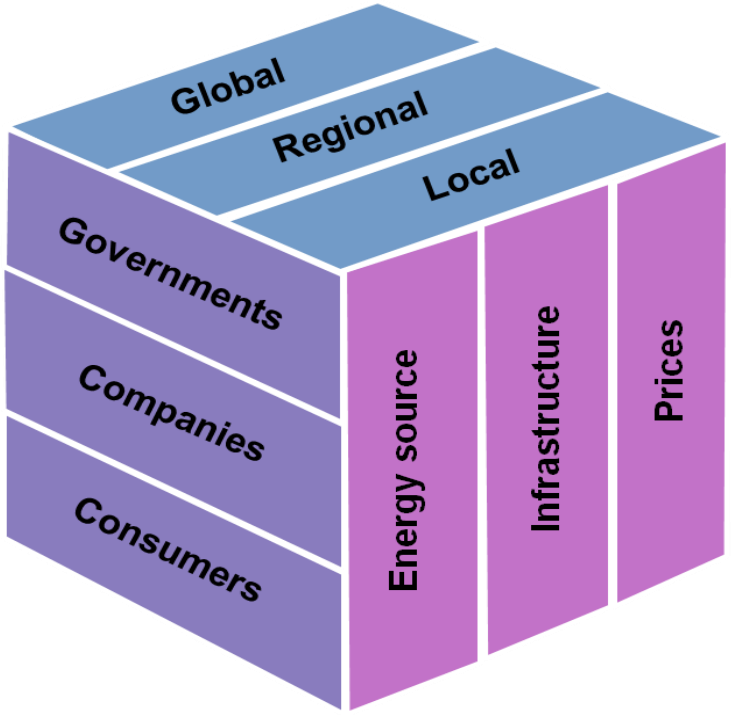
How to create a sound and stable investment climate in Europe for gas infrastructure?

GIE Annual Conference
Edinburgh, June 2011

www.sundenergy.com

Sund Energy helps navigate into the energy future…

Full-picture perspective



Energy

Economics

Environment

Learning between countries, industries, energies, technologies,and more..

Oslo
Helsinki
Brussels
Copenhagen
San Francisco

…by understanding the full picture of stakeholders

Politicians have ambitious dreams and aspirations…

Internal markets – good solution for all

- Integrating the national markets is at the heart of the EU
- Competition, free flow of gas and electricity, learning and assisting

Overall policy on reduced emissions and imports

- Less expensive imports fund some “domestic” energy
- Efficiency reduces emissions + need for more energy

Infrastructure is needed, but so far vague indications of value

- Long distance import for “security of supply”?
- Smart grid for efficiency – or better use of renewables?
- New generation capacity – to replace imports and reduce emissions

So far, behind schedule for 20-20-20

- Extra wanted – just in case?
  - Not confident of reaching all of their goals?
- Who should pay for that?

The future is integrated, ambitious, but not base load!

Gas investment needed to 2020

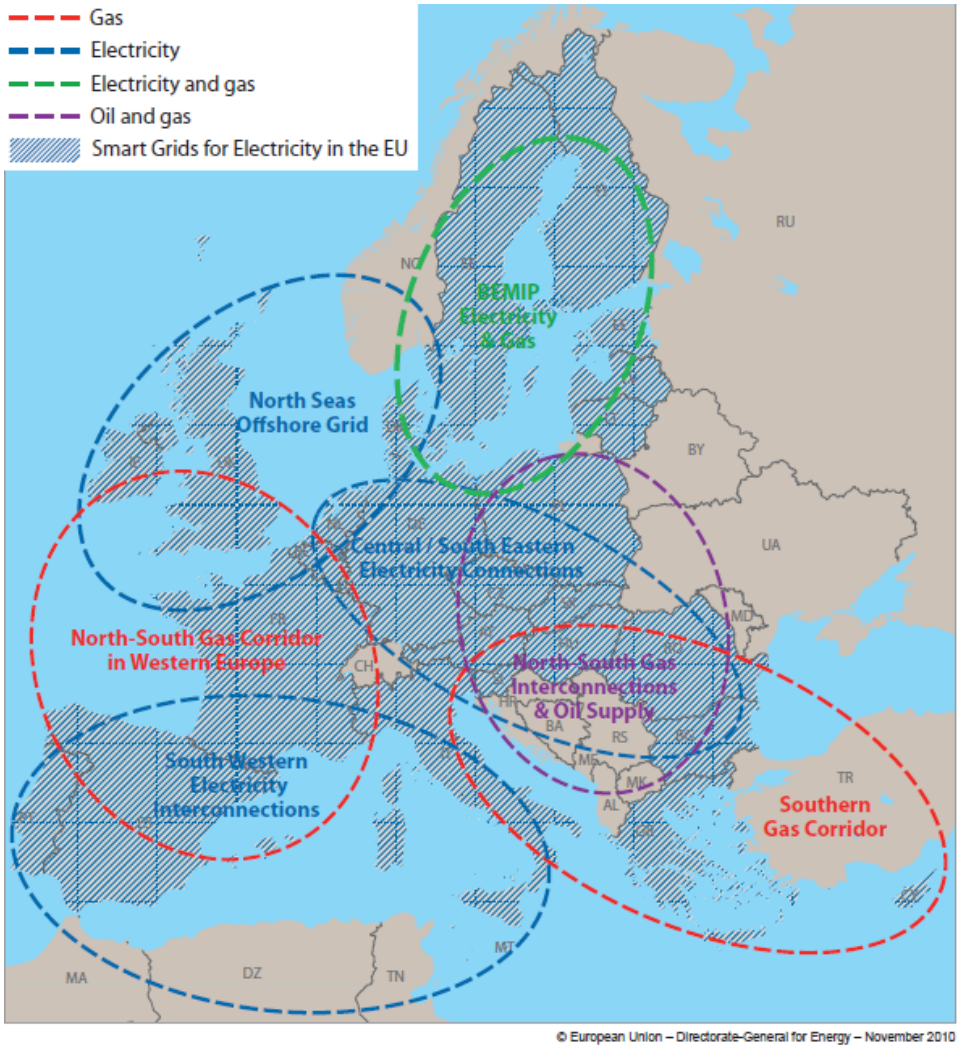
EU policy Scenarios	Gas infrastructure investment need 2010-2020 €bn
BAU	44.7
Policy set S1	49.7
Policy set S2	47.2
Policy set S3	57

Several incentives from EU:

- Price – mixed message…
- Regulated tariffs – ex ante or ex post – WACC changes
- Other support

Still less than 80% expected…

- Different perceptions of risk



The EU gas imports may not increase as much…

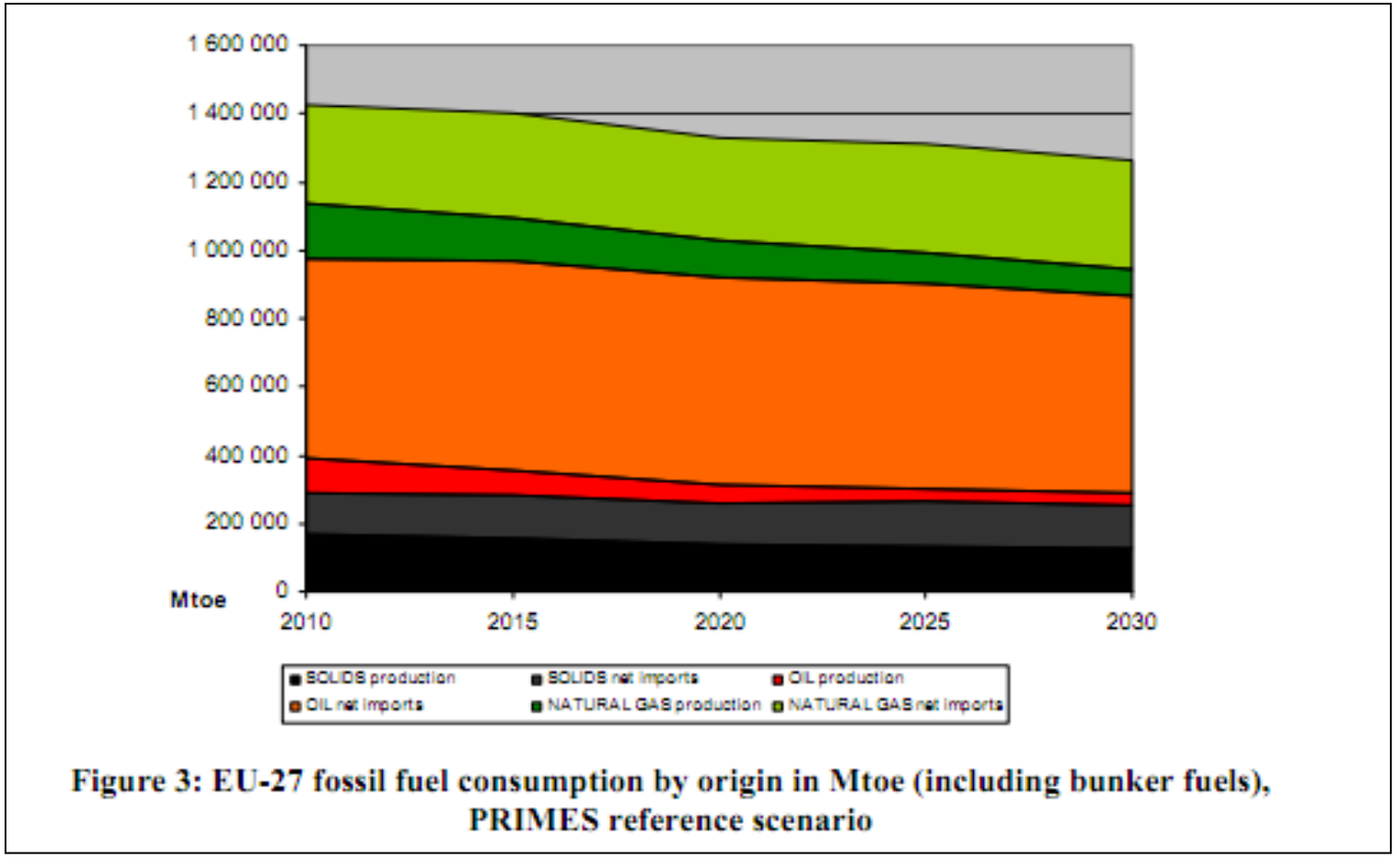


Figure 3: EU-27 fossil fuel consumption by origin in Mtoe (including bunker fuels), PRIMES reference scenario

Source: European commission (2010), Energy infrastructure priorities for 2020 and beyond – A blueprint for an integrated European energy network.

…and it will be less base load than before!

Gas is wanted to balance wind, mainly – or so they say today

- This requires flexibility, which is costly, especially in storage
  - What will the price and use be then?
- What if nuclear is reduced and wind does not take off as expected?
  - Gas cheaper than coal with CCS?

Some believe in unconventional gas, even in Europe

- What if Poland becomes an exporter by 2030?
  - Many countries in south east Europe have potential, too
- This could impact energy mix, geopolitics and need for infrastructure!

How to match the desire for flexibility in the market with the comfort in base load among infrastructure investors?

So, how much new infrastructure is really needed?

In lower scenarios, none!

- Some nice-to-have

In higher scenarios, more

- But perhaps not all that are hoped for

Easier to build small and stepwise solutions

- Lower risk
- More adaptable
- Some flex in location

Circular effects

- Price impacts flow, impacts bottlenecks etc

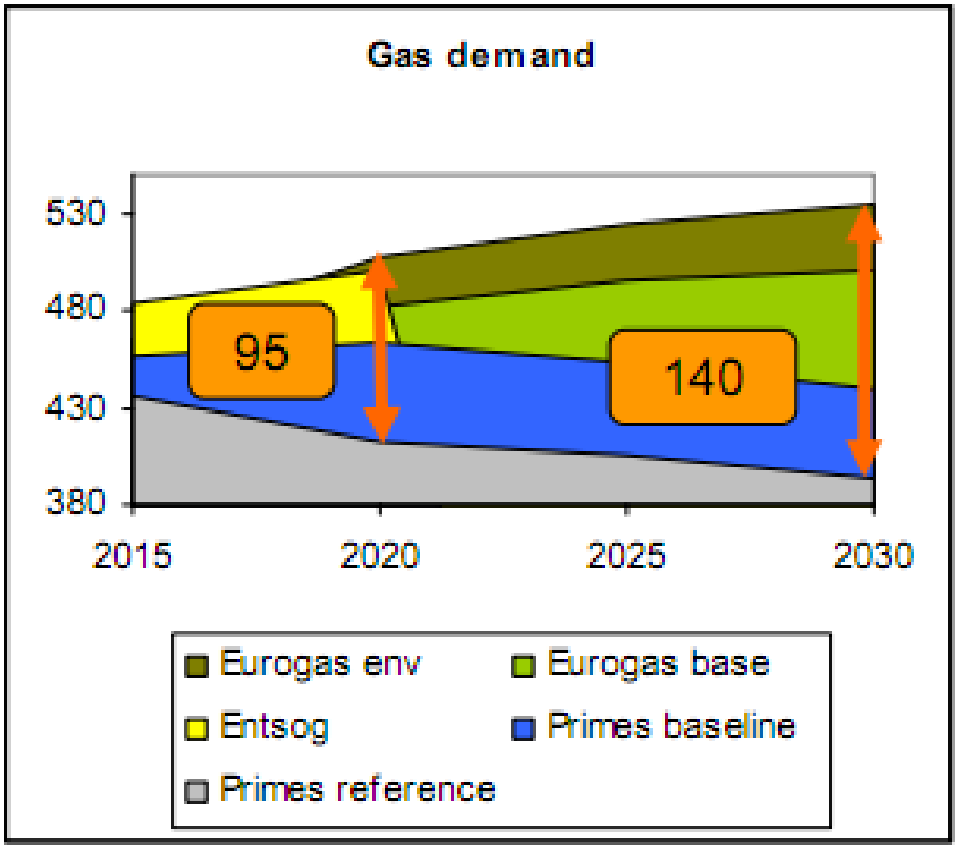


Figure 2, in Mtoe

Source: European commission impact assessment accompanying document (2010), Energy infrastructure priorities for 2020 and beyond – A blueprint for an integrated European energy network.

And let's remember – much gas infrastructure is there!

Some of the existing will loose out on new

- Recent investments will have less income with competing new solutions

Long lead times

- 5-10 years from idea to delivery – much can change: Need, other solutions, prices, etc

Some of the planned compete

- Easier not to do it…

UK has plenty of gas infrastructure now – too much?

UK wanted infrastructure (end of 90s)

- Strong political suggestion to build the Interconnector
- Derogation from Gas Directive for additional investments
- Promise of connections by National Grid
- High winter prices also worked

Then there was too much!

- Qatar and Norway both acted on signals – spread fell
- Other LNG import expanded, too, adding to UK “favourite port for LNG”
- Now there is an export bottleneck – who would have thought!
- All suppliers suffer with lower prices, but good for users...

So, if capacity is to be booked for “nice to have” – how?

- Which project is best to book by whom? – competition of routes?
- How much booking is needed?
- What are alternatives?

What can we learn? Lead times, listening, adjusting?

Security of supply – from volume to price, really?

Last century

- Fear of revolutions in Russia and Algeria reason for diversification
- Focus on physical supplies and avoidance of disruptions
- This was seen as well worth more money and longer contracts
- Other geopolitical aspects also, especially during cold war…

Now we have different times

- Disruptions less feared than before – prices feared more
- Even during "Arabian spring" this has not been prominent
  - Several costs related to this: oil prices, future LNG investments, lower economic growth – all impacting the EU
- Oversupply helps, of course – but sellers want security of demand…

What is the real risk to manage?

- Disruptions can be managed in many ways – reversing flow, LNG, etc
  - How much redundancy is needed, who pays for it and what is acceptable risk of it not being used?
- Exposure to expensive imports?

Size isn't everything – distance, source, alternatives…

Map 8: Comparison of distances of main Eastern gas supplies to main EU consumption hubs

Source: European commission (2010), Energy infrastructure priorities for 2020 and beyond – A blueprint for an integrated European energy network.

Skanled – an exercise between two worlds, too early?

Norway has for many years followed the model of evacuating gas

- State wanted long term contracts to be in place before fields developed
  - Developers then build pipelines with same ownership as field
- Now effective/integrated export machine, with some non-oil investors
  - Gassco architect – much focus on next steps for expansion
  - Pension funds happy to get regulated/assured returns
- This model did not give infrastructure to the nearest markets

Skanled was planned by TSOs and downstream companies

- Group of potential investors from Norway, Sweden, Denmark, Germany and Poland
  - Wanted competition and SoS, and saw the value of capacity
  - Synergies in connecting several markets enroute to Poland
- Very different business model from normal Norwegian exports
  - No long term gas contracts wanted by buyers – not allowed, either
- EU offered support and Norwegian governmental entity entered
  - Petoro: “Financial crisis could give uncertainty in markets”, “lack of need for new export markets” and better to debottleneck Gassled…

Often, surprises when investments are “late”

Expectation that infrastructure is attractive – depends on drivers

- Producers want to enable new sales
- Users want own facilities, often LNG, as option to negotiate price
- TSOs want well functioning systems and facilitating competition + SoS
- Pension companies mature assets with regulated returns

EU and other politicians want to show action

- New generation technology is considered even more attractive
  - Offshore wind, CCS, smart grids etc
- Many technology developers announce money needs for new solutions
  - Implicitly, politicians have then “done their bit”
  - Still, there is no guarantee of large scale investments!

Politics matter more than many think – even in “free markets”

- Choice of energy mix, support to technology, new generation etc
- Vague indications of preferences vary and make planning more difficult
- This is perceived as political risk by many potential investors!

Suppliers learning from the EU – much same logic!

Diversified markets

- Spread risks, so more to Asia than otherwise

Flexibility value

- Different flow and less need for storage with plentiful variable gas

Experience in previous investments

- Bad experiences will impact “guts” next time!

So, the producers are slowly becoming more focused on prices

- But do we like it?
- More and more politicians are now saying they do NOT want price to balance the market, but prefer a steady price for all at all times
- That is more like oil, where we pay a premium for spare capacity…

Decisions and perceived risks are changing

Traditional model: Wrap steel around gas to be "evacuated"

- Still some using this logic – especially associated gas
  - Unbundling will give some investments in "captive market" of fields

Late last century: Interconnectors by upstream/midstream

- Very good for EU targets of competition and SoS – less for producers
- Harmonising markets and value in capacity (even without flow)

Last 5-10 years: Less new capacity needed, but downstream value

- "Nice to have" and still good for competition & SoS – nice enough?
  - Gate, Nabucco, and more suggested when shortage of gas/LNG expected
- Several stopped/paused for different reasons
  - Financial crisis, lack of resources, lack of markets, lack of regulation...

Next: Smaller, more robust solutions OR clear payability?

- More agile solutions, such as smaller LNG, could be easier to lift
- Bookings by EU or TSOs for "nice to have" capacity
- Transition away from baseload, extrapolist thinking!

Another new element in investors: CSR

Corporate social responsibility is growing – could include SoS!

- Would Nordstream fall into this category?
- Public service obligation easier within each country than outside EU
- Many large companies see that pleasing stakeholders/politicians help
- Important in the new group of investors in infrastructure: Pension funds

But, how kind should an investor be, and what is the alternative?

- Often gas industry is focused on CSR related to local community
- Helping the EU may be nice, but does it get recognised enough?
  - What is the experience of Nordstream and Southstream here?
  - Or when some TSOs have moved into other countries, EU applauds and national regulator changes terms…

Many alternatives that may give more points for less money

- Fighting malaria, sponsoring the arts/sports etc

Price – from two sides?

Sellers are to be attracted by high prices

- To justify investments for new flow
- EU sees transport as “only a small percentage” of price
- Market wants lower prices now – and have started getting it!

Balancing mechanism?

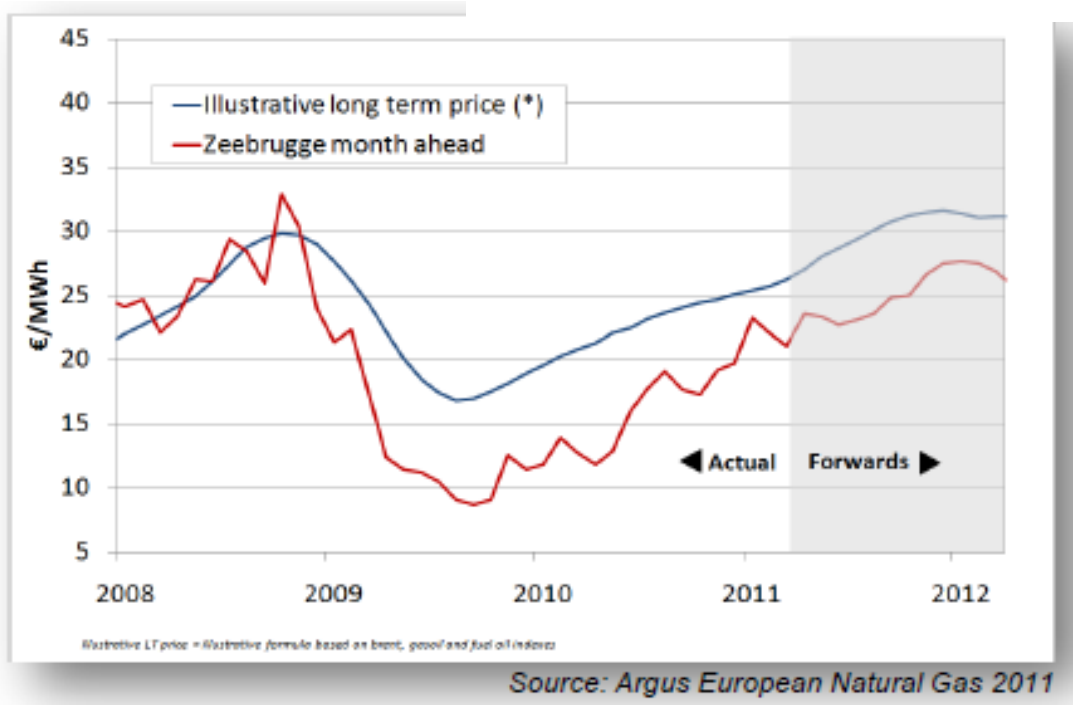
- Impact on storage needs?
- UK export bottleneck

Oversupply + redundancy

- Good for budgets but not for PL/LNG or storage?

- The extreme volatility of commodities prices hinders our ability to invest;
- Dialog between suppliers and buyers must continue to keep adapting long term contracts to the current situation.

GDF SUEZ



Source: Argus European Natural Gas 2011

Now we have a complex picture…

Price was an incentive for infrastructure for a while

- Less so now, with less spreads and oversupply
- Some “burnt” and less interested than before

Unbundling supply and infrastructure

- Price less relevant to institutional investors

Competition of routes

- Good for option to flow, but value?

Southern corridor vs reversible flow

- Both needed fully?

What is best for the market/the investors/the EU?

- Who is qualified to tell?
  - Voters, politicians, entso, others?
- Strong and differing opinions in all camps
  - Energy mix, climate, value of SoS, and how it will all work together – or not!

…and some improvements are surprisingly easy

All: Talk together – and understand the other side!

- What some find attractive, others don't
  - Especially between government and private sector
- Some like spreads and some want steady prices

Politicians: The cheapest tool is to reduce political risk!

- Current picture is "please build Nabucco but it may not be needed"...
- Avoid adding to uncertainty in words and actions!
- Fixing red tape is not enough

Investors: Adapt the hardware to the new, uncertain situation

- Infrastructure that does not need base load flow is more robust!
- Capacity booking, reversible flows, options, virtual deals
- Smaller, stepwise, multitasking, if possible

In addition some innovation on the commercial side?

Two main private investor groups today

- Traditional energy players used to risk and upside, but more in energy
- Pension funds and other financial investors wanting regulated returns
- Both are needed, but have different preferences

Perhaps possible to differentiate incentives?

- One element of fixed returns with capacity bookings – best for pension
- Another element with higher upside and more risk, related to flow
  - Best “parked” with energy companies (upstream or downstream)

If the market is to book capacity – who does it?

- Large buyers or sellers already do this in pipelines and LNG
- TSOs should be able to do it – still mainly national
- ENTSO or others best for the “greater good”?

We are happy to discuss further!

Selected recent work by Sund Energy that may be of interest

- Impact of Japan on LNG prices – why the market expected too much
- Gas for transportation (road + sea) – market impacts
- Unconventional gas – impact on European markets
- Security of supply – values and possible solutions
- CCS – rethinking solutions for attractiveness
- LNG – new areas of use and infrastructure

We also offer strategic and commercial advice

- Producers, TSOs, traders, large buyers, governments
- Gas, electricity, CCS and more

Karen@sundenergy.com, +47 917 86 928

Sund Energy AS, Meltzersgate 4, N-0257 Oslo, Norway