Chances for the Danube Region countries to catch up with European gas markets after the fall of NABUCCO

Péter Kaderják
Director
Regional Centre for Energy Policy Research
Corvinus University of Budapest

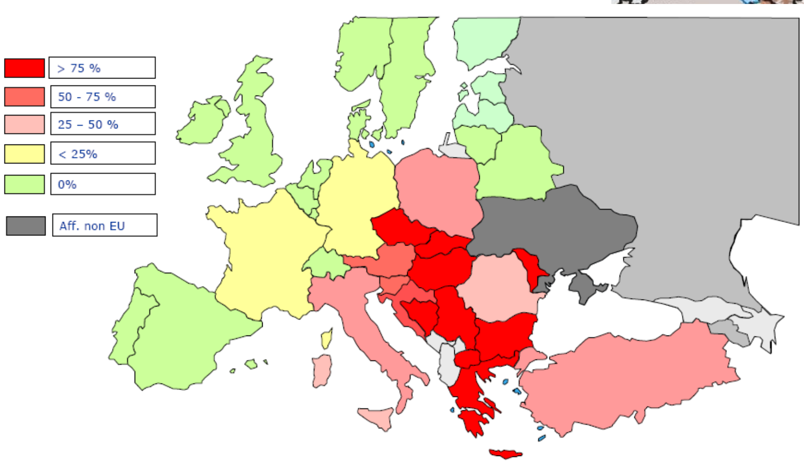
Seminar on the experiences of the implementation of the EU Baltic Sea and the Danube Region Strategies – Sharing best practices

Stockholm, 2nd April, 2014

The original motivation for the DR to cooperate in the field of energy security

- Gas supply crises of 2006 and 2009
- December 16, 2010:
  - European Union Strategy for the Danube Region (during the Hungarian Presidency)
  - 11 priority areas (PA), including energy (Hungary, Czech R.)

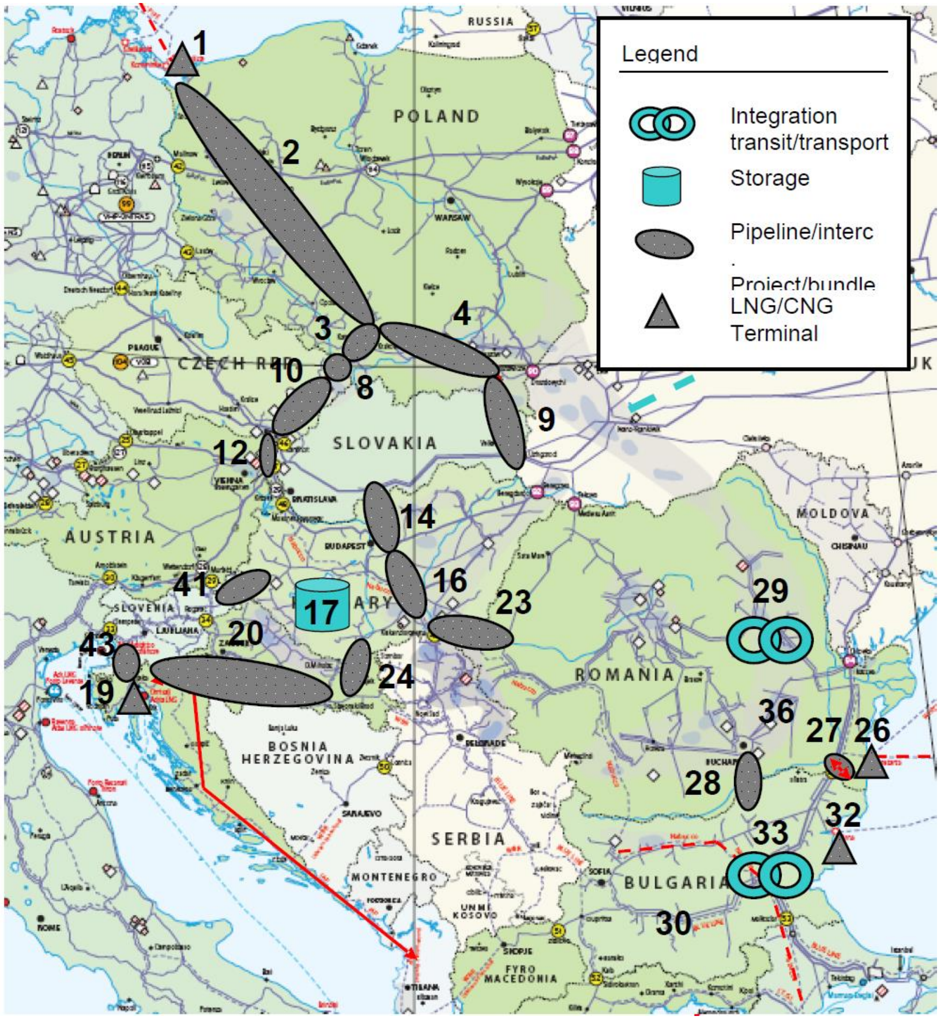
Reduction in gas supply in %



Source: DG TREN

Key issues to address

- The dominance of Russian long-term gas export contracts in the supply of regional countries
- Limited physical interconnections among regional countries with the exception of the Czech Republic and Slovakia
- The dominance of East-to-West gas flows
- The low level of security of supply, which manifested itself during the 2009 gas crisis.



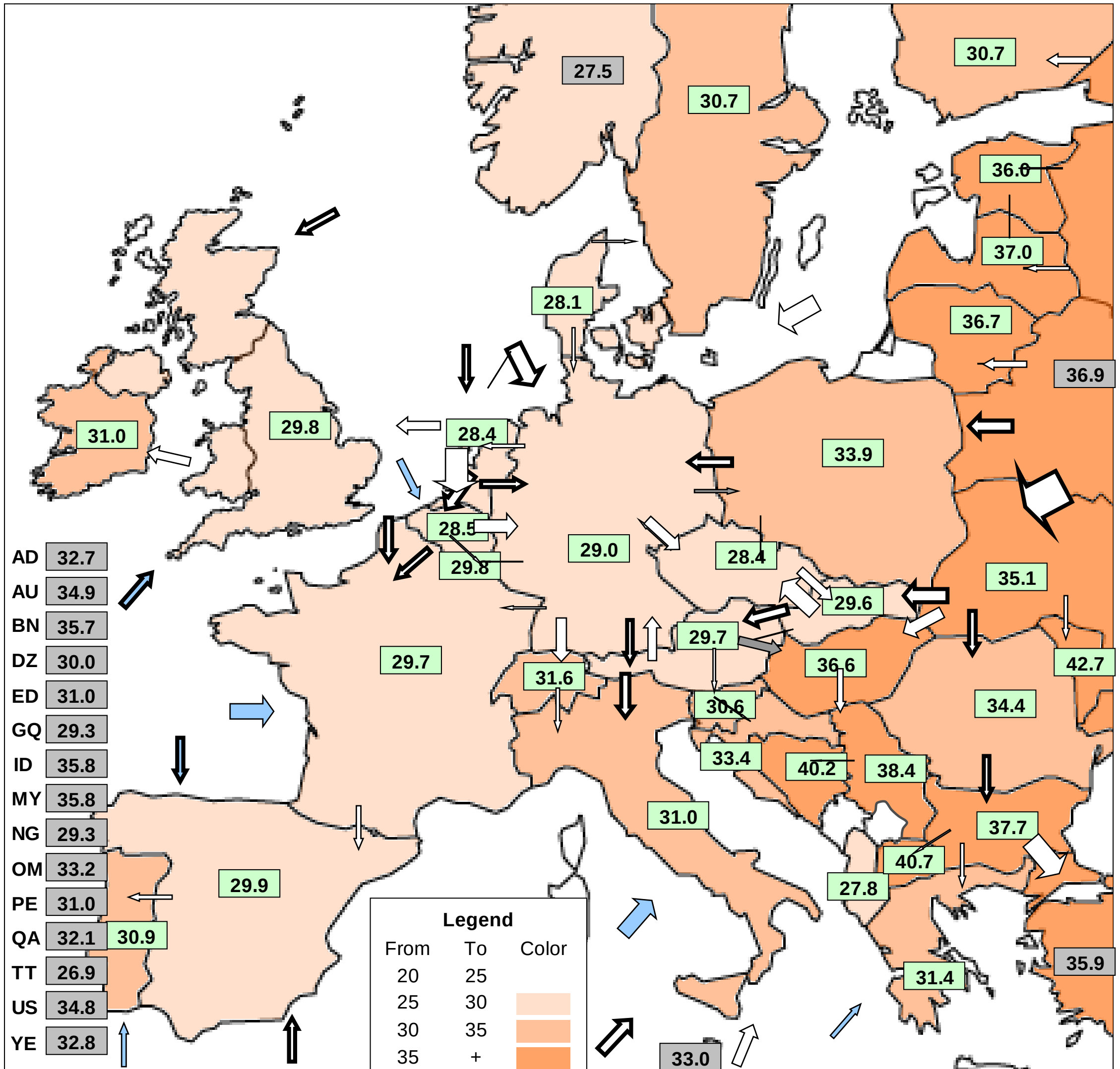
Source: Action Plan for North-South Energy Interconnections in Central-Eastern Europe. DG Energy

Gas market integration: to improve security and provide competitive prices

- Leverage with suppliers is improved by abundant infrastructure
- So far DR gas market integration work concentrated on infrastructure related issues
- Better use of **existing infrastructure**:
  - The impacts of virtual and physical reverse flows?
  - How to better utilize the underground gas storage assets of the DR?
- What kind of **new infrastructure** is needed to improve gas wholesale price convergence (market integration) with the West?
  - Analysis of infrastructure development options
  - Supporting the EU's PCIs selection process and the creation of a North-South gas corridor concept in the DR
- Development of a solid and consistent methodology to investigate policy relevant issues: Danube Region Gas Market Model (now European Gas Market Model)
  - Supply security risks of low mobile gas levels in Ukraine?
  - Potential impacts of the Russia/Ukraine crisis on the DR?
  - To what extent US shale gas export can help?

Case example 1: new infrastructure can help: REKK European Gas Market Model – reference case (2012)

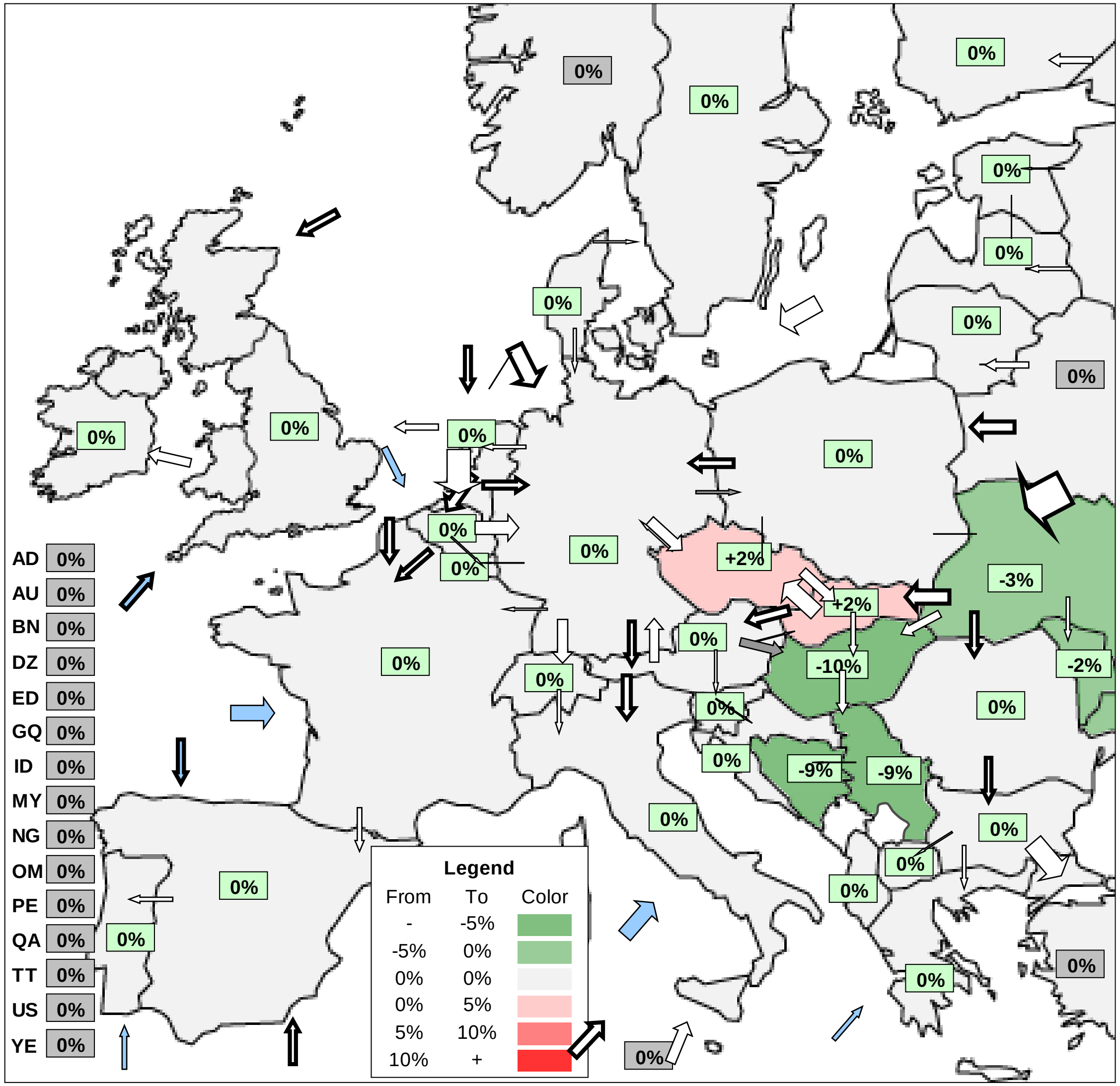
REKK Regional Centre for Energy Policy Research



- External markets: NO, RU, TR, LNG (grey box)
- Endogenous markets (green)
- Arrows (modelled commercial flows)
- Bold arrow: larger flow
- Grey arrow: congested interconnector
- Blue arrow: LNG
- The global LNG market is represented by the Japanese LNG price

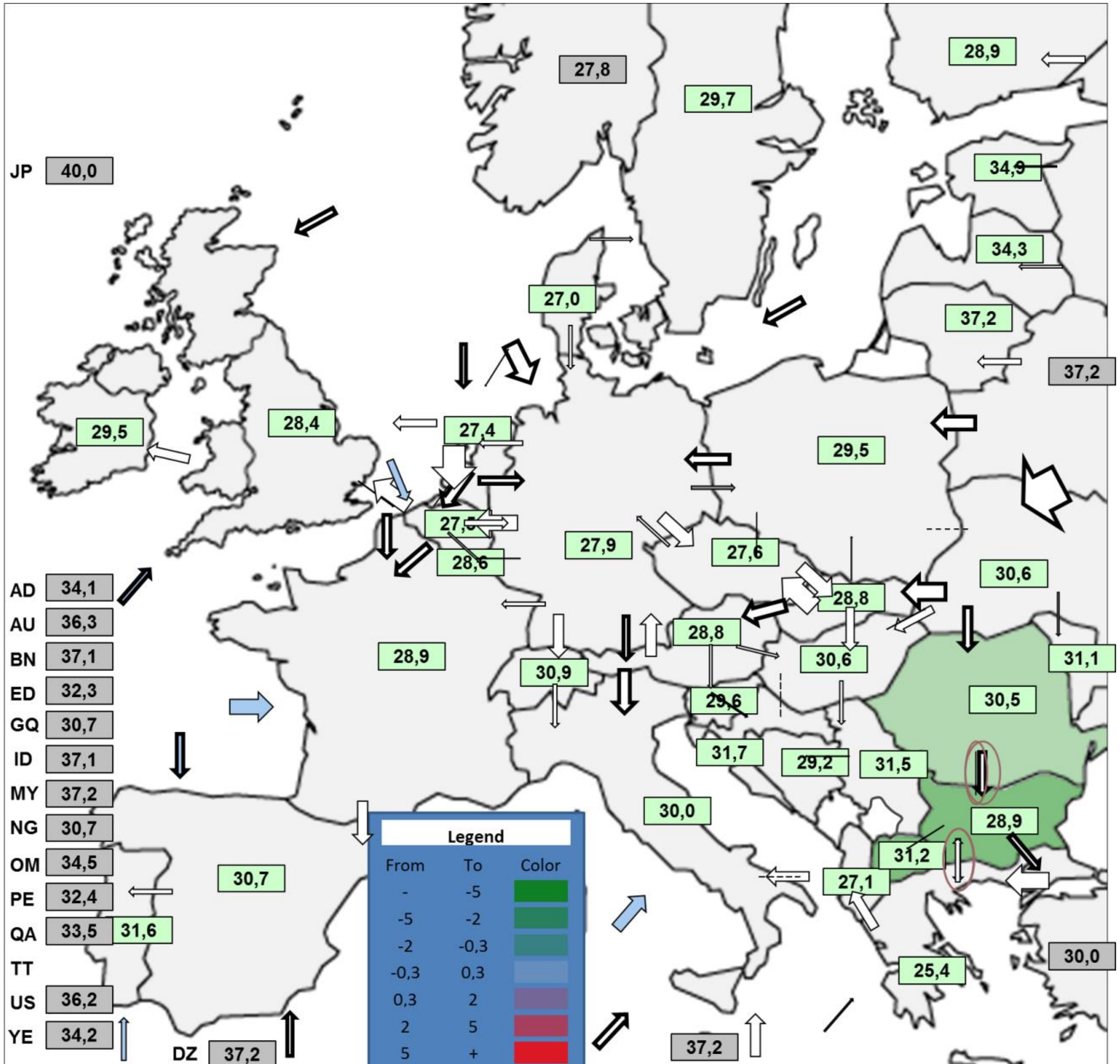
Wholesale price impact of the SK-HU interconnector

REKK Regional Centre for Energy Policy Research



- Economic pay-back of investment already at 1-2% wholesale price decrease

TAP+IGB+BG+RO-HU (2013)



- 1 € price decrease in Romania, 3 € price decrease in Bulgaria
- Macedonia also benefits from price decrease in Bulgaria
- No effect on Hungarian prices

Case example 2: Existing infrastructure-underground gas storage

REKK Regional Centre for Energy Policy Research

	Consumption (2010)	Storage working gas capacity	Storage/Consumption
CSEE	63 bcm	24 bcm	39%
CSEE + Ukraine	131 bcm	57 bcm	44%
European Union (27)	547 bcm	96 bcm	18%

Source: IEA 2010, Eurostat 2010, GSE 2012 data

CSEE as a whole has sufficient storage capacities, but with uneven distribution across countries!

More regional co-operation / integration needed!

Sufficiency of gas storage

Seasonal flexibility (working gas capacity)

	Working gas/annual consumption 2010	Working gas/annual consumption 2011
AT	73%	80%
BA	0%	0%
BG	16%	14%
CZ	37%	42%
HR	17%	16%
HU	52%	52%
MD	0%	0%
PL	11%	11%
RO	20%	19%
SB	20%	19%
SI	0%	0%
SK	47%	45%
UA	47%	n.a.

Daily flexibility (withdrawal capacity)

	Withdrawal, mcm/day	Peak demand mcm/daiv	Withdrawal capacity/ peak demand
AT	88	57.6**	153%
BA	0	1.7***	0%
BG	3	17.5**	17%
CZ	55	63.8**	86%
HR	6	12.0***	50%
HU	80	78.8**	102%
MD	0	n.a.	0%
PL	36	75.8***	47%
RO	31	69**	45%
SB	5	12.7***	39.3%
SI	0	5.6**	0%
SK	38	47.1***	80,7%
UA	301	n.a.	n.a.

No storage: Bosnia H, Moldova, Slovenia

Not sufficient: Bulgaria, Croatia, Poland,

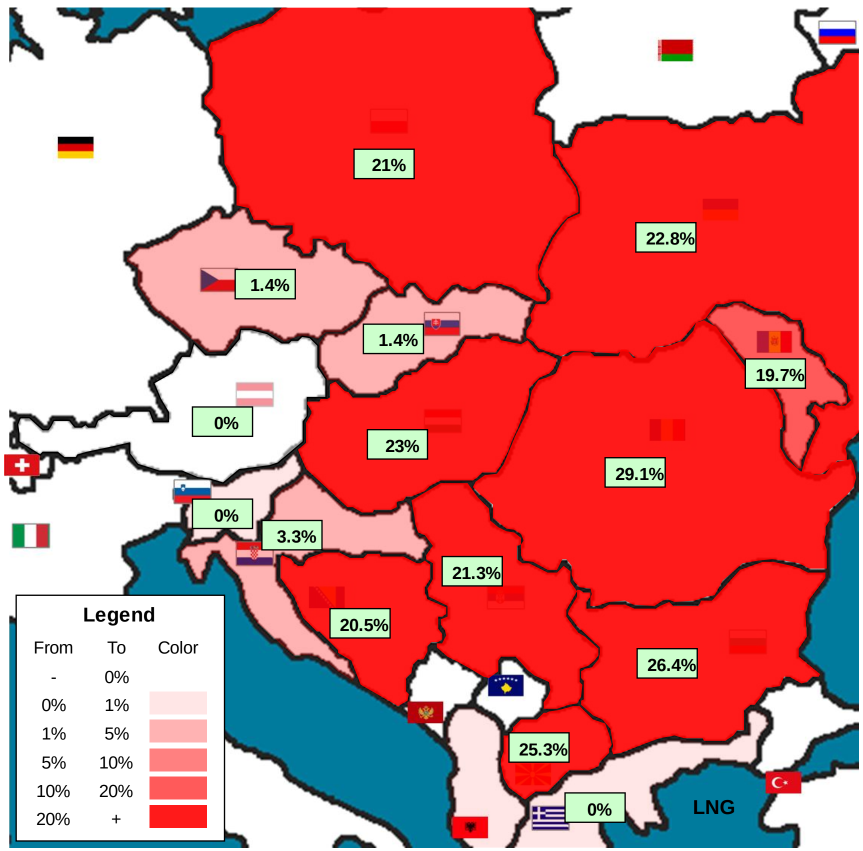
Serbia(?), Romania(?)

Market effects of an unexpected 25% demand increase in February

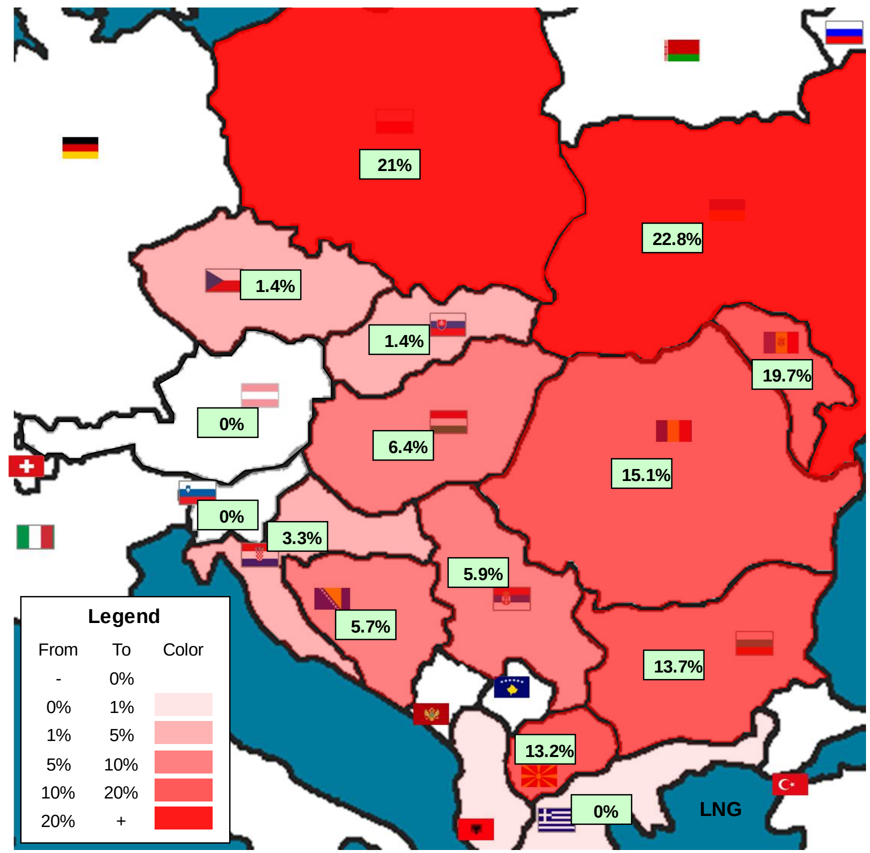
REKK Regional Centre for Energy Policy Research

HU strategic storage is NOT released	OR	HU strategic storage is released

Price increase (%) compared to base case (average prices)



Price increase (%) compared to base case (average prices)



The way forward for DR cooperation in gas

REKK Regional Centre for Energy Policy Research

- Joint infrastructure investment planning, including cross-border cost allocation schemes
- Joint risk analysis (see Russia-Ukraine crisis)
- Joint prevention action plan (SOS Directive)
- Regulatory harmonization
  - Development of combined product and capacity products (e.g. an integrated product to ship LNG from Swinoujscie to Prague or Budapest)
  - Early implementation of the gas CACM Regulation for some countries of the DR
  - Developing rules / agreements for a regional gas storage market
- Cooperation to share good practices in further diversification alternatives (RES, energy efficiency)

THANK YOU FOR YOUR ATTENTION!

pkaderjak@uni-corvinus.hu

www.rekk.eu

+36 1 482 7071