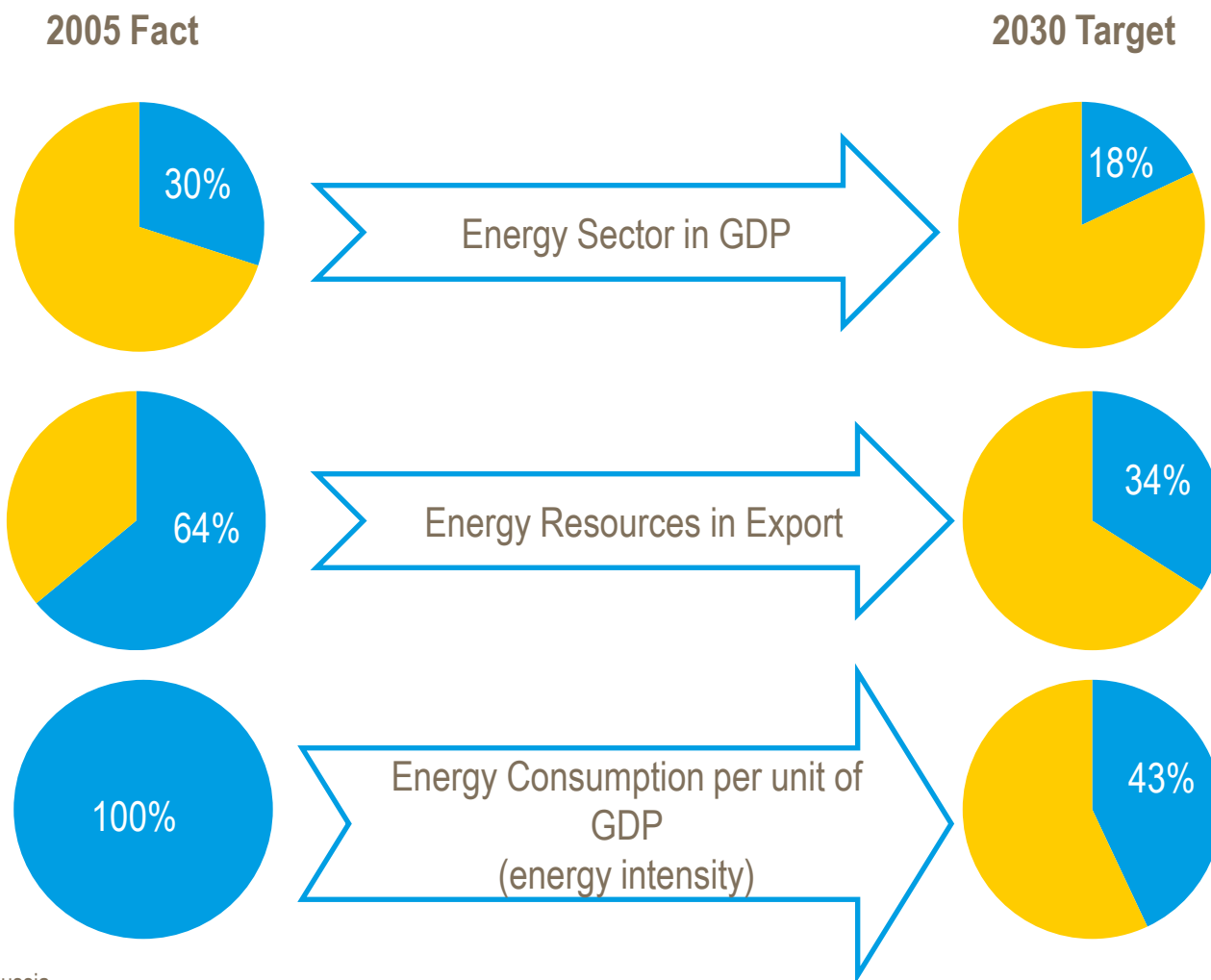
2nd Stage (up to 2020)

- Large-scale renovation of basic production assets
- Development of power circuits and proper infrastructure in the Eastern Siberia and Far East
- Putting into operation new nuclear power plants
- Development of renewable energy

3rd Stage (up to 2030)

- Active development of non-hydrocarbon power generation (nuclear, renewable, etc.)
- Technological improvements in coal-fired power generation
- Construction of major hydroelectric power stations in Eastern parts of Russia
- Development of “small nuclear power generation” in the Russian North and Far East
- Development of modular high-temperature nuclear reactors, able to produce electric power, heat and hydrogen

NUMERIC TARGETS ARE SET FOR THE REDUCTION OF ENERGY SECTOR'S ROLE IN THE RUSSIAN ECONOMY



A FEDERAL LAW ON ENERGY SAVING AND IMPROVEMENT OF ENERGY EFFICIENCY PROVIDES THE LEGAL FRAMEWORK

Energy Efficiency Requirements for Circulation of Goods

- **Labeling:** energy efficiency classes must be stated on goods
- **Sale of bulbs:** circulation of larger than 100W incandescent lamps banned from 2011. Public procurement of incandescent lamps is prohibited from 2011 (with some exceptions)

Energy Efficiency Requirements for Buildings, Structures, Installations

- The requirements will be revised every 5 years and are obligatory for compliance. They will be related to energy resource consumption, technical solutions, construction materials, equipment in use, etc.
- **Meters:** commercial and industrial buildings and constructions must be equipped with water, natural gas, thermal energy and electrical energy meters by 2011, apartments and dwelling houses – by 2012

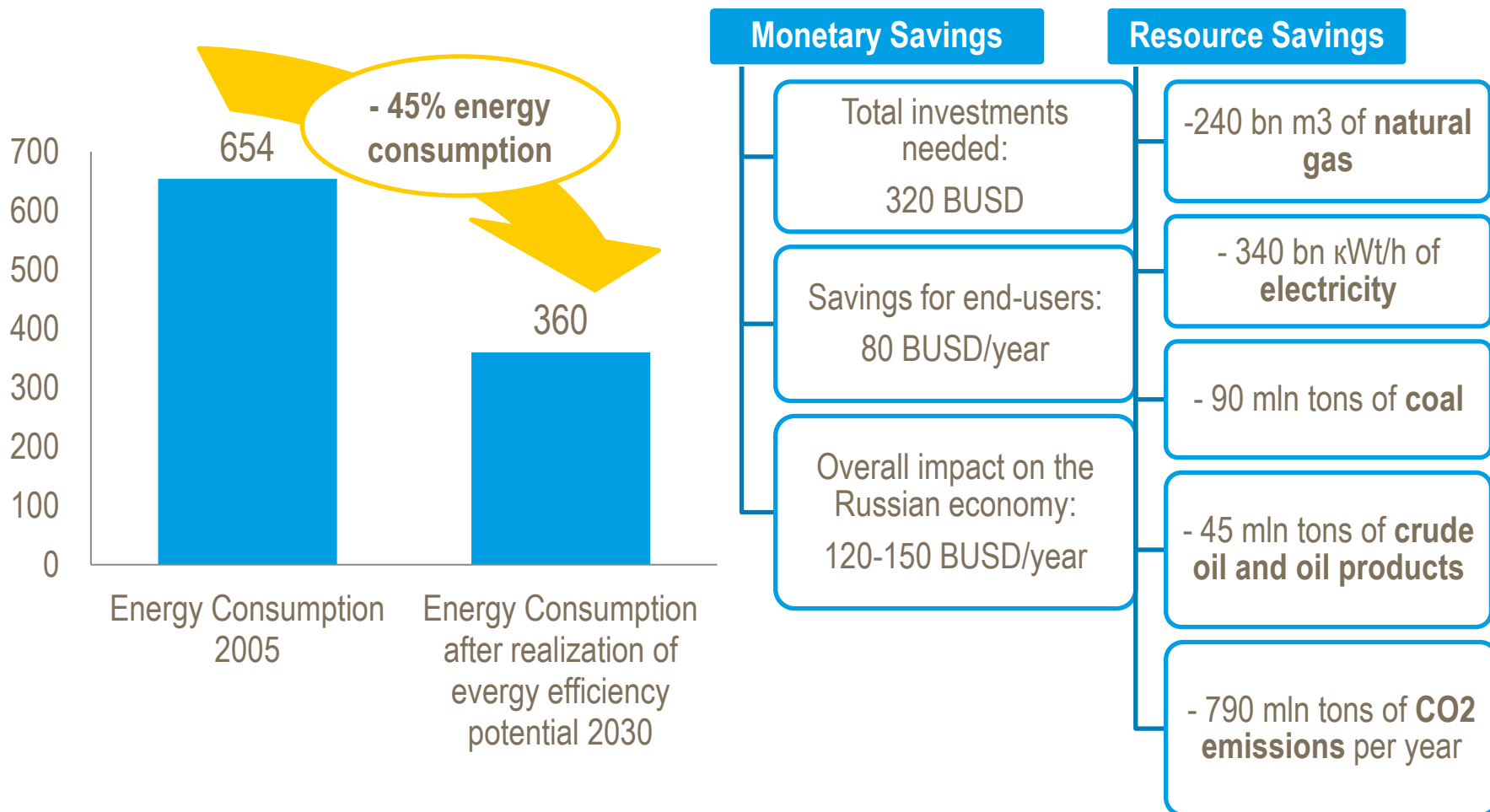
Energy Efficiency Requirements for Public Sector

- **Energy saving:** obligation of budgetary institutions to ensure reduction by 15% of water, fuel, natural gas, thermal energy, electrical energy, coal and black oil consumption within 5 years
- **Public procurements:** obligatory energy efficiency standard for purchased goods
- **Energy service agreements:** include obligatory conditions aimed at increasing client's energy efficiency

AGENDA

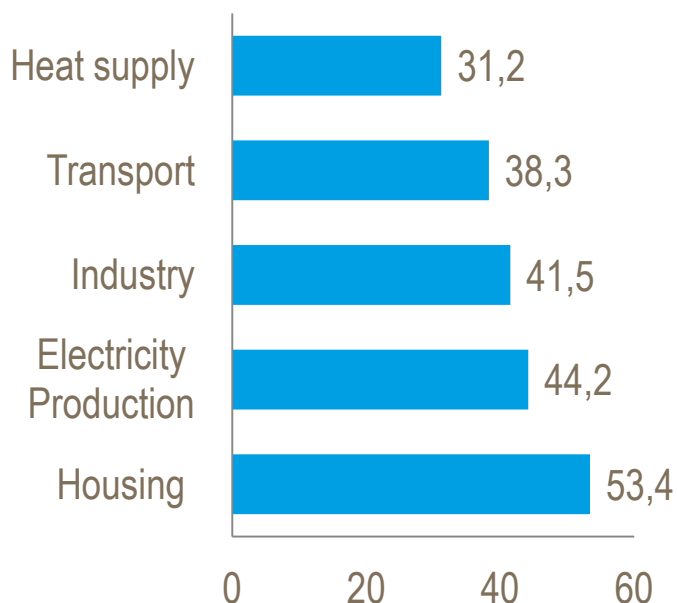
- Current Situation with Energy Efficiency in Russia
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- Planned investments

RUSSIA HAS A POTENTIAL OF REDUCING ITS ENERGY CONSUMPTION ALMOST BY HALF



HOUSING SECTOR HAS THE LARGEST POTENTIAL FOR ENERGY SAVING

**Potential energy savings in various sectors
Mtoe**

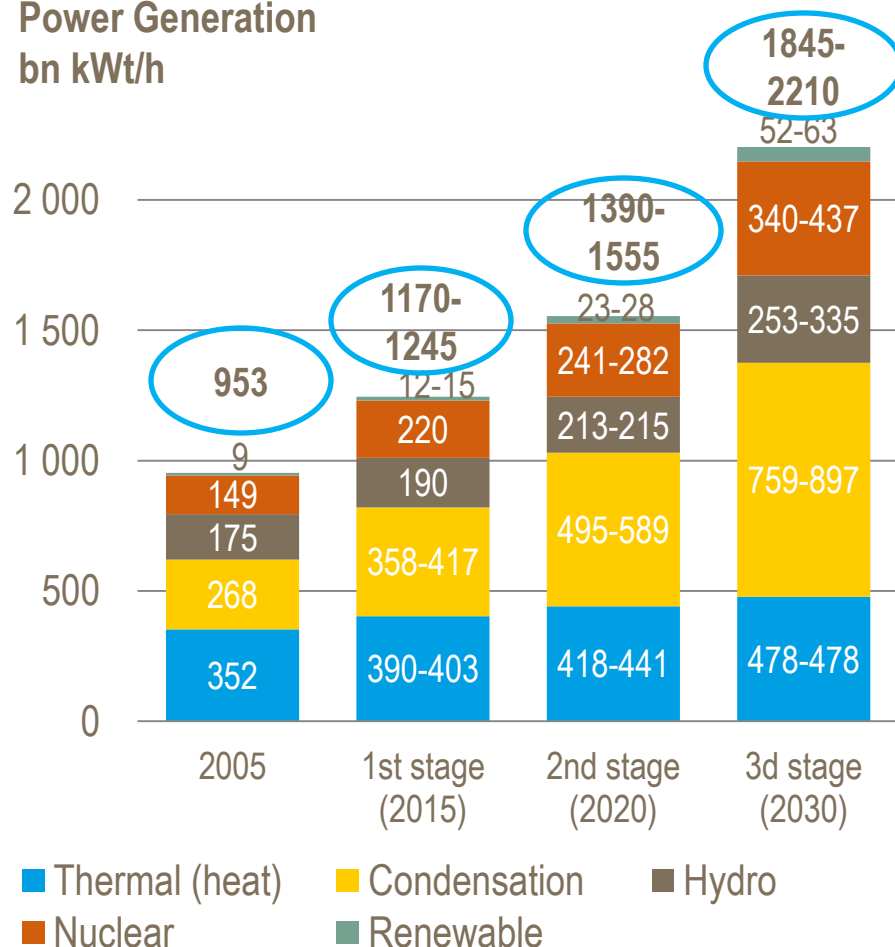


- About 2/3 of potential energy savings in the **housing sector** can be achieved by reducing heat consumption for heating and hot water supply in the centralized heat supply systems (3/4 of dwellings are connected to the centralized systems). This includes better facade insulation, more efficient windows and water supply
- Most potential energy savings in **electricity generation** can be achieved by modernizing gas condensing power plants and sources of combined production of heat & electricity
- More than 50% of potential energy saving in the **industrial sector** is accounted for by ferrous metallurgy, pulp&paper and cement industries. However, non-energy intensive sectors like bread bakeries, meat production and alike account for over 40% of the energy saving potential
- **Transportation sector** has most potential energy savings (over 40%) in the area of energy resource transportation (coal, oil, gas, etc.) . Other high potential areas are passenger cars and railway

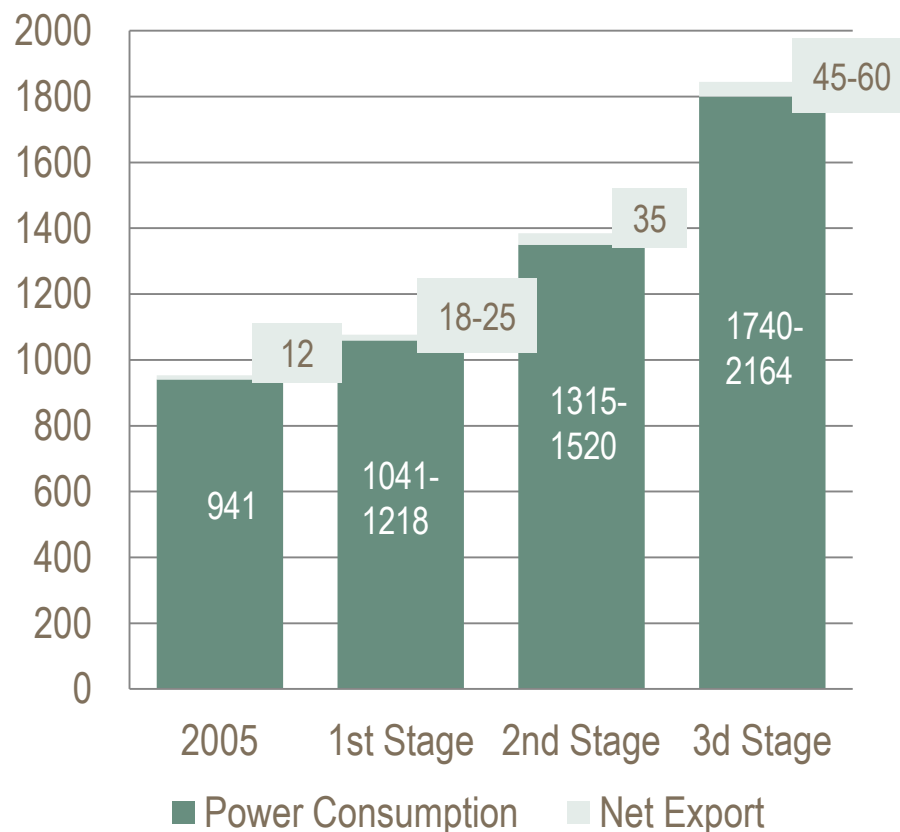
NON-FUEL ENERGY GENERATION WILL SUBSTANTIALLY GROW, THOUGH FROM LOW LEVELS

RANGES REPRESENT SCENARIOS: BASIC AND INNOVATIVE

Power Generation
bn kWt/h



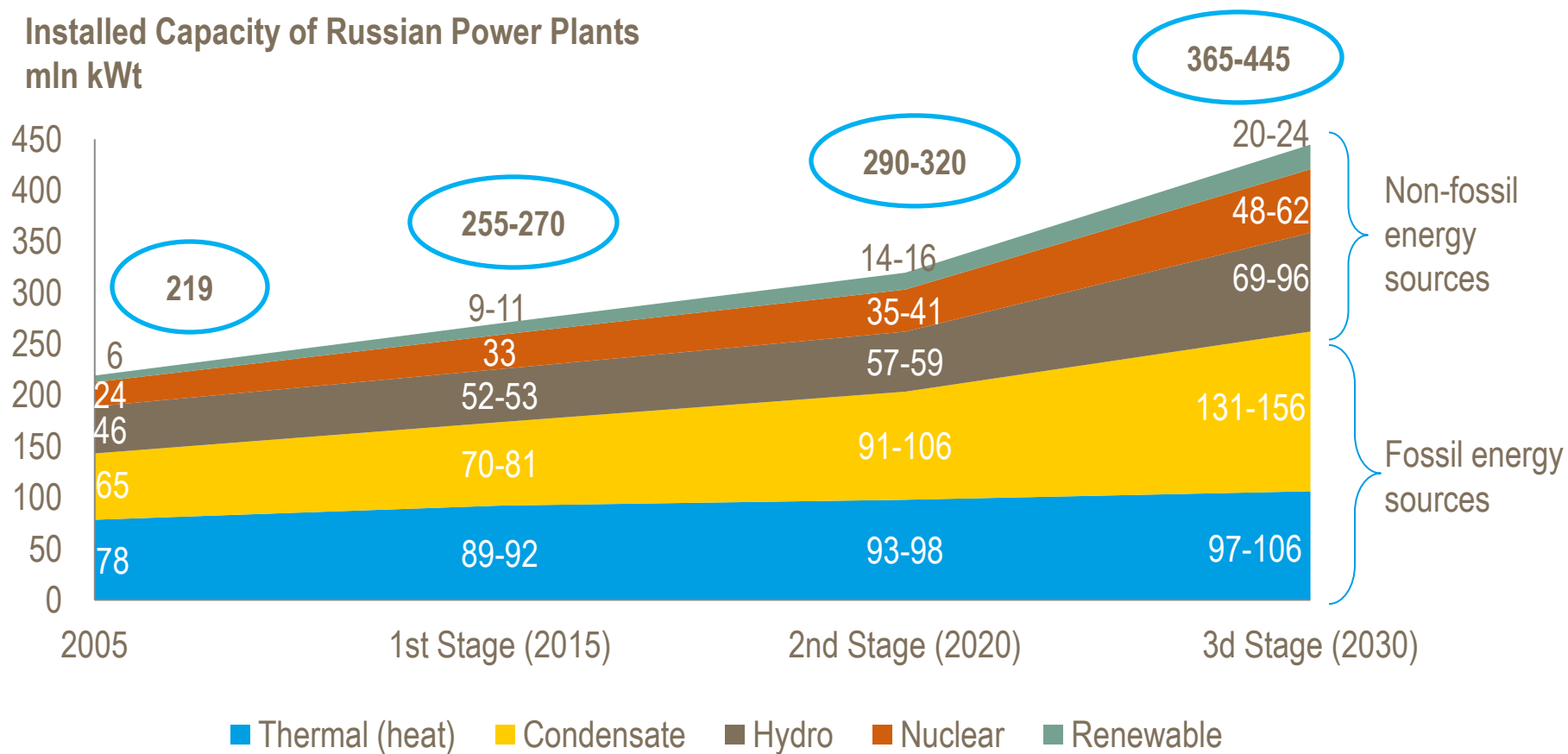
Power Consumption and Export
bn kWt/h



ENERGY PRODUCTION CAPACITIES ARE EXPECTED TO DOUBLE

RANGES REPRESENT SCENARIOS: BASIC AND INNOVATIVE

Installed Capacity of Russian Power Plants
mln kWt

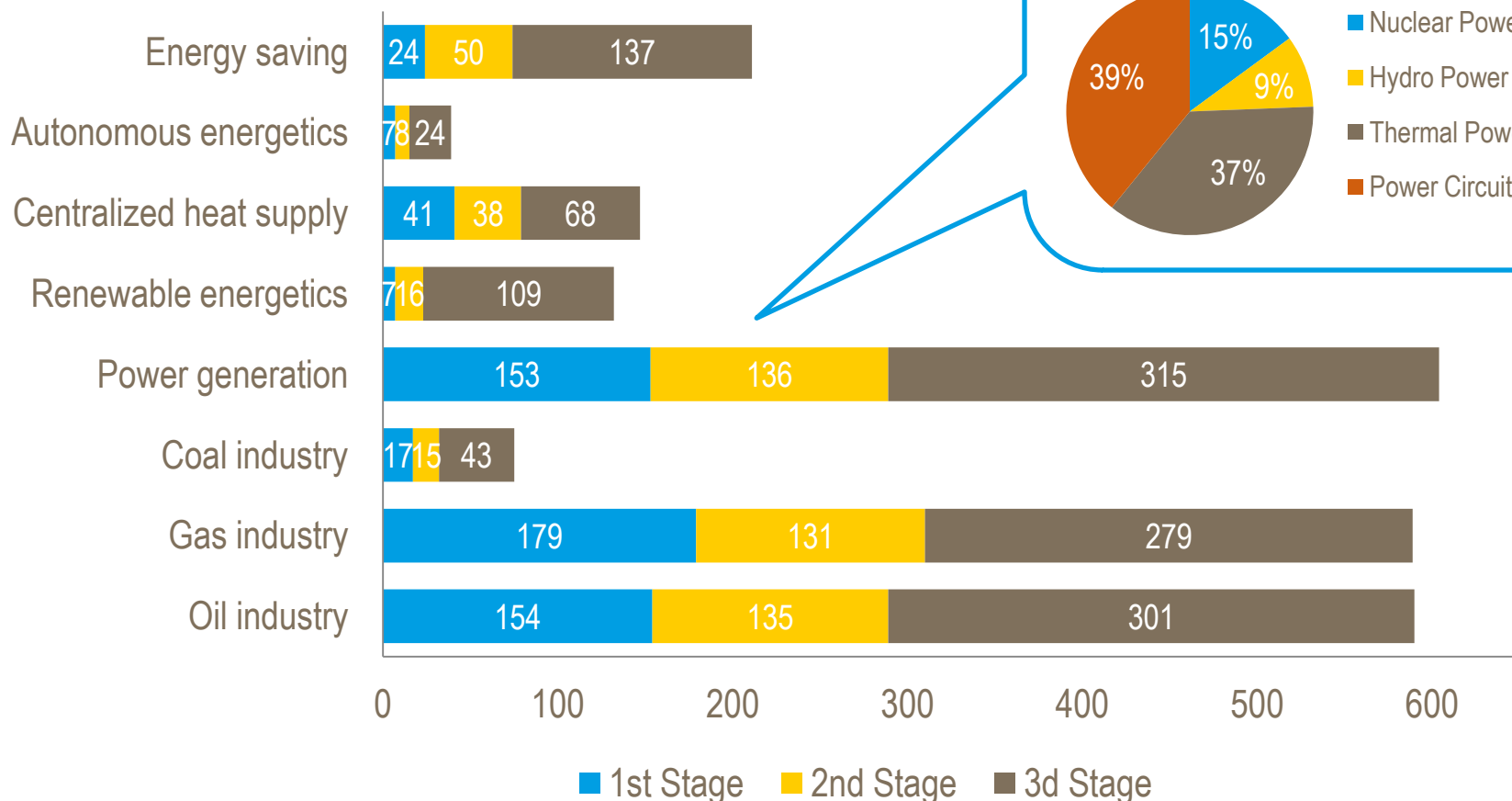


AGENDA

- Current Situation with Energy Efficiency in Russia
- Russian Energy Strategy 2030
- Desirable Outcome
- Planned investments

ABOUT 2,5 TRILLION USD WILL BE SPENT ON REALIZATION OF ENERGY STRATEGY 2030

Planned investments in energy sector up to 2030, BUSD in 2007 prices



SWEDEN AND SWEDISH PRODUCTS HAVE A VERY GOOD REPUTATION IN RUSSIA

- Sweden is perceived by the Russians as a safe country with high living standards
- 57% of Russians have positive attitude towards Swedish products, and 38% describe their attitude towards Sweden as very positive. More than 80% of Russians say that Sweden inspires respect
- Swedish products are valued very high by Russians:
 - For high quality (78%),
 - Good value for money (66%)
 - Innovation (53%)
- 61% of Russians agree that prices for Swedish products are rather high, but Swedish products are not treated as overpriced in respect to price/performance
- According to Edelman Trust Barometer 2009 Russia, Swedish business is enjoying confidence. 62% of Russians say that they have faith in Swedish companies. This places Sweden among top 3 countries inspiring trust in doing business. Sweden is preceded by Germany (64%) and followed by France (57%)