# Evaluating Present Construction Plans for New and Existing Pipeline Routes from Russia to Europe



## Mikhail Korchemkin East European Gas Analysis

- Current pipeline capacity and gas flows by export terminal
- Project investment cost comparison
- Delivery cost of Russian gas to Europe for new and existing export routes

## **European Export Routes**



#### **Gazprom's Target: To By-Pass Ukraine**

## FSU & Gazprom Pipeline Capacity, bcm/year



# **Western Part of the Pipeline System**

#### Uzhgorod

- Orenburg-Uzhgorod = 56-in
- Urengoy-Uzhgorod = 56-in
- Yamburg-Uzhgorod = 56-in
- Dolina-Uzhgorod (2) = 40 & 48-in
- Komarne-Drozdovichi-Yaroslaw (2) = 20 & 28-in
- Beregovo-Hungary (2) = 32 & 36-in
- Hust-Romania = 28-in

#### Izmail

- Ananyev-Izmail = 48-in
- Shebelinka-Izmail (2) = 28 & 40-in
  Brest/Kondratki
- Kobrin-Brest = 40-in
- Nesvizh-Kondratki = 56-in



## **Export Flow of Gazprom, mmcm/day**



#### •In winter the export pipelines operate at the capacity

# Ukrainian Gas Balance, January 1999, mmcm/day



•Gazprom has succeeded in minimizing the pressure drop

## **Pros & Cons of the Ukrainian transit**

#### Pros

- Ukraine has a well-developed pipeline system, which is linked with transit pipelines of Eastern Europe
- Huge underground storage facilities in western Ukraine can provide a stable winter flow from Uzhgorod
  - the route to Romania, Bulgaria, Turkey and Greece is sensitive to illegal offtakes of gas
  - Spare capacity at the Russian -Ukrainian border helps to manage the winter peaks

#### Cons

- Ukraine is the most expensive transit ground for Gazprom
  - other countries take 10%of transit volume versus 28% of Ukraine
- Russian legal catch forces
  Gazprom to contract the stolen gas afterwards
- Ukraine is likely to continue the siphoning of Russian gas
  - domestic market is too big compared with other transit countries
  - Ukrainian new pipeline project is aimed to siphoning



## Pipeline Investment Comparison: Three Routes to Germany (~30 bcm/year)



#### Via Ukraine ~\$4.2bn

- Longer route with mountains
- Yelets-Uzhgorod ~\$2.5bn
- Uzhgorod-Germany ~\$1.7bn

## Via Belarus ~\$4.0bn

- Torzhok-Kondratki ~\$1.8bn
- Polish section ~\$1.4bn
- German lines ~\$0.8bn

## NGG ~\$4.0bn

- Off-Shore line ~\$3.0bn
- Gryazovets-St.Pete ~\$1.0bn

# **Transit Costs**

- Ukraine charges \$1.09/mcm per 100 km, which is paid by gas at \$50/mcm
- The Ukrainian cost equals to 28% of transit flow or \$13.70/mcm
- Slovak & Czech transit is paid by gas at 10% of transit flow (~\$7.00/mcm)
- Belarussian cost is estimated at \$6.30/mcm
- Polish cost is estimated at under \$6.00/mcm



## **Average Delivery Cost of Gas in Germany**



## **Average Delivery Cost of Gas in Germany**



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# **Delivery Cost: Ukraine vs Belarus**



# **Delivery Cost: Ukraine vs Belarus**



Including the capital cost

## Production & Transmission Costs Peculiarities of Reporting



#### Gazprom's CEO Rem Vyakhirev

- Production costs are reported low to minimize royalties and "mineral tax" payments
  - these specific production taxes are based on revenue
  - internal sales by producers to transmission companies of Gazprom are performed at cost
  - "social costs" and loans' interest are allocated to the transmission
  - low value of production assets (unlike pipelines) results in low depreciation costs
- This justifies a high TPA tariff (\$0.80/mcm per 100km export)

## Belarus-Poland-Germany Line Opened Who's Troubles are over?

# • Another country got access to free Russian gas?