# ASSESSING CURRENT POSITION OF RUSSIA ON NATURAL GAS PRICES (on the basis of the Energy Charter Study on International Pricing Mechanisms for Oil & Gas)

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**Presentation at the CIS Oil & Gas Summit**
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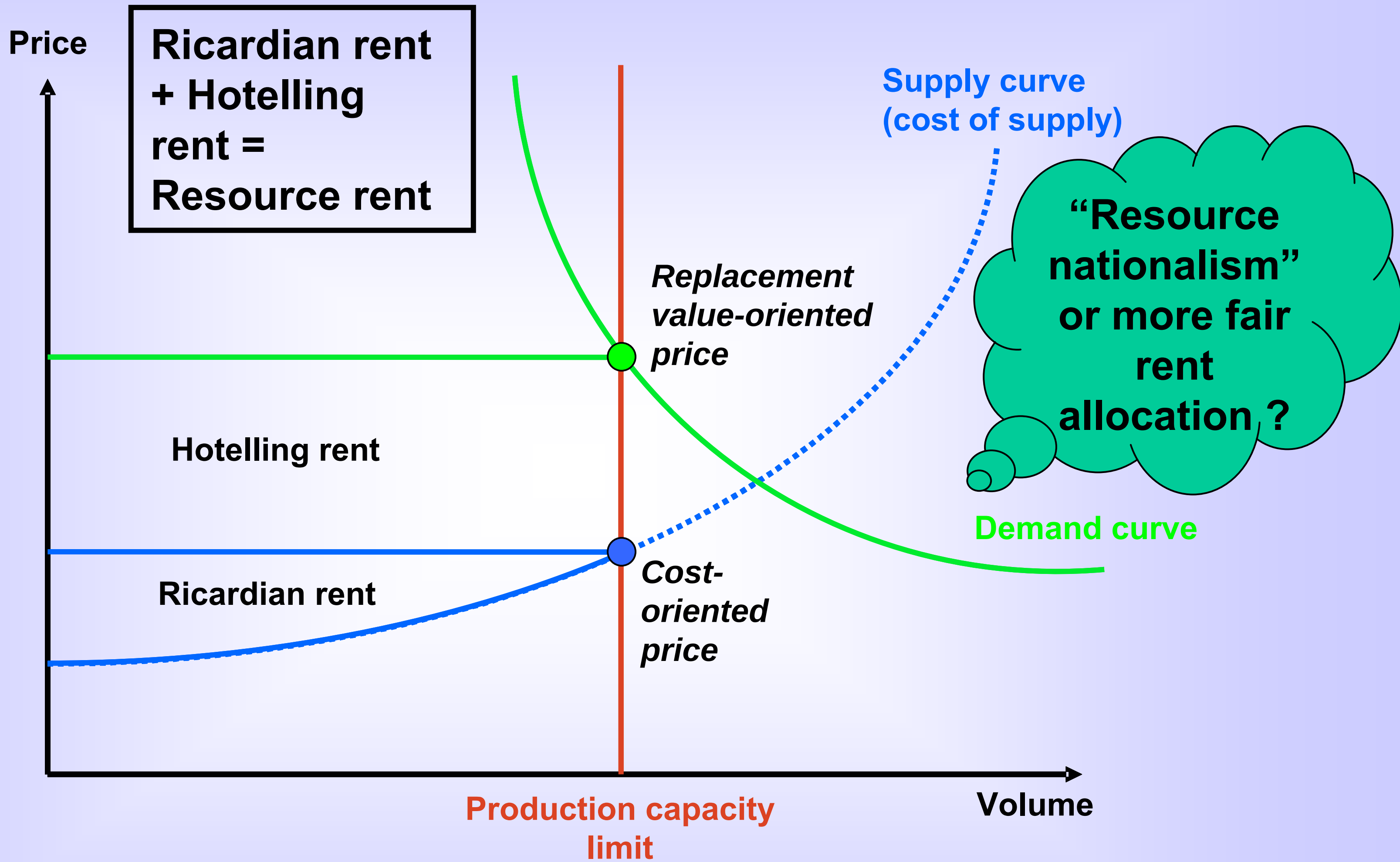
# CONTENTS:

1. Pricing of non-renewable energy resources: key elements of economic theory
2. Soviet / Russian gas to Europe: contractual structure
3. Russian gas & post-Soviet transformation of economic relations with CIS to market-based principles

# PRICING OF NON-RENEWABLE ENERGY RESOURCES: RICARDIAN VS. HOTELLING RENT




**Source**: "Putting a price on Energy: International Pricing Mechanisms for Oil and Gas", Energy Charter Secretariat, March 2007

# GAS EXPORT PRICING & PRICES

- **Resource price and resource rent for non-renewable energy:**
  - **<u>Ricardian rent:</u>** internal demand is *below* domestic production capacity limitations
  - **<u>Hotelling rent:</u>** internal demand is *above* domestic production capacity limitations
- **Pricing principles:**
  - **<u>Cost-plus</u>** => pricing at the internal domestic market of the producer *or* subsidized export pricing (Hotelling rent is shared with your own nation *or* with foreign nation)
  - **<u>Replacement value</u>** (costs of alternative energies) => in case when domestic production capacities are below internal demand for gas
  - **<u>Net-back replacement value</u>** = Replacement value netted back to an upstream point in the delivery chain (delivery point) => Dutch (Groningen) model of long-term export contract (since 1962)

## CONTENTS:

# SOVIET/RUSSIAN GAS TO EUROPE – CONTRACTUAL STRUCTURE BASED ON GRONINGEN *LTGEC* CONCEPT

**Soviet / Russian gas export contracts to:**

- **the EU (historically),**
- **former COMECON (since USSR dissolution), and**
- **FSU (since recently)**

**are based on Groningen (Dutch) concept of long-term gas export contract (LTGEC)**

**Groningen concept = LTC + replacement value + regular price rebate + minimum pay obligations+ net back + destination clauses. More than 250 BCM/y of gas imports to continental Europe based on this concept**

**Groningen concept originated in 1962 vs. USSR gas export to EU started in early 1970s. Groningen concept-based Russian gas export contractual structure proved its validity & reliability through Cold War and post-Soviet transformation periods**

# SOVIET / RUSSIAN GAS TO EUROPE: CONTRACTUAL STRUCTURE

- **Long-term gas export contracts (LTGEC)**
- **On-border EU (-15) sales (delivery points upstream to end-markets)**
- **Pricing: netted-back from replacement value at the end-market (e.g. less cost of transportation from end-market to delivery point)**
- **Protection against arbitrage (destination clauses)**
- **Multiple transit (increasingly important)**

# RUSSIAN GAS EXPORT TO EUROPE: ON-BORDER SALES AND TRANSIT LEGS


Dr. A. Konoplyanik, CIS Oil & Gas Summit, 30.05-01.06.2007, Paris – Figure 5

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# SOVIET / RUSSIAN GAS SUPPLIES TO COMECON / CIS: *PRIOR TO* DISSOLUTION OF THE USSR

- **Political (friendship) pricing => subsidized (notional) export prices => transfer of Hotelling rent from producer-state to consumer-state => portion of resource rent is left to importer in exchange on his political concessions to exporter => sharing USSR resources (which today are mostly Russian resources) within USSR and with COMECON countries**
- **Barter & quasi-barter deals**
- **Transportation system – but not transit system**
- **No transit within USSR**
- **Export & transit supplies are not contractually separated within COMECON**

# SOVIET / RUSSIAN GAS SUPPLIES TO COMECON / CIS: *AFTER* DISSOLUTION OF THE USSR

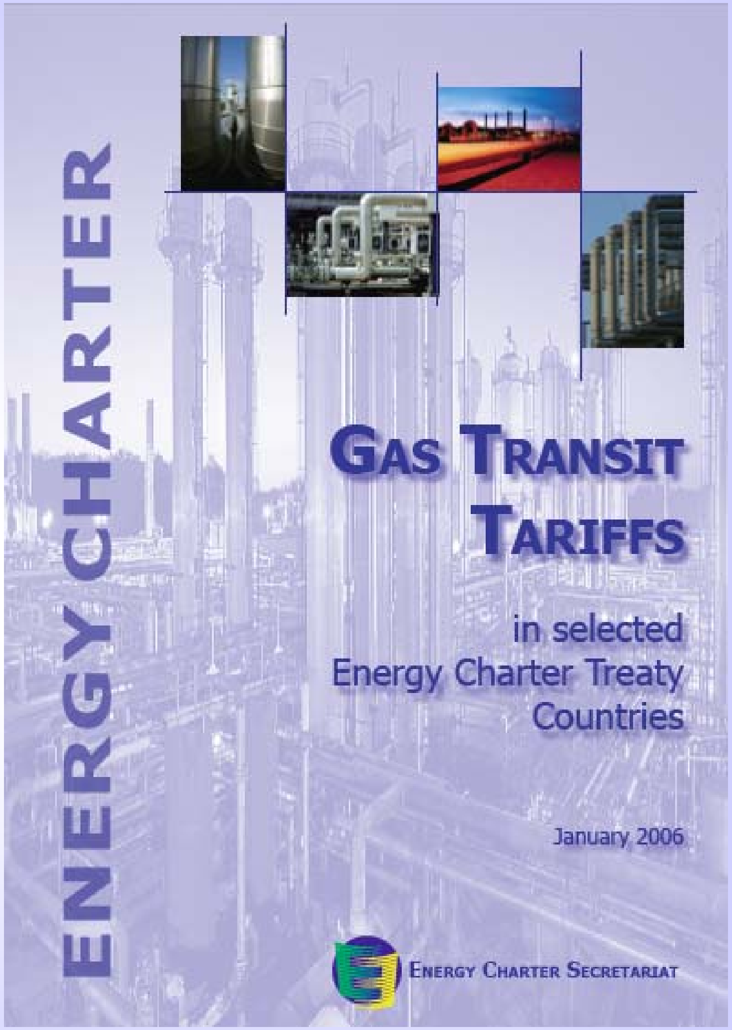
**Long & painful transition to :**

- **Contractual separation of transit & export supplies**
- **Formation of domestic transportation vs. transit legislation**
- **From barter to cash payments**
- **From political / subsidized - to market-based pricing & prices:**
  - **Transit tariffs methodology**
  - **Market-oriented export pricing & prices**

<u>Energy Charter role:</u>
draft Transit Protocol + gas & transit-related activities => e.g. Transit tariffs study (Jan'06), Pricing study (March'07), etc.

**Gas problems in post-Soviet area = result & long-term economic consequences of dissolution of USSR / COMECON political system = objective long-term economic problems of transition period**

# REPORT IN ENGLISH AND RUSSIAN BY THE ENERGY CHARTER

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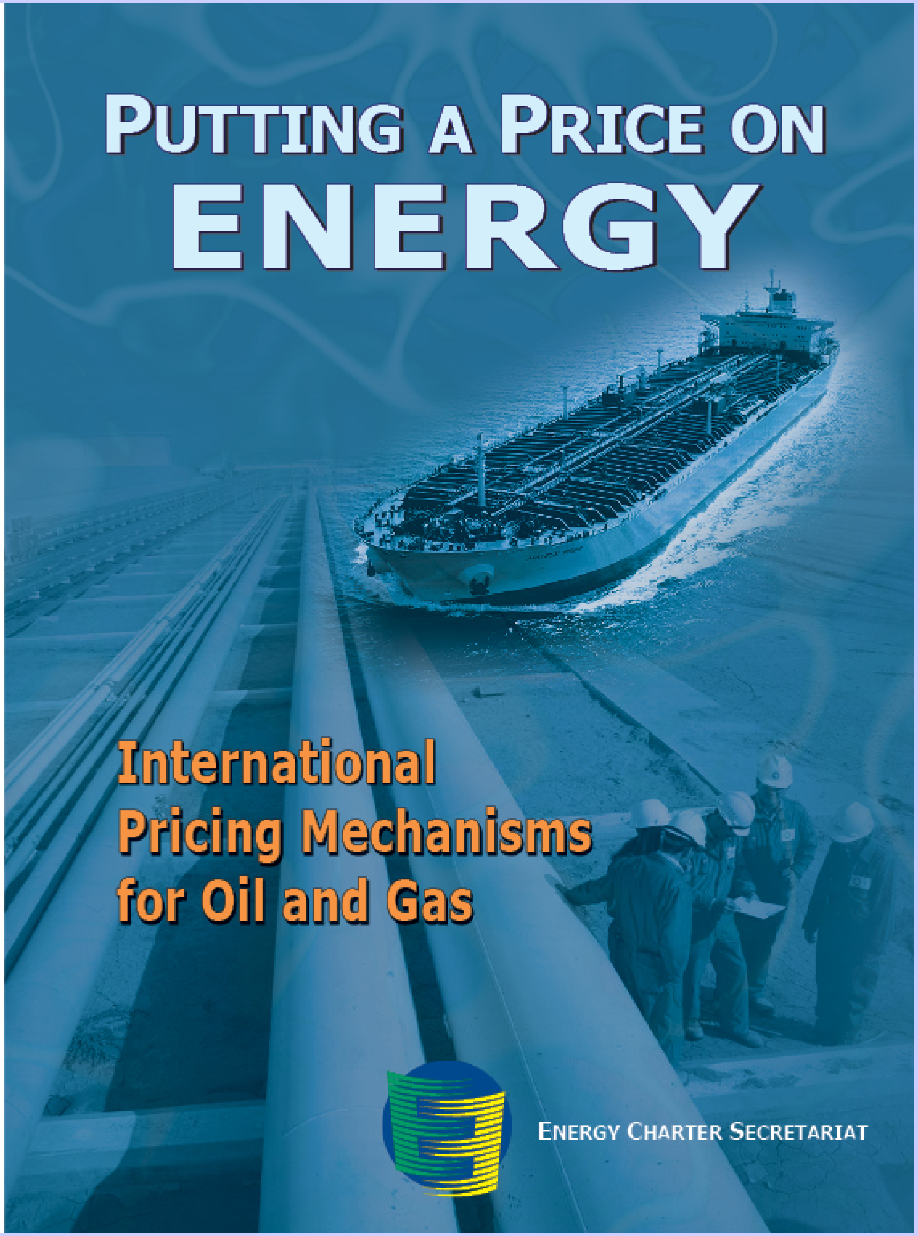


# UKRAINE/BELARUS: EXPORT AND TRANSIT OF RUSSIAN GAS *PRIOR TO* 4 JANUARY/30 DECEMBER 2006

- Export & transit are not contractually separated
- Quasi-barter deals
- Notional export prices & transit tariffs – to balance gas supplies to Ukraine/Belarus
- Export pricing:
  - "cost-plus" – on the basis of the marginal costs (supply curve) for Russia,
- Who receive the resource rent (Ricardian & Hotelling rents):
  - Ricardian rent – producer / exporting state (Russia),
  - (at least part of) Hotelling rent – consumer / importing state (Ukraine/Belarus) => ECT Art.18 ?

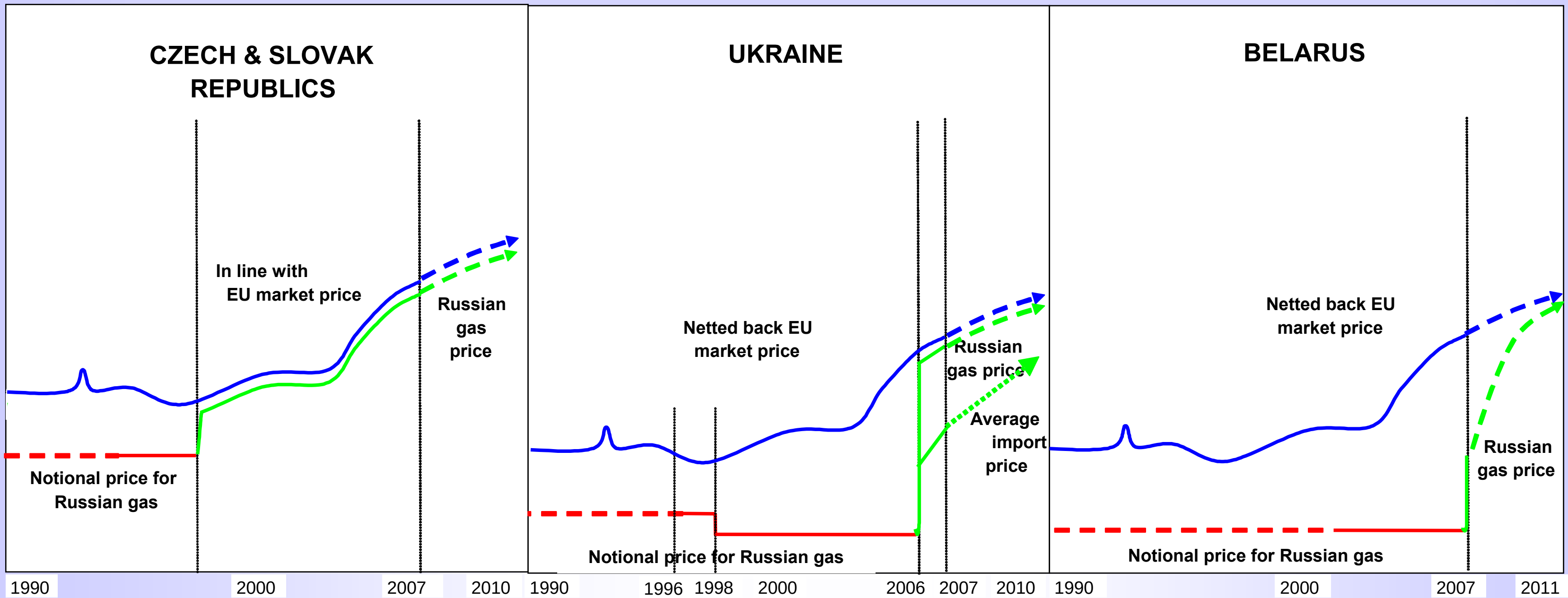
# UKRAINE: EXPORT AND TRANSIT OF GAS FROM RUSSIA *AFTER* 4 JANUARY 2006

- **Transit and export are contractually separated**
- **Cash payments**
- **Export price => average based on cocktail from two sources: Russia and Central Asia (CA)**
- **Export pricing:**
  - **<u>for Russian gas</u> - by net-back calculation => based on *demand*-curve => replacement value within EU netted-back (less transportation costs) to Russia-Ukraine border**
  - **<u>for Central Asian gas</u> - by cost-plus calculation => based on *supply* curve => negotiated price at external border of exporting CA country above its cost-plus level plus transportation costs to Russia-Ukraine border**
- **Who receive the resource rent (Ricardian & Hotelling rents):**
  - **<u>on Russian gas</u> – both rents go to producing/exporting-state (Russia)**
  - **<u>on Central Asian gas</u> - *Ricardian* rent goes to CA producing / exporting states; *Hotelling* rent shared between Ukraine & CA producers/exporters => ECT Art.18**

# BELARUS: EXPORT AND TRANSIT OF RUSSIAN GAS *AFTER* 30 DECEMBER 2006

- Transit and export are contractually separated
- Cash payments
- Export pricing: by net-back calculation => based on demand-curve => replacement value within EU netted-back (less transportation costs) to Russia-Belarus border (market price)
- Export price => calculated as increasing %% of market price (from its current discounted level), to reach market price level in 2011, in line with Russia domestic gas price increase for industrial users
- Who receive the resource rent (Ricardian & Hotelling rents):
  - *Ricardian* rent – goes to producer/exporting-state (Russia)
  - *Hotelling* rent - until 2011 shared between producer/exporter (Russia) & importer (Belarus); since 2011 – goes to producer/exporter (Russia) => ECT Art.18

# RUSSIAN GAS PRICES TO EU & COUNTRIES ALONG THE PIPE




**Remarks:** 1- The figures are entirely for illustration purposes and, therefore, may not fully reflect the actual price levels and movements

2- The illustration for "Netted back EU market prices" are based on the IEA's World Energy Outlook, 2006

3- Estimates for future gas price movements beyond 2007 are entirely illustrative.

4- Recent actual price figures for Ukraine and Belarus, based on information from public sources, are as follows:

For Ukraine - Russian gas price: 230 \$/mcm (2006) ; Average gas price (for a mixture of Russian / Central Asian gas): 95 and 135 \$/mcm (2006 and 2007, respectively)

For Belarus - Russian gas price: 100 \$/mcm (2007) It will reach market price level by 2011 in agreed upon steps (67, 80, 90 and 100% from 2008 to 2011)

5- Notional prices for Russian gas were used to determine volumes of gas as compensation for transit services.

For Ukraine: 80 \$/mcm until 1998; 50 \$/mcm from 1998 to 2006

For Belarus: 47 \$/mcm most recently until 2007

**<u>Source</u>: "Putting a Price on Energy: International Pricing Mechanisms for Oil and Gas", Energy Charter Secretariat, March 2007**

# RUSSIA'S GAS EXPORT TO FORMER COMECON/USSR STATES: DIFFERENT SENSITIVITY IN TRANSITION TO MARKET-BASED PRICES

| | Czech & Slovak Republics | Ukraine | Belarus |
|---|---|---|---|
| Internal motivation vs. external political obligations to move to market pricing / prices | (No?) / Yes (accession to EU) | No / No | No / No |
| Price gap (market vs. political price): value (USD/mcm) & trend prior to transition | 10- (1998); diminishing | 15 (1998), 160 (2005); growing | 25 (1998), 170+ (2006); growing |
| Relative economic value / political sensitivity | Low | High | Highest (Union state) |

Based on: "Putting a Price on Energy: International Pricing Mechanisms for Oil and Gas", Energy Charter Secretariat, March 2007

# Conclusions

- Russian gas exports are based on Groningen (Dutch) LTGEC concept & proved its validity over 30-40 years
- Market gas export prices/pricing in continental Europe: gas replacement value at importer market netted back to delivery point + regular price rebate in LTGEC; regular practice since early 1960's
- Export prices/pricing to former COMECON & FSU states: step-by-step transformed from cost-plus-based political to market-based pricing/prices
- Russian gas pricing to all destinations is being rearranged to universal market approach: replacement value in EU country netted-back to export point (Gazprom stated aim: equal financial results from operations at all its export markets)
- To soften transition to market export prices, for some countries (e.g. Ukraine, Belarus) different transition mechanisms introduced – in line with industrial gas price increase at Russia's domestic market

# Thank you for your attention!

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