

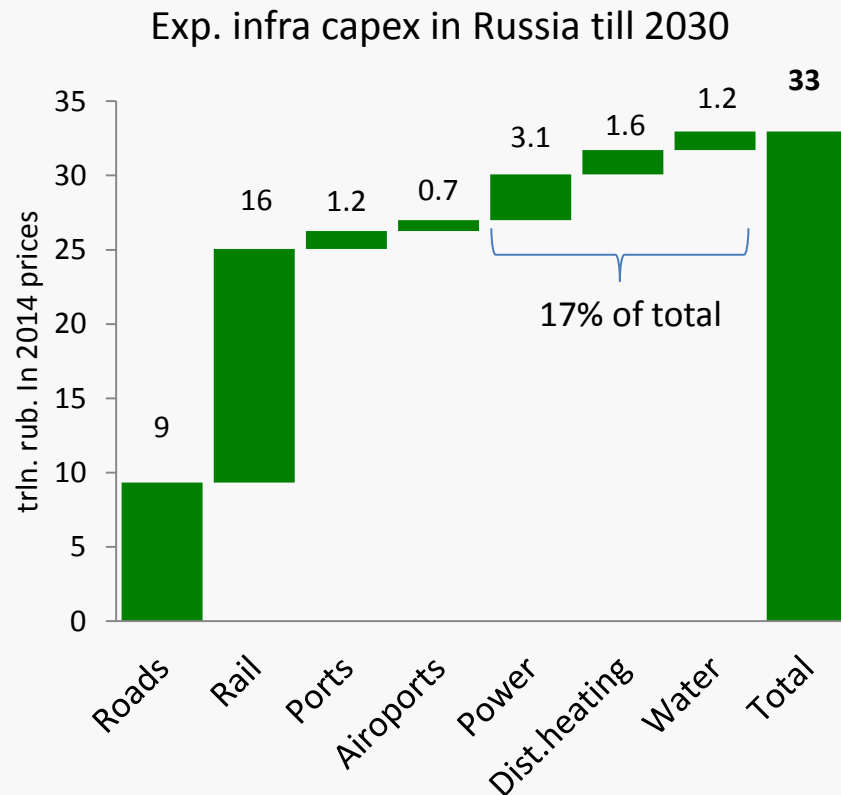
# Investments in communal infrastructure: how to make it work?

## SPRING: Specialization in power and utilities

- Top 20 investment manager in Russia according to Institutional Investor
  - > \$700 mn under management
  - Investors include IFC, EBRD and sovereign wealth funds
  - World Bank Group partnered with SPRING for its only investment in municipal heating in the region
  - 20 professionals in Almaty, Kiev, Moscow and London.
- Key employees since 2005



## Infra investments should support GDP growth



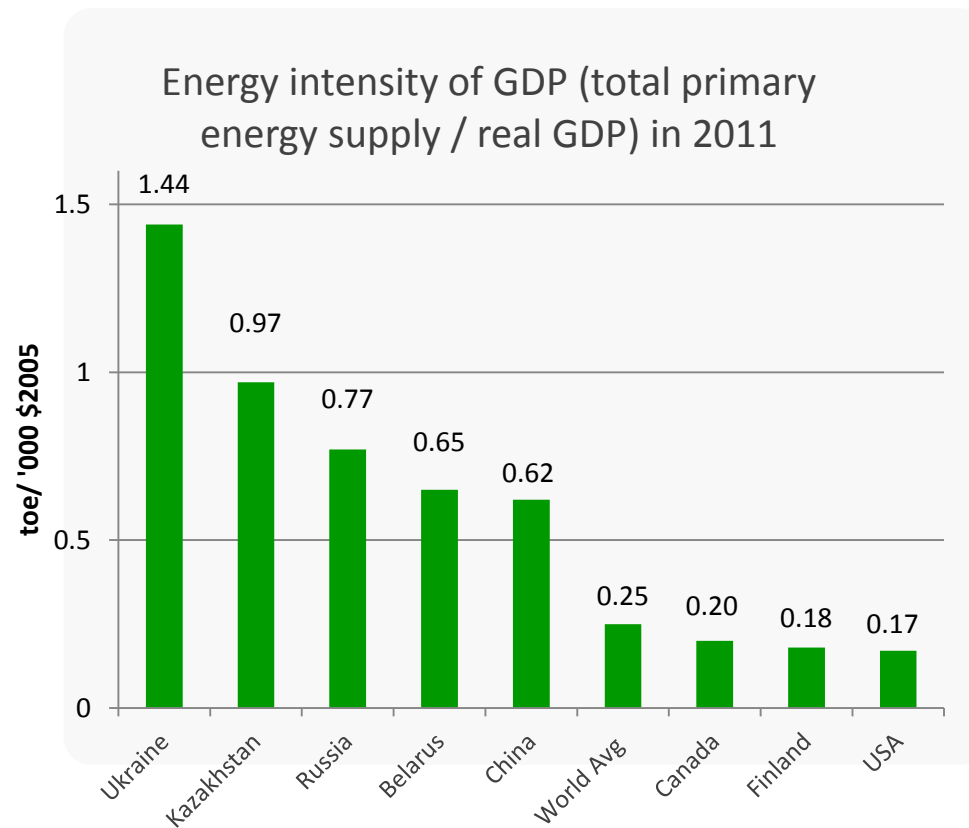
### Wearing of utility facilities in Russia

- 58% for electricity grids
- 66% for power plants
- 63% for district heating
- 65% for water and waste water

Source: McKinsey, E&Y, IUE, MinEnergo, Spring

# Energy efficiency potential for improvement

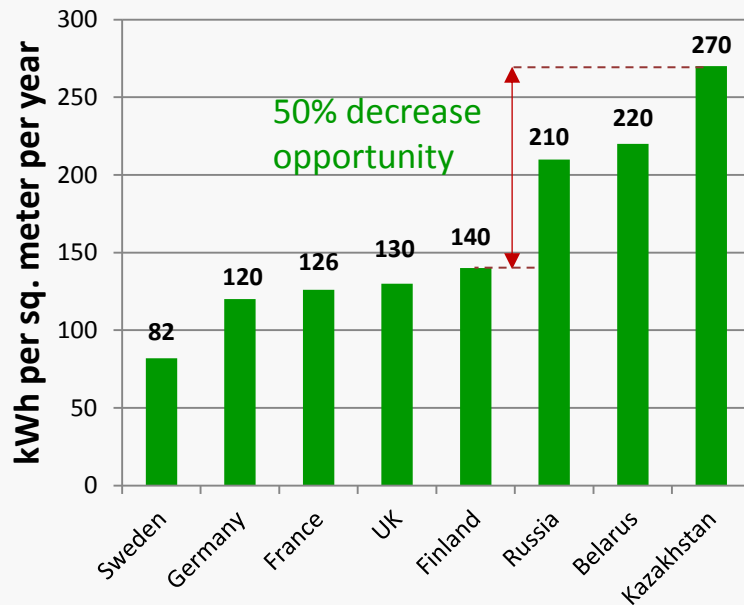
Power sector reforms now underway in Russia, Kazakhstan, Ukraine and other countries



Source: IEA

# The World's biggest heat market needs modernization

## Russia heats buildings inefficiently



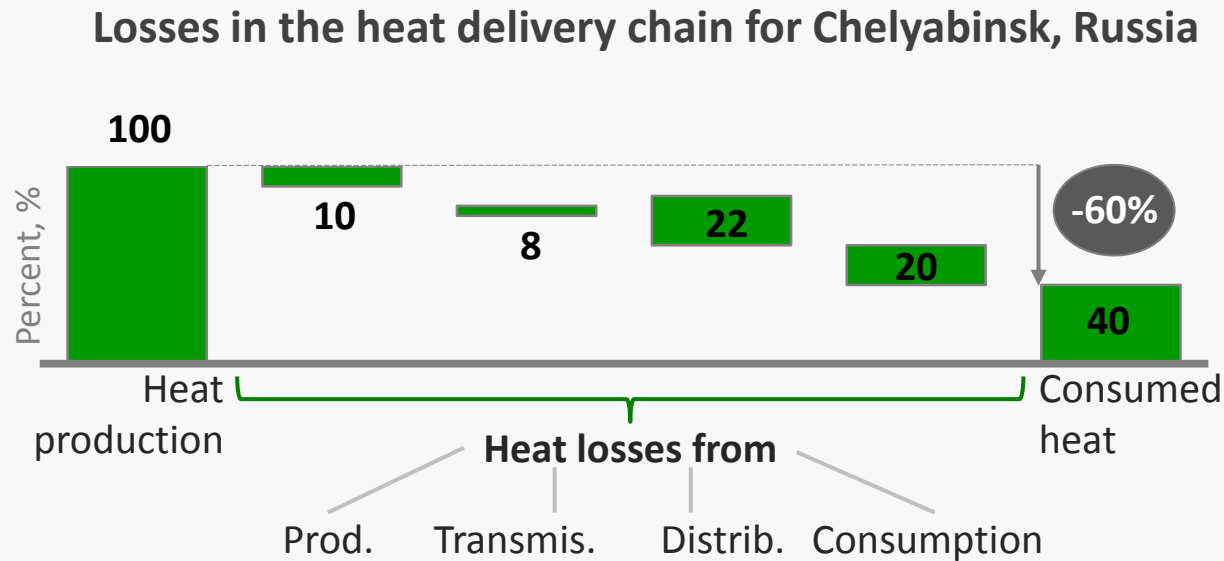
Source: IEA

## District Heating: Designed to be efficient but needs investment

- > 60% of Russia households use district heating
- 25%-30% transportation losses in FSU vs. 7-14% in CEE
- > 40% of heat generators older than planned life
- International investors see potential (Fortum, E.ON, Dalkia)

Source: Spring research

## Almost 60% of fuel is lost in district heating systems



- Losses in the transportation chain are three times higher for Chelyabinsk than Helsinki
- Losses for smaller Russian regional cities are even worse

## Case study: Private district heating operator



KKS—Group is a rapidly growing private operator providing district heating services in Central Russia. Founded by Spring in 2008.

- **310,000** customers in Tula, Bryansk and Kemerovo regions
- One CHP with **12 MW** of electric IC and **165 Gcal/h** of heat IC
- **92** boiler-houses with installed capacity of more than **480 Gcal/h**
- **331** km of heat networks, including:
- More than **1,300** employees
- In 2013, **IFC** (World Bank Group), and **EBRD** acquired stake into the company.



## Realized investment projects



### Replacement of old boiler-houses

- Installation of 24 new block-modular gas-fired boiler-house
- Total installed capacity >110 MW

### Results

- Cost savings due to decrease of gas consumption (by 30%), electricity consumption (by 40%)
- High automatization level: state-of-the-art equipment, boilers Veissmann and Buderus



### Replacement of heat grids

- Replacement of more than 30 km of old heat grids

### Results

- Number of pipeline breaking accidents decreased sharply
- Significant economy in heat and water resources





## Heating business - tough but may be profitable

- Little entry barriers save for competence
- Capital intensive but low income margin
- Raising tariffs bring political risk to authorities
- Diminishingly small number of competent teams
- Difficult to pledge assets
- Federal limits suppress tariff growth

### KKS-Group condensed consolidated data

RUR mln.	2014	2015	2016E	2017F
Revenue	1 940	2 332	2 653	2 608
Recurring EBITDA	102	127	160	210
<i>EBITDA margin</i>	6%	6%	6%	8%
Net income	42	28	32	80

## Major investment issues in communal services

- (1) Tariff regulation**
- (2) Legal rights for the assets**
- (3) Metering**
- (4) Low cash collection levels**

## (1) Tariff regulation

- **Raising tariffs to economically justified levels**

**PROBLEM:** When tariffs are below actual cost, it signals to investors that authorities hide head in the sand

Accomplished  
in 2008

- **Eliminating of cross subsidization**

**PROBLEM:** Customers should pay full cost otherwise wrong incentives: households are unconcerned about savings, commercial customers leave centralized system

Accomplished  
in 2008

- **Long term regulation – protection to retain cost savings achieved**

**PROBLEM:** After cost-reduction measures are implemented (e.g. boiler reconstruction), the regulator may decrease tariff in the next period

Accomplished  
in 2015

- **Investment component in tariff**

**PROBLEM:** Certain investments (e.g. improving reliability in network, or decreasing sale volumes like building envelopes or ITP) may not recoup from savings only

Accomplished  
in 2015

## (2) Asset Rights

### PROS

### CONS

#### PURCHASE OF OWNERSHIP

Operator may invest in infrastructure  
Assets may be pledged to the bank

Municipality loses control over assets  
Impossible to replace operator

#### LEASE AGREEMENT

No obligation of investor save for lease payment  
New movable assets (modular boilers) will stay in investors property

Investor bears no obligation for quality of services or investments  
Difficult for operator to make non-removable improvements (networks)

#### CONCESSION

Investor is protected by municipal obligations for long-term tariff growth  
Assets may be pledged to the bank

Municipalities bear financial risk of non-performance under long-term obligation  
Regulation should be aligned with laws on concession



### (3) Metering

- The state should enforce installment of building-level heat meters by customers

**PROBLEM:** Large capex vs. minor economic gain for operator

Accomplished  
in 2016

- Regulation should favor metered consumption as opposes to normative rates

**PROBLEM:** Customers break meters if normative consumption is lower

Accomplished  
in 2016

- Operator should be compensated for decreasing transportation losses

**PROBLEM:** Actual losses, that considerably overcome normative losses, shall be included in tariff

Accomplished  
partially

### (4) Low cash collection rate

- The state should adopt rules to force customers paying bills

**PROBLEM:** The Law prohibits switching-off nonpayers from heating system in winter season

Accomplished  
partially

## Necessary - *but not sufficient!* - conditions

### The State

- Accept painful tariff-raising reforms
- Develop long-term regulations
- Privatize municipal operations
- Conduct consistent and predictable regulation policy
- Support competition between operators

### The Investor

- Put money in the business to acquire assets of low quality
- Take operational risks
- Make capital intensive modernization
- Improve operational efficiency, reliability, quality of services

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