



American Institute for
Contemporary German Studies

JOHNS HOPKINS UNIVERSITY

U.S. Expert Viewpoints on German/E.U. Energy Vulnerabilities

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AICGS Fellow, April-May 2015 - Washington, D.C
Hertie School of Governance & Freie University - Berlin



German/EU Energy Vulnerabilities

N.B.: This is a preliminary report ...

Two key areas in interviews:

A. Fossil Fuels: Natural Gas

B. Renewables: *Energiewende*



German/EU Energy Vulnerabilities

Two key areas:

- A. Fossil Fuels: Natural Gas
- B. Renewables: *Energiewende*

Interview questions:

Analyses of Vulnerabilities?

Opinions of German/EU policies?

(What are U.S. policies towards Germany/EU on energy/geopolitical issues?)



German/EU Energy Vulnerabilities

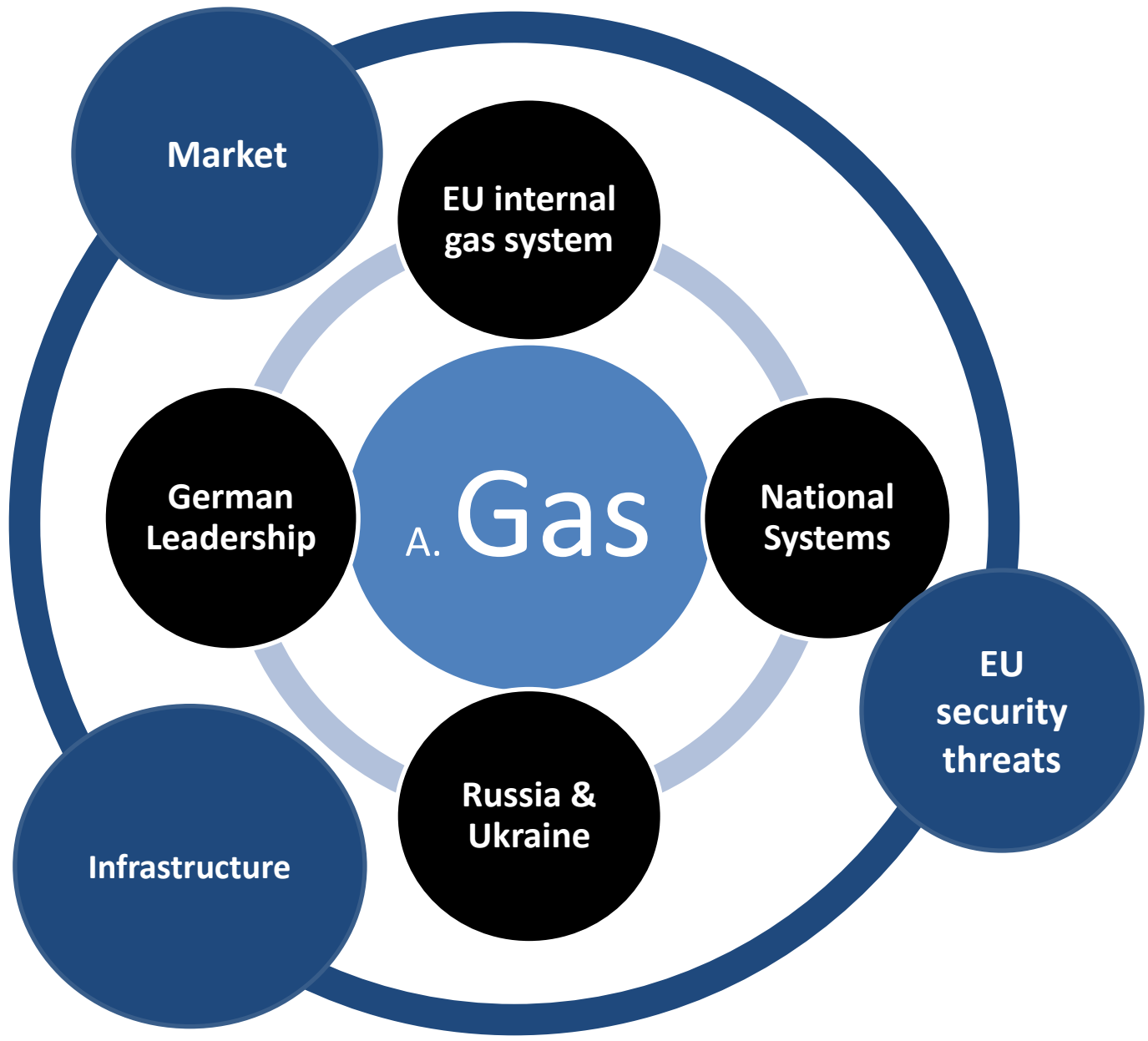
Interviews US Experts & Officials*

1. Tim Boersma – Acting Dir., Energy Environ. Brookings
2. Guy Caruso – CSIS (former EIA head)
3. Ed Chow – CSIS (former Chevron)
4. Bud Coote – Atlantic Council (retired CIA)
5. Thomas Cunningham – D.of State, BER
6. Jonathan Elkind - Principal Dep. Assist. Sec., International Affairs DOE (fmr. NSC Russia, Ukraine; Senior Fellow Brookings, ...)
7. David Goldwyn – Goldwyn Assoc. (fmr State Dept & DoE)
8. Doug Hengel – German M. Fund, leave from State Dept. esp. Energy, Europe
9. Andrew Holland – American Security Project
10. David Koryani – Atlantic Council, Eurasia
11. David Livingston – Carnage Found'n Peace
12. Amb. R. Morningstar – Director, Energy, Atlantic Council (fmr. Amb. EU, ...)
13. ...

Seminars & Panels: Q&A & Discussions

1. Joseph Nye (CSIS)
2. Adam Sieminski (CSIS)
3. Carl Bildt (CSIS)
4. Assessing US Sanctions (Wilson)
5. Min. W. Schäuble (Brookings)
6. Wolfgang Munchau (CSIS)
7. Ukrainian Energy Reforms & Europe Gas Supply (CSIS)
8. US-EU Energy Convergence? (SAIS/Geo. Mason U)
9. Future of US-Russian Relations: Rept. War Game, US Army War College (CSIS)
10. ...

* Note: Not all are from US; as is typical of US: “Kissinger/Albright effect”





German/EU Natural Gas Vulnerabilities

- Internal*
 - Infrastructure
 - storage, complete interconnections, reverse-flow, LNG terminals, N-S corridor, financing, ...
 - Governance:
 - 3rd Energy Package, anti-monopoly case, Energy Union v state sovereignty, carbon market, EC Gas Stress Test, ...
 - Market & Supply:
 - unify market, diversity of supply, production (fracking), destination clauses, oil-index v. hub pricing

* Topics we discussed in interviews ...

German/EU Natural Gas Vulnerabilities

- External*
 - Gazprom (monopolist market distortions)
 - Pipeline geo-economic contests
 - Destination clauses, pricing, ...
 - Cutoffs 2006, 2009
 - Kremlin geopolitics
 - Russia as independent global power/revanchism
 - Russian nationalism
 - Halt EU/NATO advance into former-Soviet sphere
 - Other import issues: N. Africa, Gulf, ...

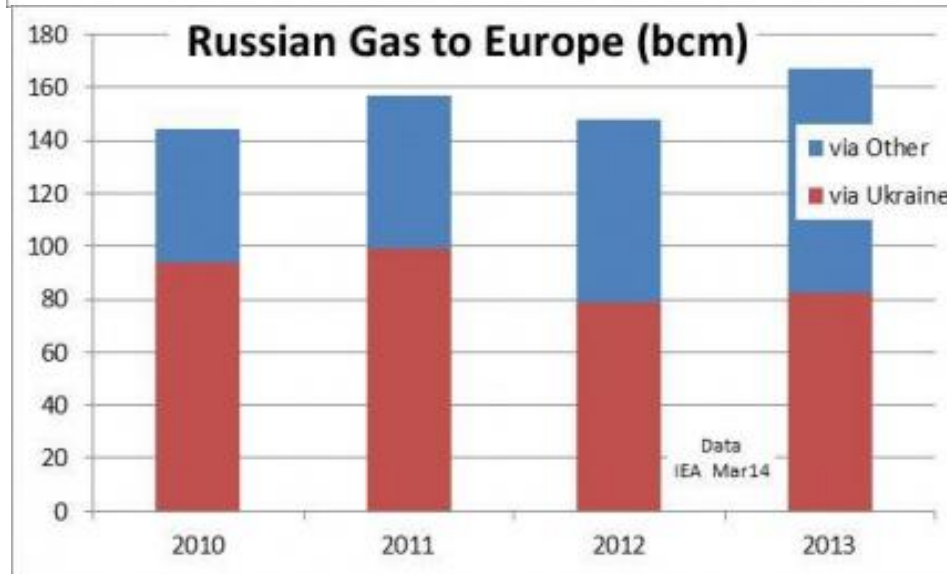
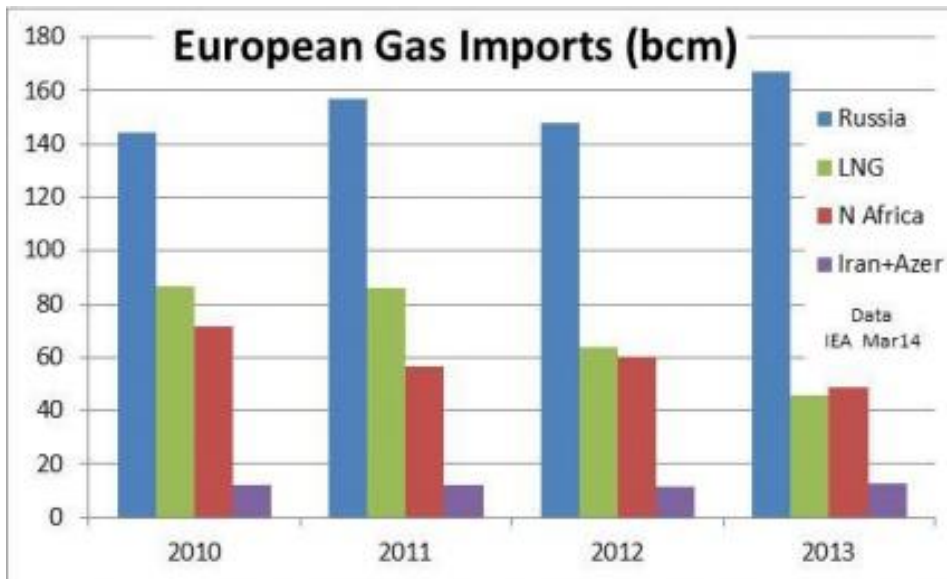


German/EU Natural Gas Vulnerabilities

Gas Supply:
Dependency versus Diversity

the state of affairs ...

Ukraine conflict & Russian gas





Pipelines



Ukraine conflict & Russian gas

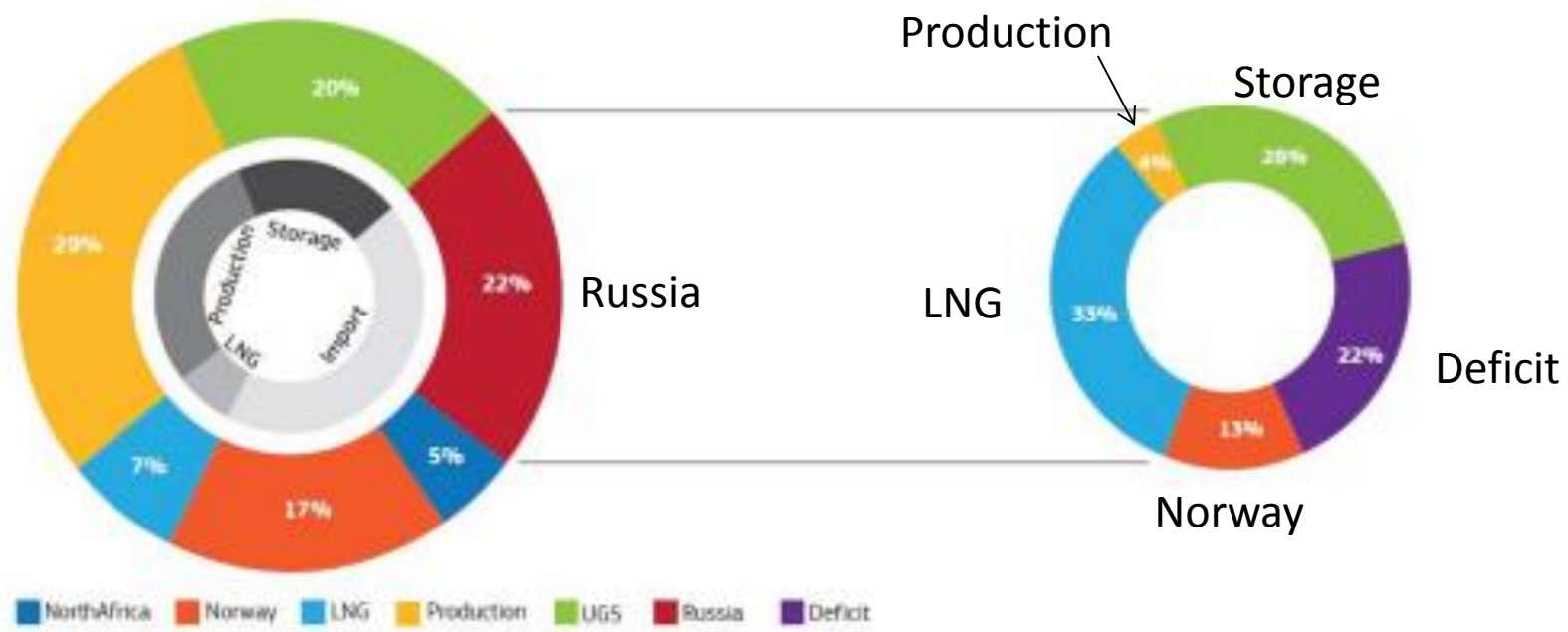


<http://theglobalstate.com/geopolitics/the-ukrainian-conflict-explained-in-5-maps/>

Gas – EC Stress Test

Conclusion: “Solidarity key”

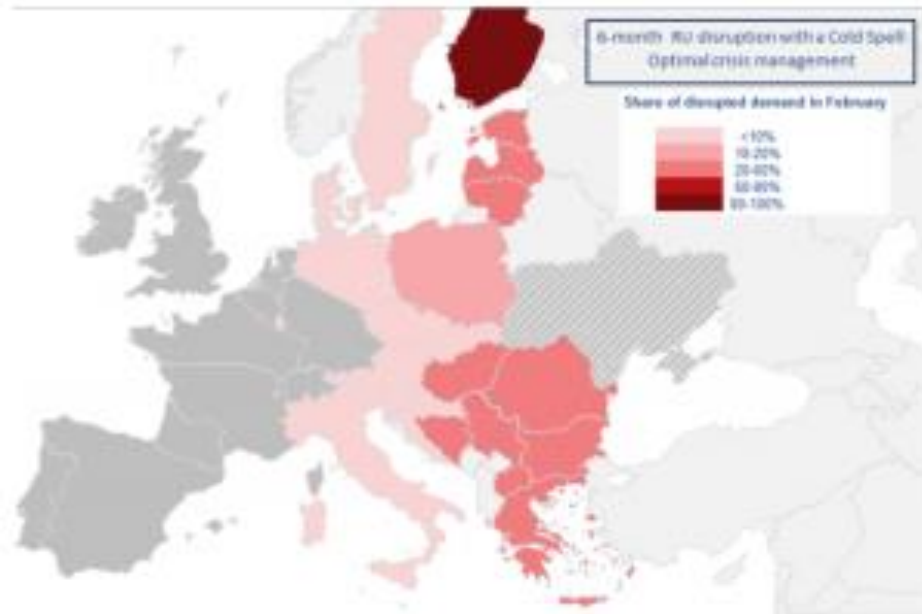
Replacement of Russian gas in the 6-month Russian supply disruption scenario



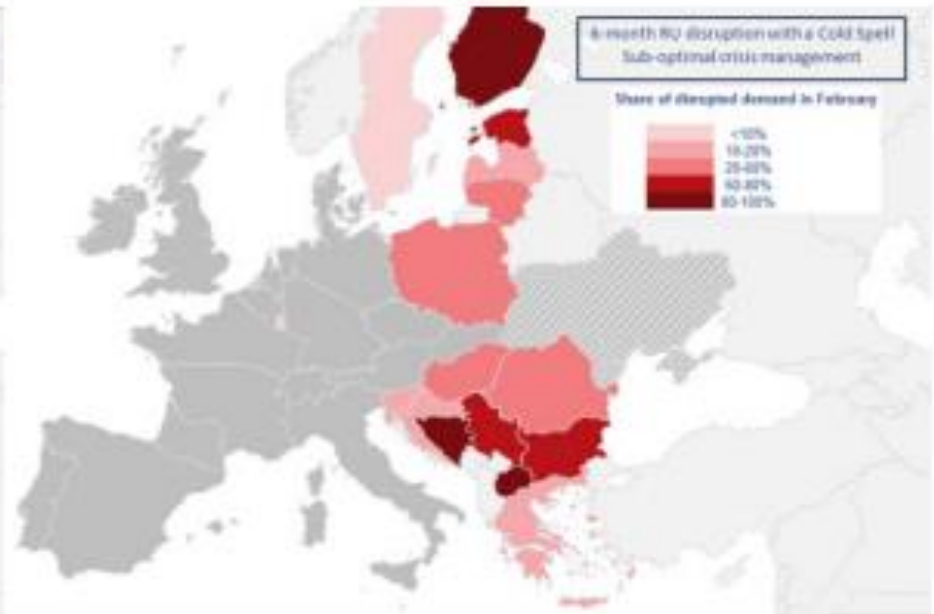
Gas – EC Stress Test

Conclusion: “Solidarity key”

Cooperative Scenario



Non-cooperative scenario



Two scenarios for six-month cut in cold winter

Gas – EC Stress Test

Conclusion: “Solidarity key”

Coop **Would Solidarity Suffice?**
Stress-testing a Russian gas cutoff, the EU may be too optimistic

17/11/2014 | by [Thomas W. O'Donnell](#)

With the actions of Russia's President Vladimir Putin becoming ever more unpredictable, the EU Energy Stress Test was an important step to prepare for the contingency of a supply stop of Russian gas to Europe. Relying on solidarity and LNG imports, however, may not be enough. <https://ip-journal.dgap.org/en/ip-journal/topics/would-solidarity-suffice>

ario

ruption with a Cold Spell
of crisis management

and demand in February

<10%
10-20%
20-40%
40-60%
60-100%

Two scenarios for six-month cut in cold winter



Options to diversify gas supply

- Southern Gas Corridor:
 - Azerbaijan's Shah Deniz gas (via Turkey to Europe)
 - Possible others: Turkmenistan, Iraq, Iran
- Complete N-S Gas Corridor
- From Norway
- LNG globally, including USA
 - TTIP: Energy Chapter
- Up production (fracking?)



Defunct Projects

Nabucco (USA/EU) -&- South Stream (Russia)





Southern Corridor (EU/USA)

EU's non-Russian/Gazprom Option

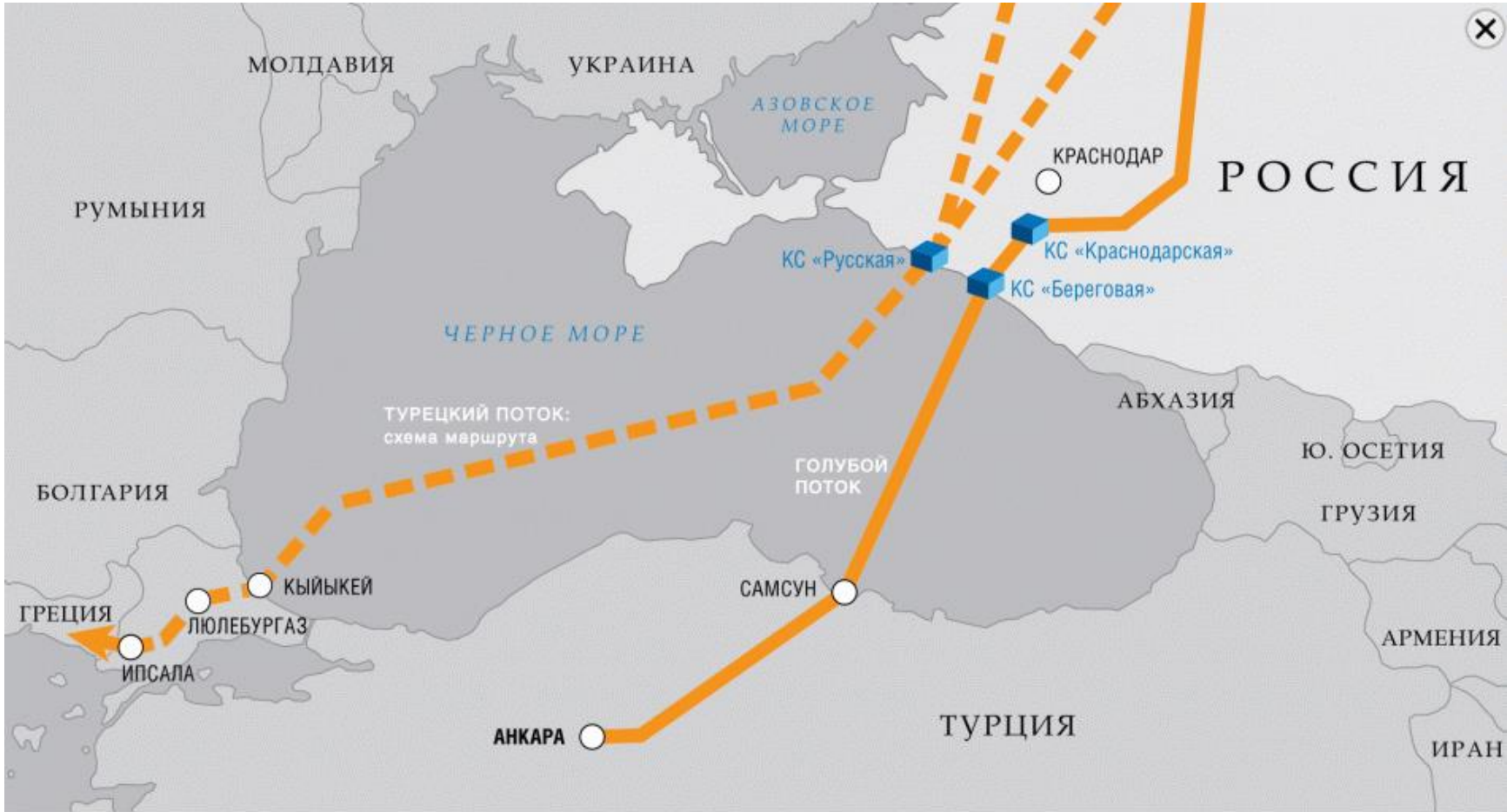


One of many projects: South Stream, Turkish Stream, TAP, TANAP, Southern Corridor, Nabucco: East-West Transnational Gas Pipelines Trans-Adriatic Pipeline .
Trans-Anatolian Pipeline, South Caucasus Pipeline, ..

South Stream



Turkish Stream

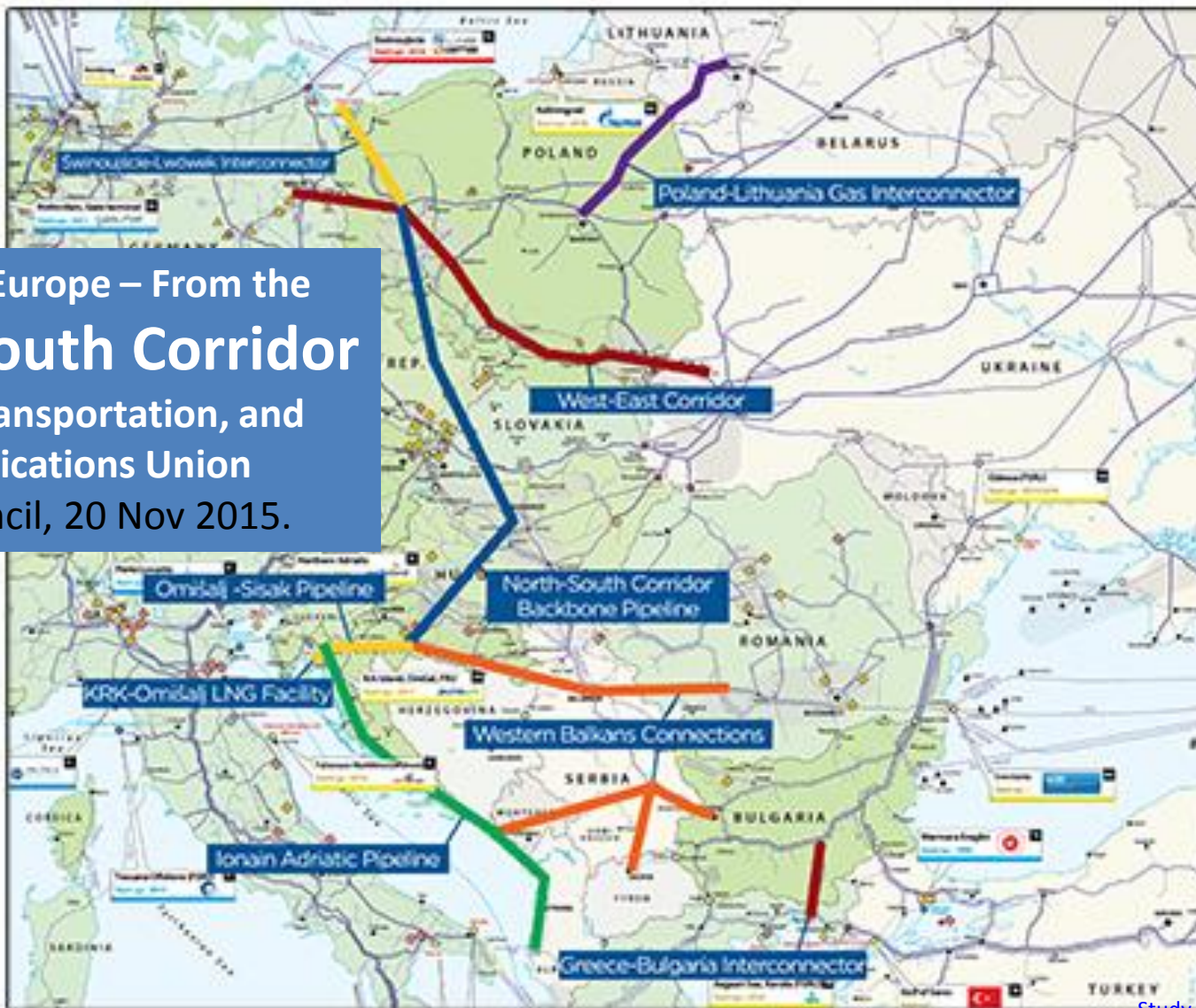




Options to diversify gas supply

- Southern Gas Corridor:
 - Azerbaijan's Shah Deniz via Turkey to Europe
 - Possible added supplies: Turkmenistan, Iraq, Iran
- Complete N-S Energy Corridor
- From Norway, MENA, ...
- LNG globally, including USA
 - TTIP: Energy Chapter

“Small Projects”



Completing Europe – From the
North-South Corridor
to Energy, Transportation, and
Telecommunications Union
Atlantic Council, 20 Nov 2015.



Options to diversify gas supply

- Southern Gas Corridor:
 - Azerbaijan's Shah Deniz via Turkey to Europe
 - Possible supplies: Turkmenistan, Iraq, Iran
- Complete N-S Energy Corridor
- From Norway (do-able), MENA (problems), ...
- LNG globally, including USA
 - TTIP: Energy Chapter



Options to diversify gas supply

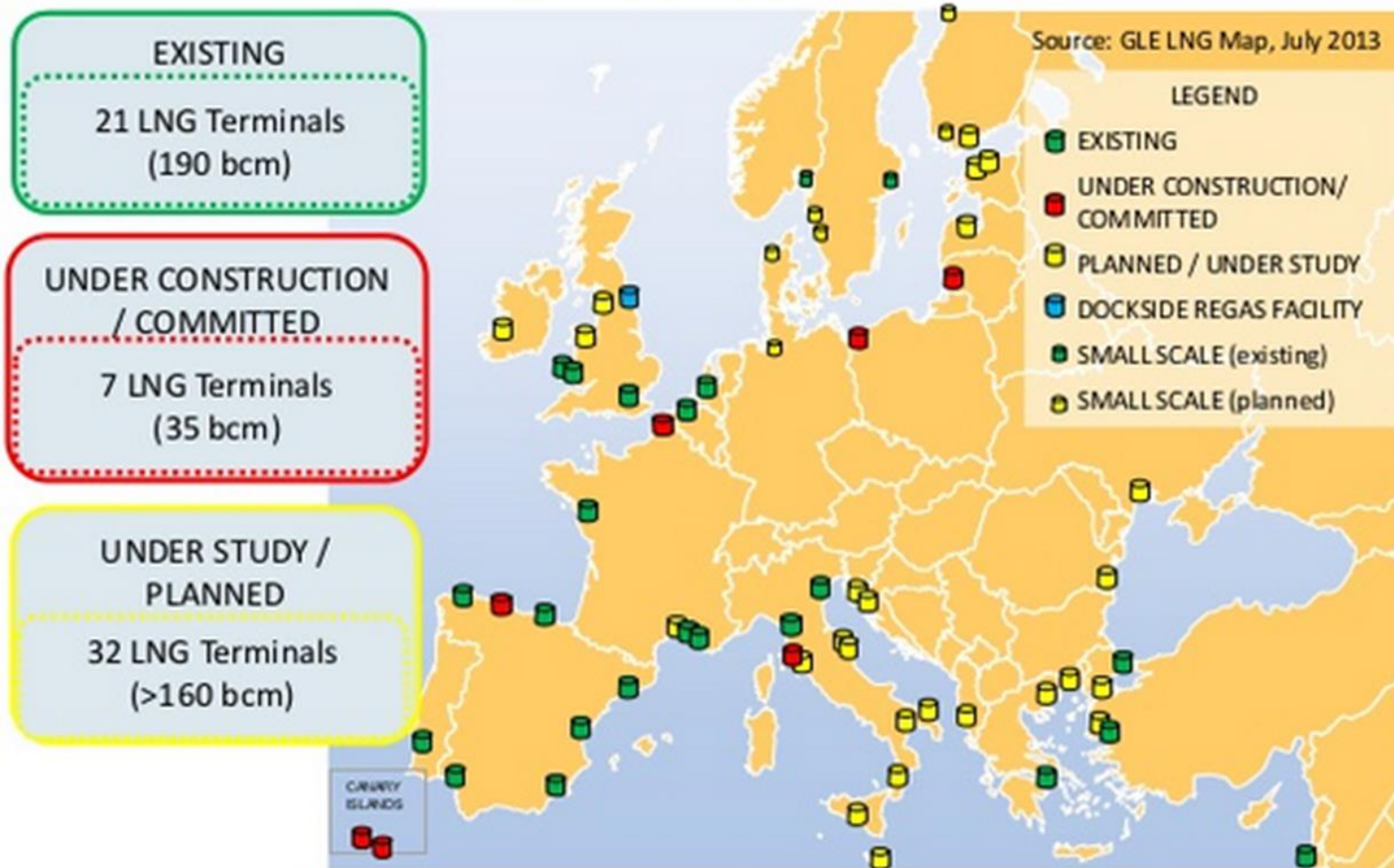
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“Small Projects”



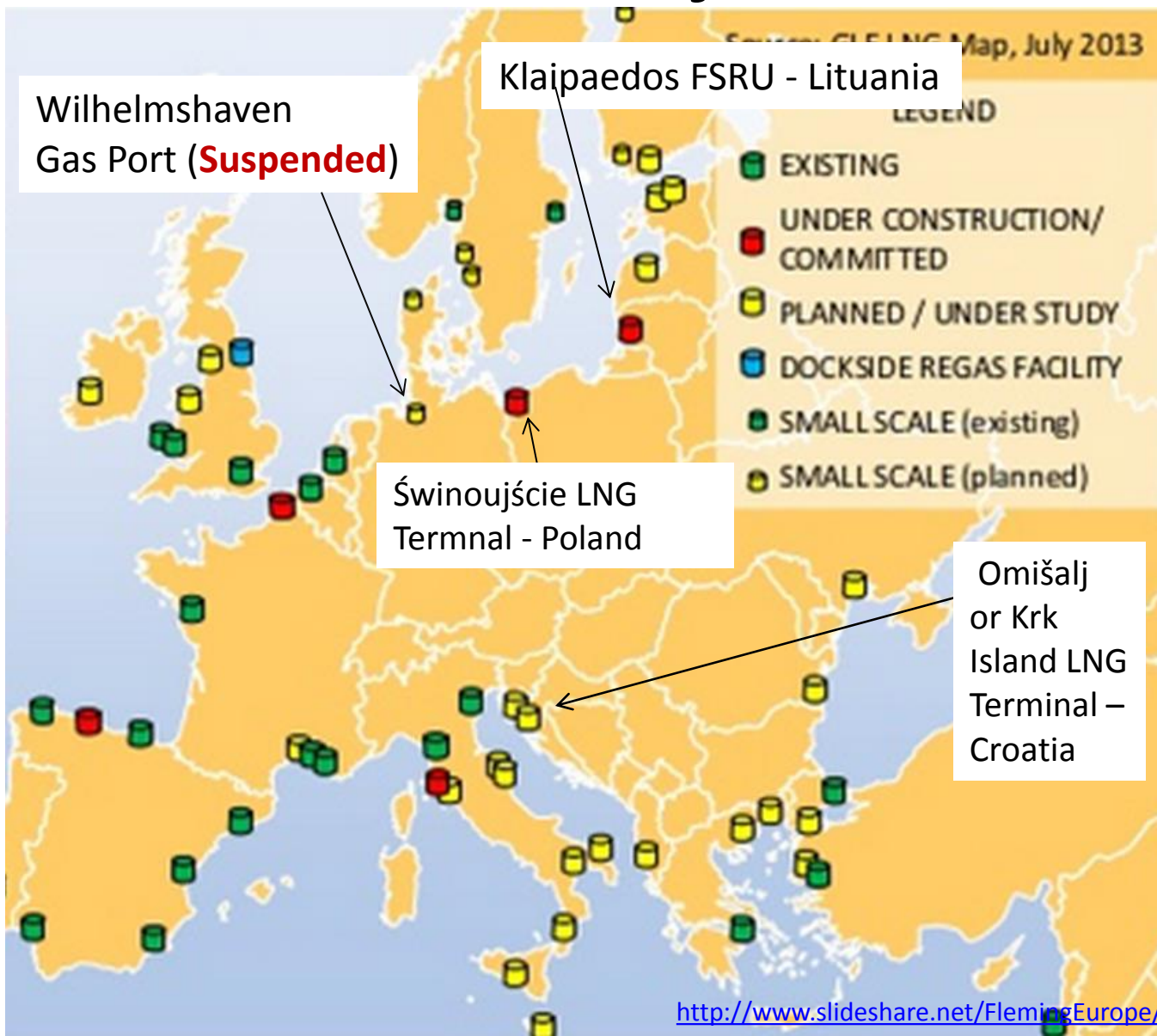
Gas LNG Europe

LNG terminals in Europe



Detailed information on LNG terminals available at <http://www.gie.eu/index.php/maps-data/lng-map>

“Small Projects”

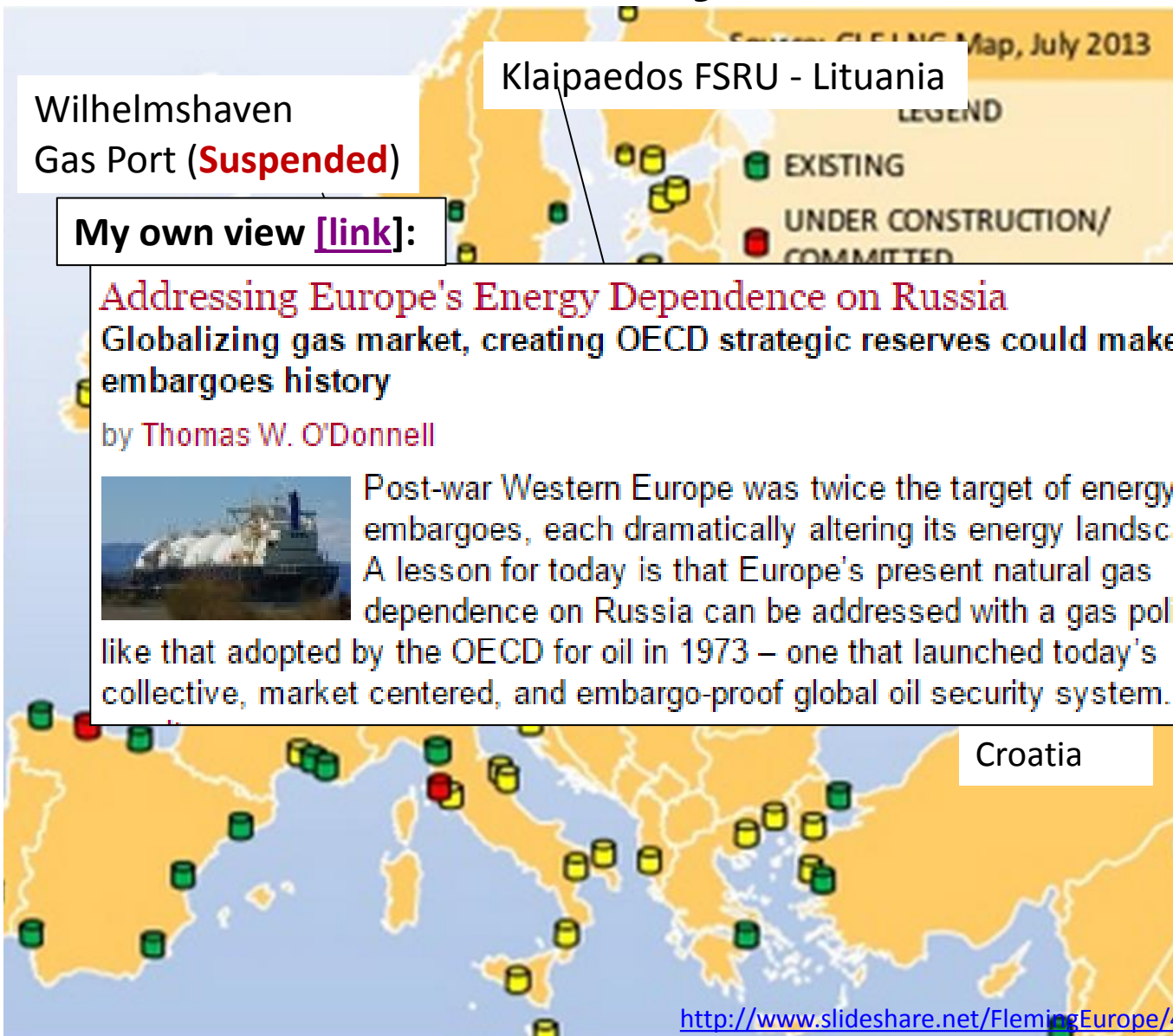


Plus several **connectors**:

- CroatLNG
- N-S
- France-Spain

Discussion: LNG in Croatia & intra-EU small states' deals for pipelines are difficult.

“Small Projects”



Wilhelmshaven
Gas Port (**Suspended**)

Klaipaedos FSRU - Lithuania

My own view [\[link\]](#):

Addressing Europe's Energy Dependence on Russia

Globalizing gas market, creating OECD strategic reserves could make embargoes history

by Thomas W. O'Donnell



Post-war Western Europe was twice the target of energy embargoes, each dramatically altering its energy landscape. A lesson for today is that Europe's present natural gas dependence on Russia can be addressed with a gas policy like that adopted by the OECD for oil in 1973 – one that launched today's collective, market centered, and embargo-proof global oil security system.

Plus several
connectors:
CroatLNG
N-S
France-
Spain

*Discussion:
G in Croatia
Intra-EU small
states' deals for*

*pipelines are
difficult.*

Croatia



Market & governance reforms

- Internal
 - Infrastructure
 - storage, complete interconnections, reverse-flow, LNG terminals, N-S corridor, financing, ...
 - Governance:
 - 3rd Energy Package, anti-monopoly case, Energy Union v state sovereignty, carbon market, EC Gas Stress Test, ...
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German/EU Natural Gas Vulnerabilities

German Leadership & Responses

~ ~ USA Viewpoints ~ ~

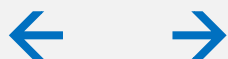
- Internal
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- External
 - Ukraine conflict & Russian gas



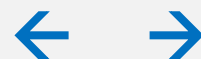
German/EU Natural Gas Vulnerabilities

Discussion of Viewpoints Spectrum ...

A



B



C

agree situation



differ analysis

policy: pay lot of attention, diversify supply, no 'silver bullets', small projects, security as externality v. market Putin threat. (neither DC/Berlin help Ukraine)

structural problems

←EU policies→

dysfunction

manageable/better

← energy threat →

better/stress test=joke

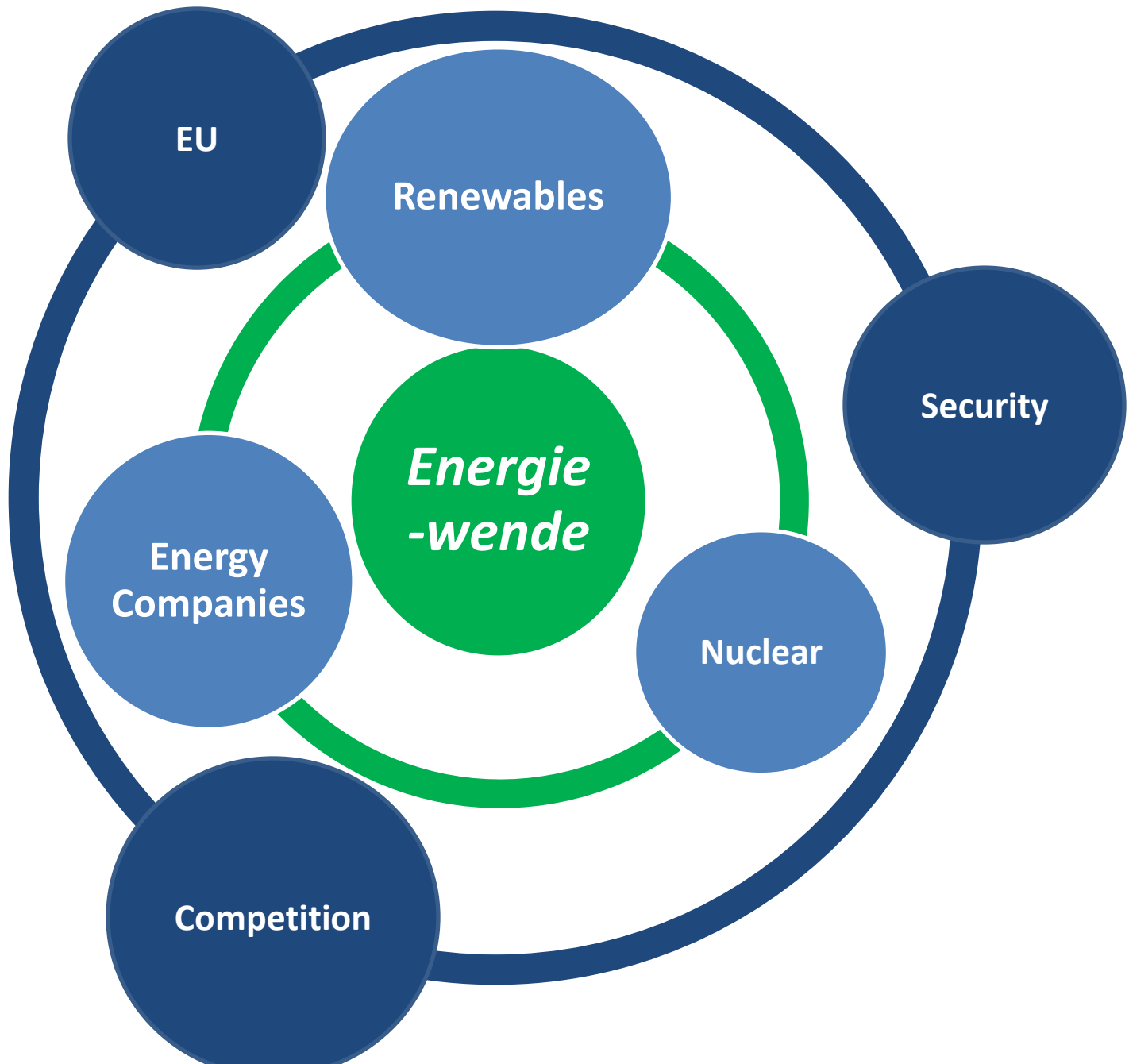
pessimism energy union, sovereignty? - little 'solidarity – 3rd E. Package & anti-monopoly

incompetence

big change

← German leadership → pol. denial/dysfunction

pass on to Brussels? SPD/SG: take it away!





German *Energiewende* Vulnerabilities

Energiewende targets:

No Nuclear

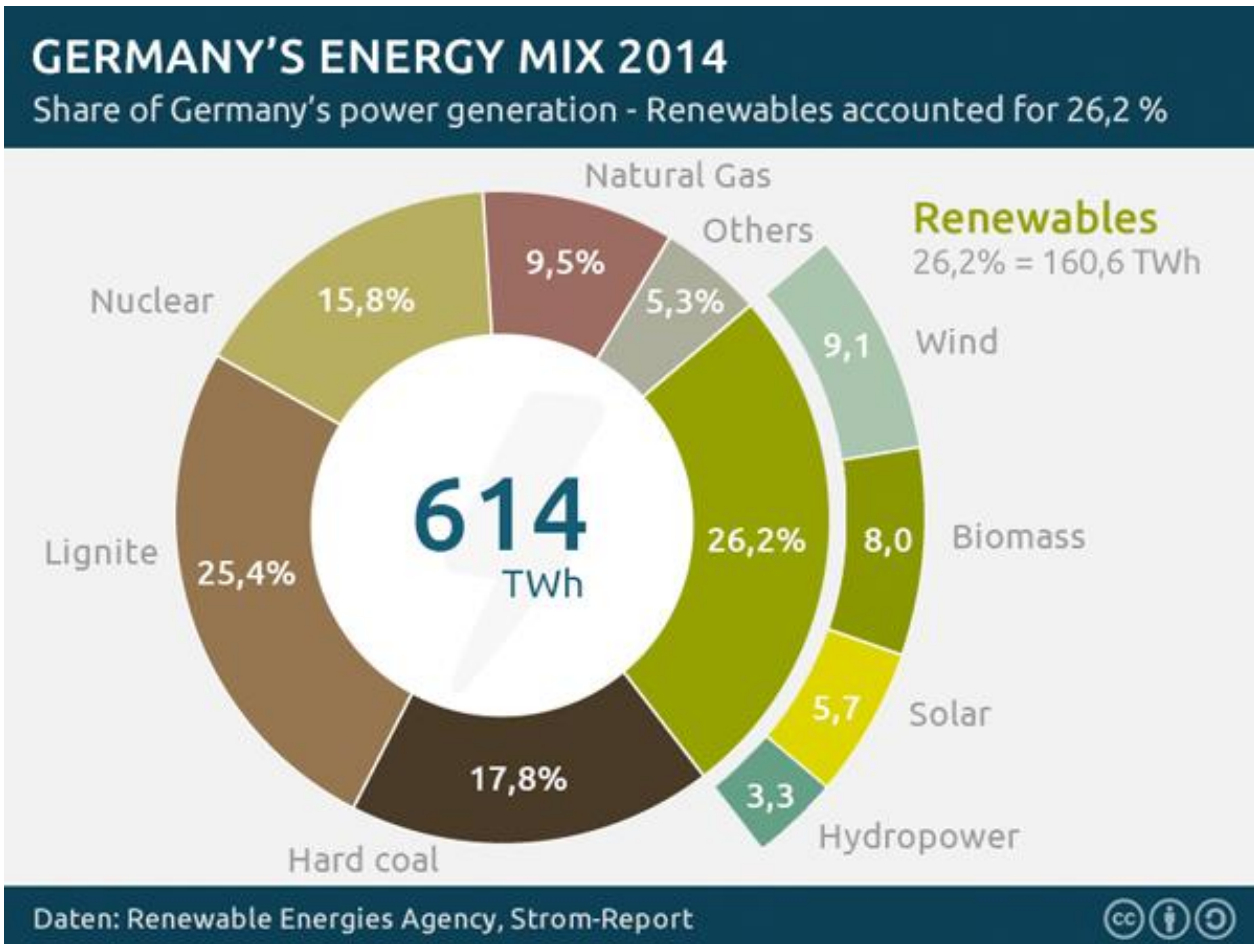
Renewable Electricity :

- 35% - 40% by 2025
- 55% - 60% by 2035
 - 80% by 2050

Consumption: from 2008 down:

- 10% by 2020
- 25% by 2050

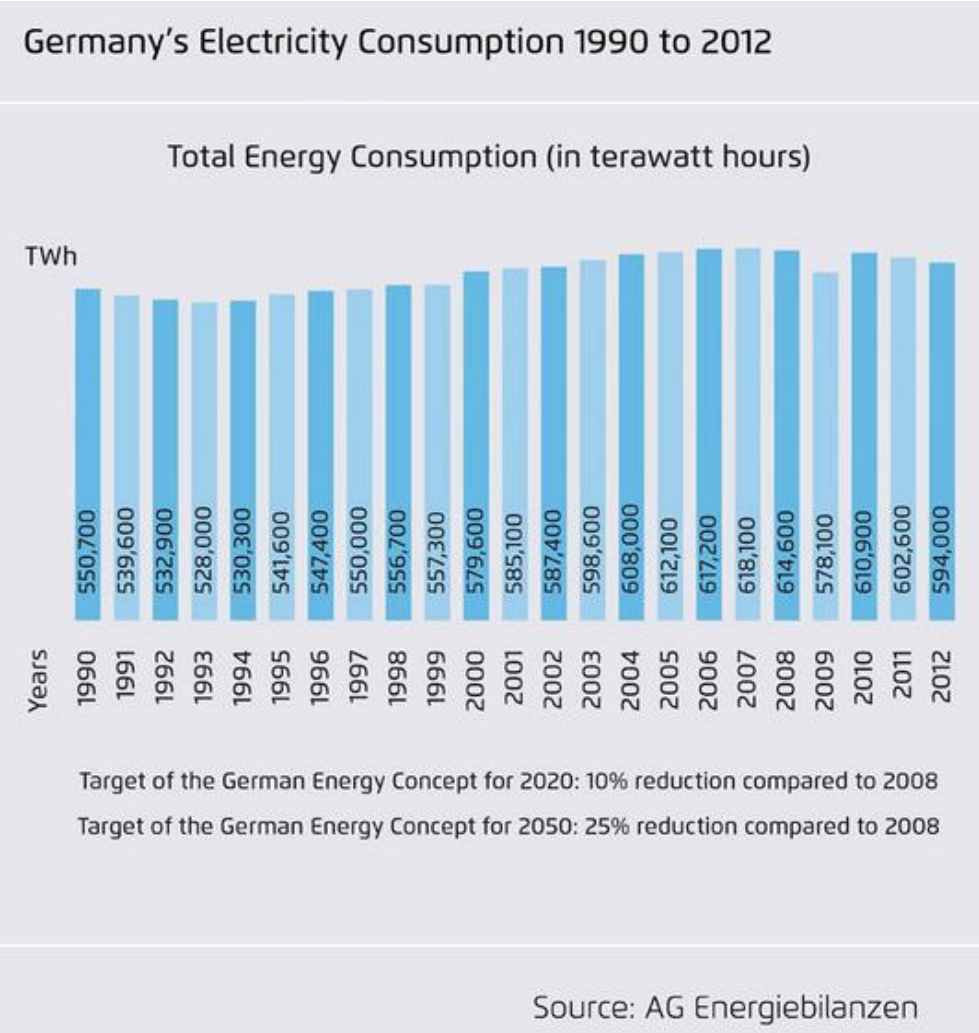
German *Energiewende* Vulnerabilities



Market share of Germany's power generation 2014[1]



German *Energiewende* Vulnerabilities



<http://www.agora-energiewende.org/topics/the-energiewende/germanys-clean-energy-transition-what-is-the-energiewende/>

Energy consumption in recent years has remained largely constant -
(Source: Agora; Germany)



German *Energiewende* Vulnerabilities

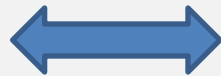
Within generally laudable context, consider:

- Cost/price
- Competitiveness
- Social justice
- No nuclear base load
 - Supply diversity
 - Financing
- EU partner co-ordination/integration
- Energy security short-to-medium term

German *Energiewende* Vulnerabilities

Within generally laudable context consisting of

US shale
revolution
Fracking*



Energiewende vs. Shale Gas

Can German industry compete?

by [Thomas W. O'Donnell](#)

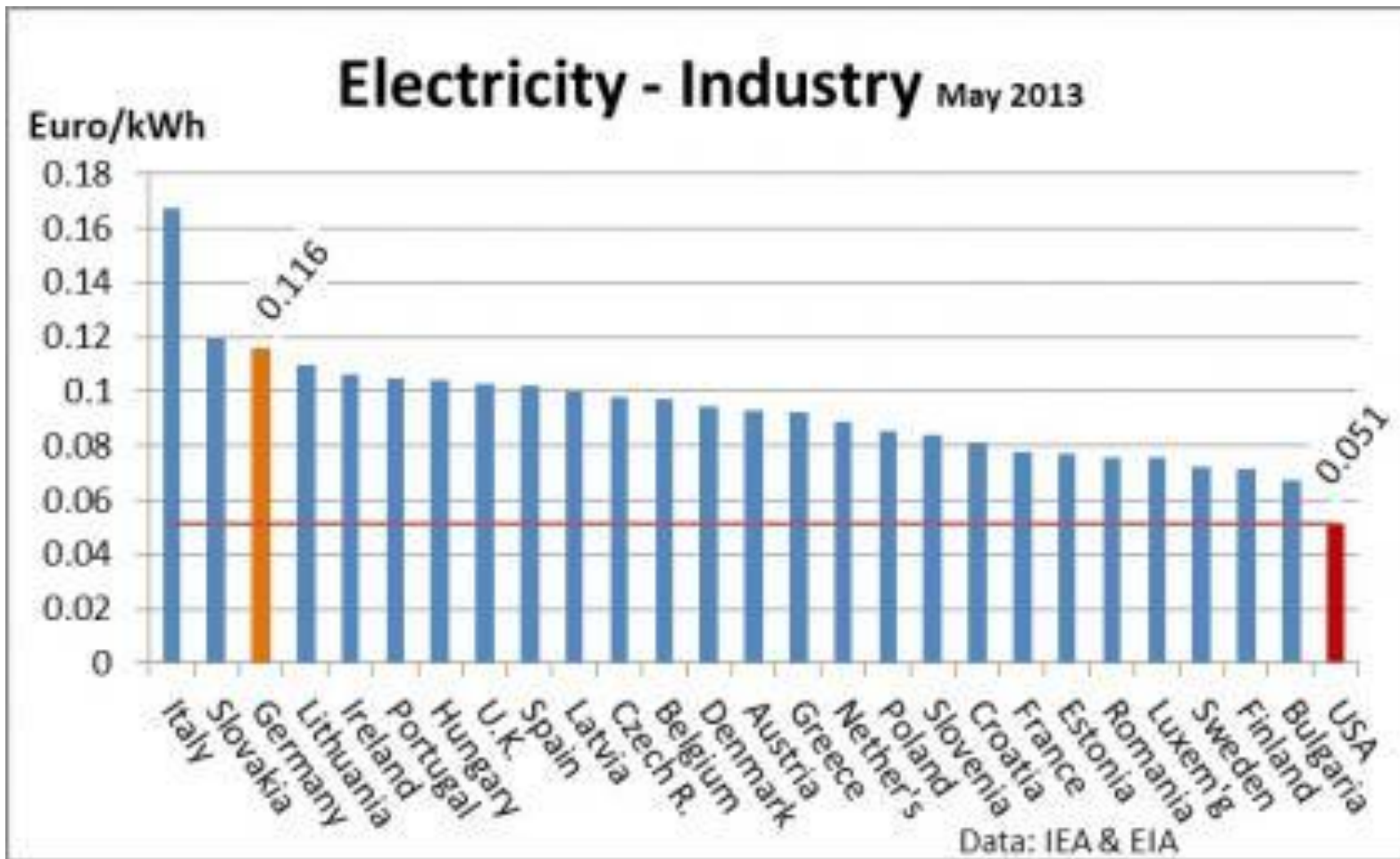


Germany's *Energiewende* is under intense pressure from consumers facing soaring electric bills and from German manufacturers fretting about their falling energy competitiveness vis-a-vis the US, where manufacturers are benefiting from the boom in cheap natural gas production. What should be done to address these concerns has become a major topic of the CDU-SPD negotiations forming Chancellor Merkel's new coalition government.

- EU partner co-ordination/integration
- Energy security short-to-medium term

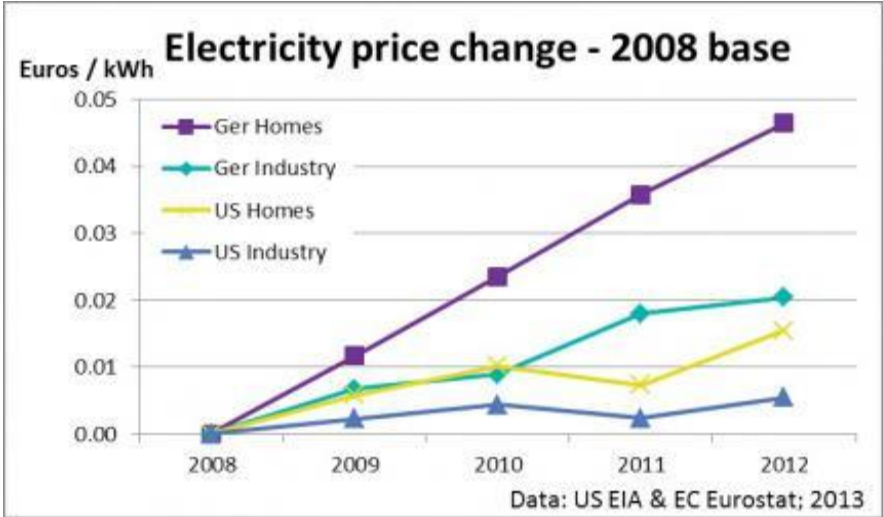
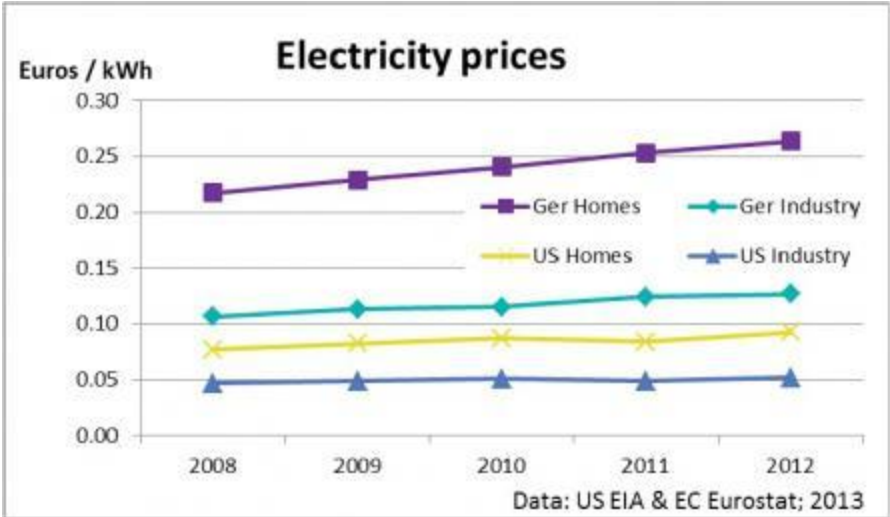


Energiewende v. Shale Gas

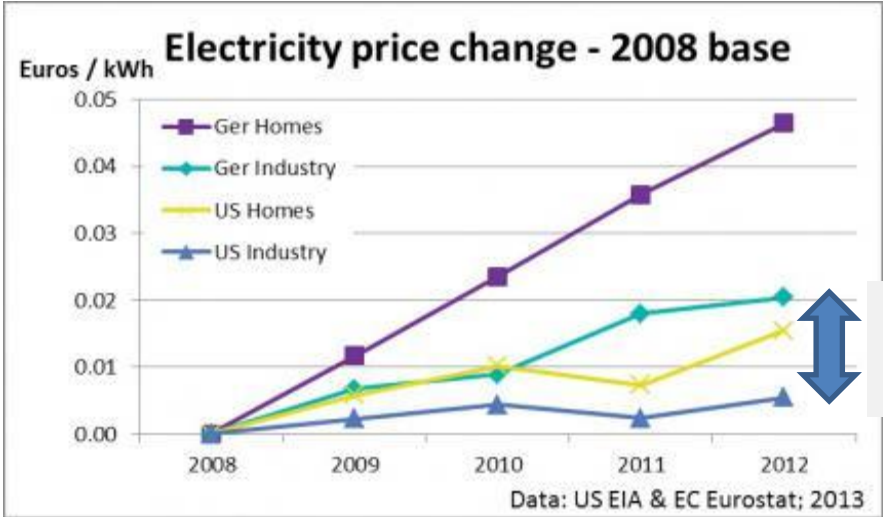
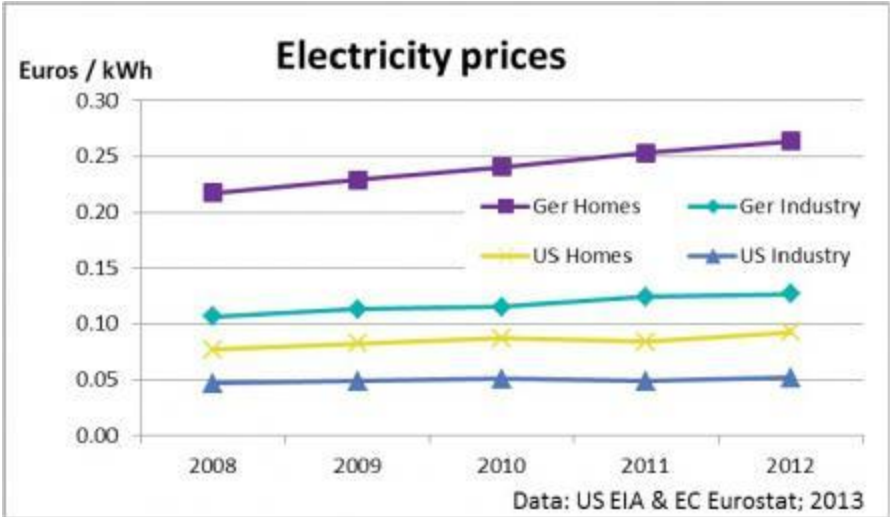




Energiewende v. Shale Gas



Energiewende v. Shale Gas



Competitiveness:
Energy price gap

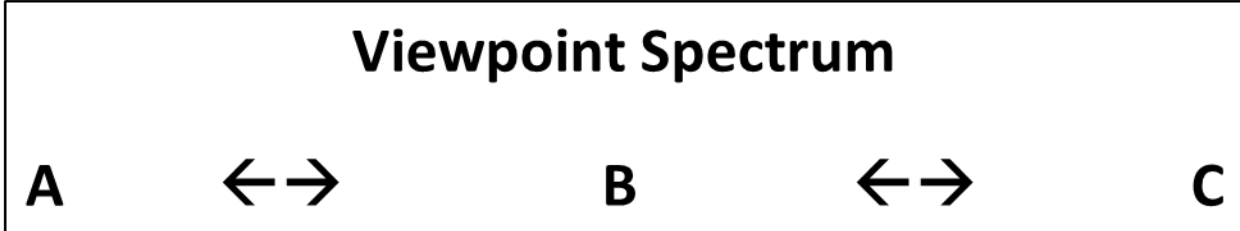


SUMMARY

Preliminary Observations

Discussion of the

Viewpoint Spectrum



This work is to be continued ...



Danke!

AICGS / DAAD / Foreign Office

Jack Janes

Susanne Dieper & all the AICGS Staff

AICGS Interns

Parke Nicholson & Lily Gardner Feldman & Alex Privatera

Fellow Fellow Russell Miller

- Interviewees -

Und danke ich vor allem:

Frau Doktor Gloria Herrmann-O'Donnell und unsere Kinder