# CCS Wave 6

### Public Backlash Takeout

#### Backbone lowers costs, increases reliability, limits negative environmental impacts, solves delay and avoids public backlash

Global CCS Institute 12

“5.2 Incentives and risks for a network approach,” http://www.globalccsinstitute.com/publications/global-status-ccs-2010/online/33506

These economies of scale provide an incentive for the proponents of CCS projects clustered in the same region to coordinate their development according to an integrated network approach. In principle, additional sources can be added in the future provided CO2 pipeline capacity is sized and designed accordingly. A coordinated network approach can then lower the barriers of entry for all participating CCS projects, including for emitters who subsequently do not have to develop their own separate transportation and storage solutions. For example, the CO2 Sense initiative for establishing a CCS network in the Yorkshire region of the United Kingdom has undertaken a pre-feasibility study that calculates a savings of 33 per cent over the longer term for their network approach when costs are compared to individual pipelines from each emission point to their respective storage sites (CO2 Sense 2010).

Other benefits of an integrated pipeline network that use larger ‘backbone’ pipelines rather than a set of smaller unconnected pipelines, are:

minimising disturbances to the environment and local community when it comes to their construction and operation;

minimising and consolidating activities relating to planning and regulatory approvals, negotiations with landowners, and public consultations;

increasing reliability of CO2 flow based on flexibility to optimise and balance between supply and demand for CO2. For example, a temporary shutdown in capture at one source would not disrupt the supply of CO2 to the operators of an injection project; and

helping industry, government and other stakeholders achieve alignment around a coordinated plan for developing CCS in a region, which could help generate broader support.

#### That stops the CP dead in its tracks

Stephenson 8 - Director, Natural Resources and Environment @ GAO

“Federal Actions Will Greatly Affect the Viability of Carbon Capture and Storage As a Key Mitigation Option,” GAO, http://www.gao.gov/new.items/d081080.pdf

Citing such concerns, a recent report by the National Academy of Sciences underscored the importance of public outreach, noting that while the success of DOE’s carbon capture program depends heavily on its ability to reduce the cost of the technology, “the storage program cannot be successful if a significant fraction of the public views it as dangerous or unacceptable. Thus, the technologies must not only be safe and effective, they must be explainable to the public and the regulatory community in such a way as to instill confidence that they are in fact safe and effective.” 57 The report went on to caution that “the federal government in general and the DOE in particular have not had a good track record in accomplishing this task in other programs.” For its part, EPA received similar advice from its Clean Air Act Advisory Committee’s Advanced Coal Technology Work Group. The Work Group’s January 2008 report recommended that the agency immediately develop, in consultation with other agencies, a public outreach effort to explain carbon capture and sequestration. 58 A diverse group of panel members at EPA’s 2007 UIC workshop made similar recommendations for public outreach and participation.

### Banks Won’t Lend

#### Cart before the horse – banks won’t lend for private pipelines

Chrysostomidis and Zakkour 8 - \* MSc, Environmental Management and Sustainability, \*\*PhD in Environmental Technology

Ioannis and Paul, “Assessment of the range of potential funds and funding mechanisms for CO2 transportation networks,” ERM, Scholar

Another option was for the backbone pipeline to be developed entirely as a government project (i.e. via public sector borrowing) and delivered by governments as a public good. Most of the interviewees expect a high level of receptiveness from governments regarding the use of government funds for CCS financing. 5.3.4 Applicable Funds Debt Financing It was made clear from the interviews that the most likely part of the CCS value chain to be financed through debt, would be the pipeline infrastructure. Such financing is already tried and tested for oil and gas pipelines, contrary to CCS technologies that are far more risky. On the other hand it was noted that a pipeline represented limited collateral, with limited value in alternative uses, should the project collapse. The general consensus from the interviews with banks was that it is too early for banks to finance such a CO2 pipeline network on a limited recourse basis, until such process/technology is well established and/or until contractual framework can be put in place with creditworthy entities ensuring a throughput revenue for undertaking for such pipelines.

### AT: Point-to-Point Leads to Backbone

#### Point-to-point *can’t* lead to backbone – the lack of extra capacity prevents scaling up

Hughes 10 - engineer and a solicitor with more than twenty years experience in engineering and the project man agement of EPC projects in the oil and gas and process industries, specializes in the law, regulation and policy associated with CCS projects

Carbon Capture Journal, “What’s in the pipeline?,” http://www.carboncapturejournal.com/displaynews.php?NewsID=550

There are currently a number of consortia working on development proposals for CCS projects which would vie for a slice of this funding. The individual projects are, generally, at the front end engineering stage and specifics of the design schemes are not known.

However, unless constrained to do otherwise, it seems likely that the developers of these projects will pursue a design specification based upon a CCS chain which operates in isolation of any other CCS project or potential project and will seek to optimise the economics of their project on that basis.

Therefore, they are unlikely to want their project to be saddled with the constraints (which are likely to be onerous) associated with ensuring that it should form the basis of future national, or regional, CCS infrastructure.

This is a problem if there is a desire that public subsidies from the new levy should be applied in order to yield the greatest benefits for the industry, and society, as a whole. Recent studies have concluded that an integrated network based upon ‘backbone’ pipelines is likely to be the most efficient long-term option and offer the fewest barriers to entry, whilst point-to-point pipelines offer lower costs for first movers and do not have the same capacity utilisation risks as ‘backbone’ pipelines.

It is likely, then, that, without incentives for the development of optimized networks, project developers will build pipelines without factoring in the flexibility required to accommodate new entrants.

This is unfortunate, as there are many reasons why the UK’s demonstration projects should incorporate such flexibility: if the UK’s Climate Change Act commitments are to be met, then virtually all CO2 emitting power generation in GB will be required to have CCS by 2030; if UK ETS participants are to avoid the risk of being at a disadvantage to their competitors in mainland Europe as EUA prices rise, then they will need access to CO2 transportation and storage infrastructure comparable with that in Europe generally; and an emerging UK CCS products and services industry, with the jobs and revenues it would bring, would benefit from a considered framework for the development of its home market.

All of these issues would be addressed with the construction of CO2 pipeline systems that have spare capacity and are suitable for efficient integration.

#### Point-to-point won’t scale-up

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Ioannis and Paul, “Assessment of the range of potential funds and funding mechanisms for CO2 transportation networks,” ERM, Schola

It also important to note that in the case of project based emission reductions – where incentives could be spread across the whole CCS value chain amongst a consortium of participants – it is more challenging to envisage such consortiums being motivated to invest a backbone pipeline. This is because the motivations for investment are project specific and opportunistic. Thus the justifications for scale-up to backbone pipeline deployment in such circumstances (i.e. absent of blanket policy approach to similar operators across a region) would require extensive co-ordination between a ranges of interested actors, which seems unlikely.

### Tech Now/CP = Delay

**Solves quickly – can begin capture immediately and sequestration is currently economical**

**Miller et al 9** – PhD, Associate Director, Energy Institute Senior Research Associate Energy Fuels

Bruce, “Eliminating CO2 Emissions from Coal-Fired Power Plants,” in Generating Electricity in a Carbon-Constrained World, Google Book

Underground injection of CO2 is feasible **today** at an affordable price. Thus, there is no obstacle to starting **immediately**. It appears likely that additional storage options need to be tapped to provide storage to match the scale of the fossil carbon resource. Mineral sequestration and the storage of CO2 under deep ocean floors, where CO2 is denser than the surrounding pore waters [48], offer large additional reservoirs, but these technologies are in their infancies and require further development. Existing power plants could collect at least some of their CO2 **immediately**. Even if retrofitting proves uneconomical in many instances, new power plants could be designed to capture all their CO2. Air capture technology, because it can be introduced without affecting the existing infrastructure, could offer an alternative, if it is developed to its full potential. Because units can be small, development could be quite fast; commercial applications could be ready in a matter of **years** rather than decades. Capture at new integrated power plants could essentially decarbonize the entire coal-fueled power plant sector. Though we did not discuss gas- or oilfired power plants, it is clear that these could also be decarbonized in a similar manner.

**It’s feasible and can solve quickly**

**Mills 11** - \*MSc in Geological Sciences @ Cambridge

Robin, “Capturing Carbon: The New Weapon in the War Against Climate Change,” Google Book

It is sometimes argued that CCS cannot be built fast enough to make a difference in the short term, or, alternatively, that it can never make up a large part of emissions reductions, or that the scale of a complete CCS system would be unfeasibly large.

Firstly, Greenpeace and others often repeat the claim that carbon capture cannot be ready before 2030, while large emissions reductions are needed immediately. But it takes about six years to build a new coal plant in Europe or the USA; allowing for some additional time for permits suggests a total of between six and ten years. Installation in industry and in many developing countries could be faster. So it is emi­nently feasible to have a substantial demonstration programme in place by 2020.

Several reports indicate that CCS could already be a major source of carbon abatement by 2030, up to 15% of current emissions.3 To get the same amount of carbon savings with wind power would require more than 1 million large wind turbines. Figure 5.1 shows McKinsey's view, where red bars indicate emissions, and green show potential cuts. This chart indicates that carbon capture could be the second-largest contributor to emissions reductions in the power sector by 2030. CCS's contribution here is somewhat less than that of energy efficiency, but way ahead of renewable power. On the second point, several comprehensive studies show that CCS has the potential to be a large contributor to emissions reductions, at least on the scale of other approaches such as wind power. Climate change is such a big issue that any meaningful approach to tackle it has to be on a huge scale. All the leading contenders are, in magnitude, similarly plausible or implausible, depending on your point of view. Large sources provide most emissions. For instance, four-fifths of Chinese emissions from major stationary sources come from just 600 or so facilities.5 Globally, 8,100 large fixed sources produce some two-thirds of emissions. This makes the task of fitting CCS seem more manageable—certainly, several thousand carbon capture projects do not seem more daunting than the several million wind turbines that would be required for comparable carbon reductions Total current technically capturable emissions from large stationary sources amount to some 19 Gt of C02 annually (Figure 5.2). Of this, somewhat more than half comes from coal-fired power stations, by far the largest opportunity; about a quarter from industrial sources, and the remainder from power stations burning gas, oil, petroleum coke, biomass and waste. Of the industrial sources, about a third is repre­sented by iron and steel, and another third by cement, for both of which it is rather challenging to implement capture. The remaining third is a mix of smaller opportunities, including some (such as ammo­nia, hydrogen, contaminated gas and DRI) which are ideal for capture, and others (carbonation of alumina, fly ash, waste concrete and steel slag) which use by-products to implement low-cost, albeit rather small-scale, capture via mineralisation. There are, of course, numerous scenarios for emissions growth in a 'business-as-usual' case, for the possible levels of reductions, and how they could be achieved. It is useful to see these figures in terms of Socolow wedges, each wedge achieving around 3.7 Mt per year of reductions by the year 2050. The IPCC suggests that, in a low fossil fuel world, CCS might represent a significant contribution, 4.7 Gt, about one-and-a-half wedges. In a high fossil fuel world, CCS is the majority of the solution, as many as ten wedges (37.5 Gt). Other stud­ies suggest a reasonable maximum around 11—16 Gt,6 between three and four-and-a-half wedges. To meet, for example, the IPCCs lower target, CCS would have to be fitted to fewer than 1,000 typical coal-fired power stations. This figure sounds substantial, but the equivalent of about 200 such stations are now being built each year. If this were to continue to the year 2050, equipping a little more than 10% of new plants with CCS would be enough to reach the target. To reach the IPCC's high case for emissions, then all these new coal plants would have to include CCS. This is obviously challenging, but again conceivable, certainly if combined with retro-fits of existing plants, and with CCS implementation on gas power stations and industrial sites as well. For instance, the IEA's sce­nario for strong climate change mitigation would fit CCS to half of iron, steel, cement, pulp and paper and ammonia plants by 2050. Figure 53 shows a scenario for CCS implementation to 2030, cul­minating in almost 800 active projects. This compares to about 100 currently in existence or under development, which, even conceding that many current projects are small-scale pilots, still gives reasonable encouragement that the task is manageable. Approximately one-third of the projects are industrial rather than power plants.

**No tech barriers**

**Mills 11** - \*MSc in Geological Sciences @ Cambridge

Robin, “Capturing Carbon: The New Weapon in the War Against Climate Change,” Google Book

We have seen that, technically, it is hard to envision why CCS would not work. Transport and large-scale storage of carbon dioxide is already demonstrated. The basic science and engineering issues of cap­ture are well understood. Both pre- and post-combustion capture tech­niques are already in use in various places. Oxyfuel is also conceptually straightforward and now working at demonstration scale in two loca­tions. All these systems would require scaling up for large power plants, which always creates an element of risk, but fundamentally there is no obvious barrier. Various breakthrough technologies, such as carbon fuel cells, still require large amounts of research and develop­ment, but they are not essential for carbon capture to work in the medium term.

**Private companies won't share innovation – bars a backbone transition**

**van Alphen et al. 9 – their author**

[Klaas, Department of Innovation Studies, Copernicus Institute for Sustainable Development and Innovation, Utrecht University, Marko Herrket, Department of Innovation Studies, Copernicus Institute for Sustainable Development and Innovation, Utrecht University, Wim Turkenberg, Department of Science, Technology and Society, Copernicus Institute for Sustainable Development and Innovation, Utrecht University, "Accelerating the deployment of carbon capture and storage technologies by strengthening the innovation system," 11/3/9, http://ac.els-cdn.com/S1750583609001078/1-s2.0-S1750583609001078-main.pdf?\_tid=1ce37ebddefc4d47bec86f7b5d2cc5c5&acdnat=1343326155\_b9bf787a3bd09770827339e168ee2684]//SH

The vast majority of the interviewees recognized that **the increasing amount of** (inter)national **CCS** platforms and conferences **have contributed significantly to the optimization of CCS knowledge networks. However, it was also noted that this is not always the case** for knowledge networks around capture technologies. **A number of these experts argue that R&D on capture technologies in private companies often occurs behind ‘‘closed doors’’, since this knowledge can create a competitive advantage**. It is argued by experts in all countries that **commercial interest and the protection of intellectual property hinder an optimal flow of information between the actors involved in CCS R&D. This is** mentioned as **the most important barrier for the performance of this function, which could hamper the implementation of integrated CCS projects**

**Impact to delay**

**Zarraby 12** - chemical engineer for the Federal Energy Regulatory Commission, JD expected from GWU in 2012

Cyrus, “Note: Regulating Carbon Capture and Sequestration: A Federal Regulatory Regime to Promote the Construction of a National Carbon Dioxide Pipeline Network,” 80 Geo. Wash. L. Rev. 950, Lexis

The natural gas model, however, does not ideally fit the needs of CO<2> pipelines. First, requiring the pipeline to operate at a fixed rate of return limits immediate investment because pipelines cannot maximize their profits, particularly when the pipeline is first starting up. 208 Even if FERC can establish a rate of return that is high enough to spur investment, the most effective means to determine what the precise rate of return should be is through direct negotiation between pipelines and customers (CO<2> shippers). 209 Further, because CO<2> pipelines would be located throughout the country and would vary in length and size, a single, fixed rate of return for all pipelines may be inadequate for particular projects. 210 [\*977] Unlike the natural gas pipeline system, which has been built over many decades, 211 reduction in greenhouse gas emissions must occur in the **very short term** given EPA's recent commitment to regulate greenhouse gases under the Clean Air Act. 212 Limiting the return on investment with a cost-based rate will not promote the immediate investment in new CO<2> pipelines that is needed. 213 Second, the flexibility that FERC's regulations allow with respect to responding to different markets is not applicable to CO<2> pipelines. For CCS projects, prior to construction, transportation customers will know how much CO<2> will be transported and where it will be going because, unlike natural gas, the CO<2> shippers are not responding to changing market conditions. 214 The CO<2> shipper will be transporting a fixed amount of CO<2> every day to a particular sequestration reservoir. 215 Conversely, natural gas shippers often transport gas to various market areas depending on the demand and price of natural gas at a given location. 216 Regulatory rules that allow for short-term transportation contracts to respond to market demand would be burdensome and unnecessary.

### AT “Element-Energy”

**Element-Energy concludes that federal investment is a pre-requisite to CCS**

**Element-energy 10** (“Co2 Pipeline Infrastructure: An Analysis of Global Challenges and Opportunities”, Final Report International Energy Agency Greenhouse Gas Programme, 4/27/10, <http://www.canadiancleanpowercoalition.com/pdf/CTS16%20-%20IEA_Pipeline_final_report.pdf>)//MR

**Investment in** the energy industry, and including the largest oil and gas **pipelines is frequently**¶ **procured through project finance.** Project finance is a highly structured source of finance,¶ where projects have limited or no recourse to owners. As such revenues from the project are¶ fully expected to pay back debts and provide dividends to equity partners. The debt structure¶ and contractual arrangements are carefully tailored for the risks associated with each specific¶ investment. Oil and gas pipelines represent a relatively small but stable part of the overall¶ market for project finance. Notable themes for project financing of large oil and gas pipelines¶ have been:¶ • Investment of several US$ billion have been arranged for a number of pipelines,¶ including pipelines spanning thousands of kilometres and/or crossing national¶ borders or difficult terrains.¶ • A wide mixture of debt:equity ratios are possible. Debt financing, being cheaper, is¶ preferred but lenders rely on higher levels of commercial certainty. Equity sponsors¶ always bear first risk of loss. For both equity and debt sources, funding is usually¶ arranged through a consortium. This helps to reduce the risk for any individual¶ investor and can also ensure the interests of different stakeholders are represented.¶ • **National governments**, or international organisations such as the World Bank and¶ partners, **frequently facilitate financing. This can be** either **through direct investment**¶ (possibly through state-owned industries which take an equity share) **or** **by providing**¶ **guarantees. This occurs where the state has a compelling strategic interest in the**¶ **pipeline or in emerging markets where business risks are higher.**

### Point To Point Bad

**National Grid 12** – part of a carbon capture and storage consortium with ScottishPower and Shell U.K. Ltd (“Carbon Capture and Storage (CCS)” May 2012, <https://www.nationalgrid.com/NR/rdonlyres/B0FE16DE-941F-4043-A086-445029299EB6/53826/CarbonCapture3.pdf)//MR>

**Cluster System Approach**¶Given historic industrial development, **emission sources tend to form natural**¶ **clusters**, therefore **an onshore gathering system of pipelines can serve a cluster**¶ **of power stations and other industrial load situated in a single geographic area.**¶ **The shared infrastructure model** is similar to the model on our electricity and gas¶ networks and **delivers a number of benefits:**¶ **Save upwards of 25% of capital expenditure over a point to point network**¶ **Reduce duplication of each emitter having separate pipeline infrastructure**¶ **The main transportation line allows extra capacity which will reduce barriers to**¶ **future investment and speed deployment**, easing consenting and **opening up**¶ **the possibilities to connect small industrial emitters for whom point to point**¶ **solutions may be too expensive and who may have no other carbon dioxide**¶ **emissions mitigation strategy than CCS**¶ **Additional compression units can be installed economically. Installing**¶ **redundancy on a point to point system could be too expensive.**

### Investment Key

**Insight Economics 11** – consulting firm uniquely focused on both public policy and corporate strategy (“Development of Carbon Capture and Storage Infrastructure” Global CCS Institute, March 21 2011, http://www.globalccsinstitute.com/publications/development-carbon-capture-and-storage-infrastructure)//MR

**When confronted with a choice between a market driven decentralised process and a centralised system organised by government, most economists will** instinctively **be drawn to the first option. Yet some element of planning, particularly of a nation’s electricity network, is by no means** necessarily **ill-advised. Almost every country’s electricity system has been planned by government**, which in many cases also undertook the initial investment. **The challenge of decarbonising existing electricity systems may** eventually **mean that nations will require entirely new networks**, based on low emissions generation technologies. **Even if the investments themselves are undertaken by the private sector, it may** well **be appropriate that the task of planning and managing this in a strategic manner should devolve onto a government agency.**¶ **There are also likely to be** some **imperfections in markets where governments could** appropriately **intervene in the public interest. In this context, where a new technology is being deployed that could involve** some **significant contingent liabilities, the private sector may not be willing to take on these risks** if they are in areas where they have no previous experience. For example, the lengthy hiatus in building new nuclear power stations since the Chernobyl accident in 1986 means there is little current experience of assessing the contingent liabilities that investors will assume in building new nuclear plant. This has meant that in the United States, where government intervention in most markets is generally at a low level, the Administration is offering loan guarantees and other support for investors in new nuclear power stations.¶ **This has ramifications for investment in CCS infrastructure**. It is not clear, for example, that private investors are willing to provide storage facilities for CO2 in onshore locations because the nature and extent of contingent liabilities are insufficiently understood. There may be a concern over building CO2 pipelines near areas of high population density. **If the construction of efficient CCS infrastructure is deemed to produce significant public benefits, government intervention,** perhaps **in terms of assuming the liability at least for a period of time, may well be justified.**¶ **A detailed study of the appetite of the private sector to invest in CCS facilities,** undertaken by BCG for the Global CCS Institute, **found that:**¶ “**Funding, finance and commercial models for full-scale, integrated CCS projects are at an early stage of development. High risks and uncertain returns for early projects mean significant and immediate government support through grants or equity investments are** likely to be **needed to engage the private sector**.”21¶ While this conclusion reflects the investment status of a technology that is still in the stage where it is being demonstrated at commercial scale**, it may still be some time before the market can** be relied upon to **deliver private investment in CCS, including the** associated **infrastructure. If investment is to take place, it is likely to be on the basis of the mixed funding model incorporating a substantial contribution from the public sector.**

**Insight Economics 11** – consulting firm uniquely focused on both public policy and corporate strategy (“Development of Carbon Capture and Storage Infrastructure” Global CCS Institute, March 21 2011, http://www.globalccsinstitute.com/publications/development-carbon-capture-and-storage-infrastructure)//MR

On the other hand, **while it is never easy to look into a crystal ball, there may** well **be ongoing risks and uncertainties for potential investors in CCS infrastructure.** Indeed, **while many of these risks** and uncertainties **will have been reduced by the** end of the **demonstration** phase, **it is unlikely that all of them will have been. In the case of CCS for power generation**, for example, **there will still be uncertainty over the future competitiveness of CCS relative to other base load technologies**, including nuclear power. **Uncertainties over future carbon prices** (including the possibility of purchasing cheaper abatement options on an emerging global market) **may be compounded by technical progress in industries** such as steel and cement **whereby their emissions intensity is reduced to a level where it becomes cheaper to emit the remaining GHGs rather than capture and store them. Risks around liability and community resistance to CCS deployment also may not go away in the medium term.**¶ **Understanding these** risks and **uncertainties is particularly important in terms of setting the policy environment for building the future pipeline network that will be required for the large scale deployment of CCS.** Financial analysis suggests that **the private sector would be understandably unwilling to invest in the currently oversized pipelines that would provide more efficient transport in the longer term.** A reasonable question then is **why should taxpayers take on this risk** if private investors will not? One answer is that **there may well be public benefits in reducing the costs of CCS transportation, in terms** perhaps **of electricity prices and the carbon price being lower than otherwise, together with any social benefits that accrue from** having **a wider portfolio of emissions reduction technologies** than may otherwise be the case.¶ **The conclusion** from this analysis **is that**, at this stage at least, **governments will** probably **need to play an important role in facilitating investment in CCS infrastructure via the mixed funding model. This** may **involve subsidising** the **construction of efficiently sized CO2 pipelines**. Another option is for governments to construct CCS infrastructure itself and then sell it to the private sector when the risks are better understood and the uncertainties have been substantially reduced.

**Hallerman 12** – GHG Monitor (Tamar, “IEA: DEPLOYMENT OF ADVANCED COAL TECHNOLOGIES NEEDED SOON TO REACH CLIMATE GOALS” Exchange Monitor Publications & Forums, 2012 <http://ghgnews.com/index.cfm/iea-deployment-of-advanced-coal-technologies-needed-soon-to-reach-climate-goals/)//MR>

**Governments Must Incentivize CCS**¶ **While many CO2 capture technologies are available today, most are capital intensive and costly to operate.** Because of that reality, **governments must initially be willing to step in with abundant financial and regulatory support**, the report says. **In the near term, governments can help foster CCS deployment by setting stringent emissions reduction targets and offering technology-specific support to incentivize first-mover large-scale demonstration projects**, according to IEA. “**It is critically important that governments and industry redouble their efforts in commercial-scale demonstration**, in various locations and technical configurations,” the report says. “This must include commercial-scale storage projects that demonstrate safe and effective CO2 storage and mechanisms to encourage knowledge exchange between projects to maximize learning between storage projects.” Additionally, enacting technology-neutral policies such as a price on carbon could also help provide the long-term certainty needed for the private sector to invest in CCS, the report says.¶ The **analysis** also **recommends that governments** make an effort to examine legal and regulatory frameworks already in place to ensure that none impede CCS demonstration or deployment. It also suggests that governments **begin planning out CO2 transport and storage infrastructure**, as well as pursue public outreach programs to help inform people about CCS. IEA particularly stressed the need for CCS deployment for industrial sectors like iron, steel and cement.¶ The report warns that **any plans to delay or abandon the development of CCS** as a mitigation option for greenhouse gas emissions “**may place untenable demands on other emissions reduction options**” if policy-makers want to stay within the 2° Celsius pathway. The agency said **failure to deploy CCS could increase investments required in electricity generation by 40 percent if leaders** choose to **rely exclusively on other clean energy technologies** under the 2° Celsius plan. “**Removing CCS from the list of options to reduce emissions in electricity generation increases the required capital investments necessary to meet the same emissions constraint by between 40 percent and 57 percent in the electricity sector** relative to the incremental capital investment required to reach the [2° Celsius target],” the report says.

### -carbon pricing

**Government carbon pricing is key**

**Insight Economics 11** – consulting firm uniquely focused on both public policy and corporate strategy (“Development of Carbon Capture and Storage Infrastructure” Global CCS Institute, March 21 2011, http://www.globalccsinstitute.com/publications/development-carbon-capture-and-storage-infrastructure)//MR

The rationale for a centralised system for facilitating investment in CCS infrastructure must be that the alternative, **market driven decentralised model will not provide the optimal result.** For an economist, this implies that **there needs to be evidence of market failure that prevents the private sector from delivering the most efficient outcome.** Two possible market failures in this area are that**:**¶ **The negative externality represented by the emissions of greenhouse gases is either not taxed or the rate of tax is inadequate** in the light of the government’s ambitions for emissions abatement.¶ The government has better information than the private sector on a range of issues affecting investment in CCS infrastructure¶ In terms of the first of these **points, in most countries there will be an issue in terms of timing.** In some cases**, a country’s government is more ambitious in relation to emissions reduction targets than in delivering the carbon prices required to meet them.** There are several examples of a government making commitments to emissions targets that it is not, as yet, willing to match with a commensurate carbon price. In these cases, **the government may** indeed **know more than the private sector about the future programme of emissions cuts and the commensurate implicit carbon prices. Governments** also **have shown themselves willing to use** specific **incentives to encourage investment in certain low emissions technologies** — such as renewable energy — **well in advance of establishing an explicit carbon price at the level that would be required to support such investments in the market.**¶

### -electricity prices

**Government involvement is key to electricity security**

**Insight Economics 11** – consulting firm uniquely focused on both public policy and corporate strategy (“Development of Carbon Capture and Storage Infrastructure” Global CCS Institute, March 21 2011, http://www.globalccsinstitute.com/publications/development-carbon-capture-and-storage-infrastructure)//MR

Secondly, **there may** well **be cases where the government is better informed than the private sector about a range of issues relating to future developments of the electricity industry** in particular. In bringing about a transformation of the electricity sector, **there is a need to balance the retirement of existing fossil fuel generation plant with the introduction of new low emissions generators, with an appropriate balance between base load, intermediate and peaking plant.** In effecting this transformation, **the community is likely to place a higher priority than individual investors in new generation assets on ensuring security of supply**, where **the timing of new investments may not** necessarily **be consistent with ensuring the capacity exists to secure future supplies. There may therefore be positive externalities** to be derived **from** some measure of **strategic planning of the future electricity supply system** while allowing the market to choose between the different technologies available.

### AT Newcomer and Apt

**The utilities turn only assumes one generator – doesn’t explain other interactions**

**Heitmann et al. 10** – Nadine Heitmann, Christine Bertram, Daiju Narita, Kiel Institute for the World Economy (“Embedding CCS infrastructure into the European electricity system: A policy coordination problem” November 2010)//MR

\*\*footnote

**Newcomer and Apt consider one generator with varying facility sizes in the US Midwest**. Note that **their analysis does not consider strategic interactions with other firms, in other words, the problem of dual spatial allocation of CO2 pipelines and power grids could exist** both **as a problem of** social optimality as well as of **private investment decisions.**

### AT Open Season

**Utility Week 10** (“News entrants to the CCS industry must be made welcome” November 8 2010, http://www.utilityweek.co.uk/news/news\_story.asp?id=186387&title=News+entrants+to+the+CCS+industry+must+be+made+welcome)//MR

Although this model requires details of proposals for new pipelines to be made public as part of the permitting process, **Decc proposes that the regime as it applies to carbon infrastructure should include an additional "open-season" period,** before the main permitting process begins, to "ensure that there is greater emphasis on ensuring initial investments are of sufficient size to anticipate likely future demand". Those advising Decc have recommended an open-season methodology similar to that adopted by the Federal Energy Regulatory Commission for US natural gas pipeline networks, but it is unclear at the moment how closely this advice might be followed.¶ As a minimum, it seems pipeline developers will be required to make the details of their proposed projects public for an extended period prior to receiving authorisation to commence construction. **The hope is that this will lead to the development of economically efficient carbon transportation infrastructure** by encouraging pipeline developers, wishing to share the fixed costs of development and benefit from economies of scale, and potential carbon shippers wishing to acquire pipeline capacity at a reduced cost, to collaborate.¶ **However, it is far from certain that this will have the desired effect. Along with the perennial problems of carbon price and regulatory risk in CCS and energy generally, the methodology for the assessment of the additional** marginal **cost of access and the degree to which pipeline developers might be allowed to charge more than this marginal cost are key issues.** A recent paper goes as far as proposing the establishment of a regulated monopoly body to ensure the efficient development of carbon transportation and storage infrastructure. Decc acknowledges that **the proposed regulatory regime would need to be kept "under review"** as the demonstration project process progresses.

### Government Ownership Good

#### Government ownership is good

Chrysostomidis and Zakkour 8 - \* MSc, Environmental Management and Sustainability, \*\*PhD in Environmental Technology

Ioannis and Paul, “Assessment of the range of potential funds and funding mechanisms for CO2 transportation networks,” ERM, Scholar

The analysis undertaken – an in particular for a backbone network – suggested that governments funding may be needed, especially in early phase demonstration, in order to mitigate first mover. Their involvement may also be necessary to ensure sufficient support and coordination to realise CO2 pipeline networks ahead of point-to-point systems. This support can come in many forms such as, for example project revenue guarantees, favourable financing options or project sponsorship and delivery by State (see Section 4.3.7).

### AT: Farrell – 2AC

#### Here’s the conclusion of their article – coal meets EPA standards, natural gas fails, and he agrees with the consumer energy costs internal link

Farrell, 12 (Thomas, Chair, President & CEO of Dominion, a Virginia based electric utility, “American Energy Initiative,” CQ Congressional Testimony, 7/16/12, Lexis, Tashma)

EPA has full authority under the law and precedents of past policies to set performance standards that ensure the continued viability of all reliable and affordable fossil fuels, including coal.

**\*\*\*THEIR CARD ENDS**

The provisions in the Clean Air Act governing the setting of performance standards for new plants are flexible. This standard is defined as one that "reflects the degree of emission limitation achievable through the application of the best system of emission reduction which ...taking into account cost ... the Administrator determines has been adequately demonstrated." In past performance standards developed by EPA for other pollutants; emission limits have been set that could be achieved by existing pollution control equipment installed on coal, oil or natural gas facilities. **The law allows EPA to set** separate **standards for** each fuel type - **coal**, oil and natural gas. The law allows a separate standard based on the best emission reduction technology - for each fuel type. The law also allows EPA to set a performance standard based on actual emissions data instead of vendor design projections. These essential features of the Clean Air Act are not found in this rule. EPA has discretion to make these modifications in the final rule. Dominion, along with others, has urged the Agency to do so. Standards can be set to reduce emissions and stimulate the deployment of advance generating technologies - without eliminating a major domestic fuel source. Mr. Chairman, the industry has offered clear and concise comments detailing corrections needed to the proposed rule. Setting emission limits under the New Source Performance Standard program is a well understood and enforced section of the Clean Air Act. It is important to note that in the history of Clean Air Act implementation, EPA has never set a single standard for all power plants based on an emissions limit that can be achieved by one fuel only and by one technology with the lowest emissions rate. Performance standards have been set routinely for conventional pollutants. Most recently, EPA set new source standards for sulfur dioxide (SO2), nitrogen oxide (NOx) and mercury in the Mercury and Air Toxics Standard (MATS) rule. **In response** to comments on the MATS rule, **EPA acknowledged** that **it is not appropriate to** base standards on the **use** of **natural gas alone** because they are "neither technically nor economically achievable for a coal-fired EGU." This well-established regulatory approach should be followed in setting standards for CO2 limits at new, modified and existing facilities. A single standard is not only unwarranted, it also threatens fuel diversity, which is critical for providing reliable, affordable electricity. To be sure, the electric industry is transitioning to newer, lower-emitting advanced coal and natural gas technologies. Many existing facilities are being retired, either because of age, market trends or regulatory requirements. Renewable energy sources, demand-side management and smart grid technologies are assuming an increasingly important role in meeting energy demand. But the heart and soul of the industry - base load power generation - continues to be supplied by our coal, nuclear, hydro and natural gas plants. The challenges to siting and permitting new nuclear and hydro facilities are well documented. **If we remove coal from our energy future**, we will undermine the diversity of our supply base, and ultimately, **consumers may be** more **exposed to unpredictable** natural gas **prices**. It would be shortsighted to assume that the time will never come when new, advanced coal-fired facilities will be economically and environmentally desirable. We already have experienced the unintended consequences of a national policy that prohibited the use of available fuels for power generation. The history of the industry provides ample evidence that fuel diversity has a direct and important impact on the affordability and reliability of electric service. EPA states that the proposed rule does not foreclose the possibility of new coal-fired generation. The Agency says new coal plants can be built if carbon capture and storage technologies are incorporated now or at least by the 11th year of operation.

### P3’s Fail

#### P3’s fail

Chrysostomidis and Zakkour 8 - \* MSc, Environmental Management and Sustainability, \*\*PhD in Environmental Technology

Ioannis and Paul, “Assessment of the range of potential funds and funding mechanisms for CO2 transportation networks,” ERM, Scholar

Others pointed out that PPPs have mainly been successful in the delivery of simpler projects such as schools, prisons and hospitals, and as such would not be generally recommended for the development of a complex transportation network for CCS because of project coordination issues that may arise. In this context, central governments (such as the US Federal Government, the EU, etc.) or oil and gas consortiums might be better suited to coordinate the development of such a network especially for trans-border pipelines.

### AT: DoT T Arg

#### \*\*\*Both the FERC and STB have denied authority over carbon pipelines. This is because there is no nationally regulated carbon pipeline infrastructure. The question is *who would* have jurisdiction over the interstate backbone pipelines that the plan creates. Their evidence describes the status quo, not the action of the plan. There is evidence in wave 1 that is definitive about STB authority.

#### It’s STB jurisdiction

GAO 98

Surface Transportation, “Issues Associated with Pipeline Regulation by the Surface Transportation Board,” Scholar

STB does not routinely collect information from pipeline carriers. As a result, STB does not attempt to identify all products or pipelines under its jurisdiction. We identified five products—anhydrous ammonia, carbon dioxide, coal slurry, hydrogen, and phosphate slurry—carried by 21 pipelines subject to STB’s jurisdiction. (See table 1.) Appendix I provides more detailed information about each of these products and pipelines.

#### The STB regulates co2 pipelines

Moore 8 – Senior Fellow @ Hoover

Thomas Gale, “Surface Freight Transportation Deregulation,” http://www.econlib.org/library/Enc/SurfaceFreightTransportationDeregulation.html

The Interstate Commerce Commission was never very active in overseeing pipelines, so the Congress established the Federal Energy Regulatory Commission in 1977 to regulate oil and gas pipelines. The Surface Transportation Board (STB) regulates all other pipelines, such as those that carry anhydrous ammonia, carbon dioxide, coal slurry, phosphate slurry, and hydrogen. In 1997, only twenty-one pipelines were under the STB’s jurisdiction. Those pipelines are treated as common carriers that must have rates that are reasonable and nondiscriminatory. The abolition of the ICC eliminated the requirement of pipelines to report the rates.

#### The DoT regulates interstate carbon pipelines

NCSL 12

National Conference of State Legislatures, Carbon Capture and Storage in the States, http://www.ncsl.org/issues-research/energyhome/carbon-capture-and-storage-in-the-states.aspx

The federal government has provided significant funding for CCS. In 2009, the U.S. Department of Energy invested $3 billion to accelerate the development of carbon capture and storage to a commercial scale. Injection and storage of carbon dioxide continues to be examined by federal agencies, although most of the federal action has focused on transportation and storage. The U.S. Department of Transportation regulates CO2 pipeline operations under the Interstate Commerce Act and Hazardous Liquid Pipeline Act, while the Federal Energy Regulatory Commission (FERC) and the Surface Transportation Board regulate pipeline tariff rates and access.

### AT: DoT Liquid T

#### Carbon pipelines *legally* move liquid carbon, therefore they are under DoT jurisdiction

Johnson 9 - Great Plains Institute For the Midwestern Governors Association Renewable Electricity and Advanced Coal with Carbon Capture And Storage Advisory Group

Jennifer, http://www.midwesterngovernors.org/Energy/Toolkit.pdf

A CO2 pipeline is defined by the US Department of Transportation’s (DOT), Pipelines and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS), as a pipeline carrying a fluid that is composed of 90 percent or more CO2 in a supercritical state. Currently, CO2 pipeline operators set their own rates under the Interstate Commerce Commission Termination Act (ICCTA) of 1995. The US DOT Surface Transportation Board (STB) regulates rates and ensures common carrier requirements are met for CO2 pipelines only when a complaint is filed by a third party. This framework for economic regulation has worked for the existing level of CO2 pipeline infrastructure but may need to be adapted as the infrastructure expands and crosses new jurisdictions (including state/provincial and federal lands where additional requirements apply). Safety regulations and enforcement for CO2 pipelines are administered by the DOT PHMSA OPS, often in partnership with states. 16 Carbon dioxide is classified by the DOT regulations as a Class 2.2 (non-flammable gas) hazardous material and is under the same regulations as hazardous liquids in the context of pipeline transportation.

#### Yes, carbon is a gas. But, it’s *transformed* into a supercritical liquid for pipeline transportation

CSLF 11

Carbon Sequestration Leadership Forum, “CO2 Capture ̶ Does it Work?,” http://www.cslforum.org/publications/documents/CSLF\_inFocus\_CO2Capture\_DoesItWork.pdf

Energy from fossil fuels (coal, oil, and natural gas) is released in the combustion (burning) process. The same chemical reaction that allows fossil fuels to release energy upon combustion also results in the emission of CO2 as a by-product of the combustion process. In pulverized coal systems, which make up the vast majority of America’s existing ﬂ eet of coal-based power plants, the CO2 must be separated at fairly diluted concentrations from the balance of the combustion ﬂ ue gases; in other systems, such as coal gasiﬁ cation, it can be more easily separated. After separation, the CO2 is compressed to a liquid-like state (called a “supercritical ﬂ uid”), transported (usually by pipeline) to an injection well, and then pumped underground into a secure and continuously monitored geologic storage area, the ﬁ nal stage in the CCS process.

#### Basic economics guarantees liquid transfer

Bradbrook 9 – HSE Futures Team

Sam, “HSE Horizon Scanning Carbon Capture and Storage,” Health and Safety Executive, http://www.hse.gov.uk/horizons/downloads/carbon-capture.pdf

Background CCS is seen as being a key technology to help combat climate change. It is the process of capturing carbon dioxide (CO2) produced as a result of burning fossil fuels either before or after combustion, then storing it deep underground. 1 The UK’s Climate Change Act, imposes a legal obligation on future governments to cut carbon dioxide pollution by 80% or more by 2050. 2,3 CCS has the potential to help reach this target by capturing up to 95% of the CO2 produced by coal and gas fired power stations. 4 There are 3 stages of CCS: CO2 capture, transport and storage. Capture At full sized plants there are 3 main ways to capture CO2 - Post-combustion: CO2 from the burnt fuel is captured chemically by an amine or ammonia solvent - Pre-combustion: the fuel is gasified (if coal) or natural gas is chemically split to form hydrogen and CO2 4 - Oxy-fuel combustion: the fuel is burnt in almost pure oxygen producing large amounts of water vapour that needs removing before CO2 capture can take place 5 Transport Captured and purified CO2 will then require transportation to its storage location by pipelines. Although large ocean tankers have also been considered, there are practical constraints as to the capacity of any shipborne storage tanks. Such large amounts of CO2 are produced that it would be impractical to move it as a gas so it would be converted into ‘supercritical fluid’ by applying high pressure; therefore it can be pumped like a liquid.

#### It’s a liquid, not a gas

Folger 9 - Specialist in Energy and Natural Resources Policy @ CRS

Peter, “Carbon Capture and Sequestration (CCS),” Congressional Research Service, http://www.fas.org/sgp/crs/misc/RL33801.pdf

After CO2 is captured from the source and compressed into a liquid, pipelines or ships would likely convey the captured CO2 to storage sites to be injected underground. Three main types of geological formations are being considered for storing large amounts of CO2 as a liquid: oil and gas reservoirs, deep saline reservoirs, and unmineable coal seams. The deep ocean also has a huge potential to store carbon; however, direct injection of CO2 into the deep ocean is still experimental, and environmental concerns have forestalled planned experiments in the open ocean. Mineral carbonation—reacting minerals with a stream of concentrated CO2 to form a solid carbonate—is well understood, but it also is still an experimental process for storing large quantities of CO2.

#### Captured carbon is a liquid, not a gas

Berlin and Sussman 7 - \*General Counsel of the Coalition for Green Capital, \*\*Fellow @ CAP

Ken and Robert, “GLOBAL WARMING AND THE FUTURE OF COAL,” http://www.americanprogress.org/issues/2007/05/pdf/coal\_report.pdf

During CCS operations, CO2 is compressed to a supercritical liquid, trans ported by pipeline to an injection well and then pumped underground to depths sufﬁ cient to maintain critical pressures and temperatures. The CO2 seeps into the pore spaces in the surrounding rock and its escape to the surface is blocked by a caprock or overlaying impermeable layer. In some types of formations, the CO2 may dissolve in water and react with minerals in the host rock to form carbonates, becoming permanently entrained (see Figure 5).

### All Affs use Eminent Domain

#### Evidence about eminent domain and other affs

#### TI

US DoJ 10

Department of Justice, “HISTORY OF THE FEDERAL USE OF EMINENT DOMAIN,” http://www.justice.gov/enrd/4613.htm

Eminent domain has been utilized traditionally to facilitate transportation, supply water, construct public buildings, and aid in defense readiness. Early federal cases condemned property for construction of public buildings (e.g., Kohl v. United States) and aqueducts to provide cities with drinking water (e.g., United States v. Great Falls Manufacturing Company, 112 U.S. 645 (1884), supplying water to Washington, D.C.), for maintenance of navigable waters (e.g., United States v. Chandler-Dunbar Co., 229 U.S. 53 (1913), acquiring land north of St. Mary’s Falls canal in Michigan), and for the production of war materials (e.g. Sharp v. United States, 191 U.S. 341 (1903)). The Land Acquisition Section and its earlier iterations represented the United States in these cases, thereby playing a central role in early United States infrastructure projects. another use for eminent domain: establishing parks and setting aside open space for future generations, preserving places of historic interest and remarkable natural beauty, and protecting environmentally sensitive areas. Some of the earliest federal government acquisitions for parkland were made at the end of the nineteenth century and remain among the most beloved and well-used of American parks. In Washington, D.C., Congress authorized the creation of a park along Rock Creek in 1890 for the enjoyment of the capitol city’s residents and visitors. The Department of Justice became involved when a number of landowners from whom property was to be acquired disputed the constitutionality of the condemnation. In Shoemaker v. United States, 147 U.S. 282 (1893), the Supreme Court affirmed the actions of Congress. Today, Rock Creek National Park, over a century old and more than twice the size of New York City’s Central Park, remains a unique wilderness in the midst of an urban environment. This is merely one small example of the many federal parks, preserves, historic sites, and monuments to which the work of the Land Acquisition Section has contributed. Land Acquisition in the Twentieth Century and Beyond The work of federal eminent domain attorneys correlates with the major events and undertakings of the United States throughout the twentieth century. The needs of a growing population for more and updated modes of transportation triggered many additional acquisitions in the early decades of the century, for constructing railroads or maintaining navigable waters. Albert Hanson Lumber Company v. United States, 261 U.S. 581 (1923), for instance, allowed the United States to take and improve a canal in Louisiana.

#### Highways

Mears 5

Bill, “Land war goes before Supreme Court,” http://articles.cnn.com/keyword/eminent-domain

A fight by homeowners to save their New London, Connecticut, neighborhood from city officials and private developers -- an important property rights case with an unusual twist -- will reach the U.S. Supreme Court on Tuesday. At issue is whether governments can forcibly seize homes and businesses, for private economic development. Under a practice known as eminent domain, a person's property may be condemned and the land converted for a greater "public use. " It has traditionally been employed to eliminate slums, or to build highways, schools or other public works.

#### HSR

Jenny 12

Jenny and Jenny LLP, “High Speed Train Issues,” http://www.jjjllp.com/High-Speed-Train-Issues.shtml

The California High-Speed Rail Train will require a substantial amount of private property to be taken by eminent domain — the power of the government to take private property for public use. It will be responsible for homes, businesses and farms being taken and demolished. It could be responsible for decreasing the value to an even higher number of commercial and residential properties.

#### Port dredging

Olson 12

Erik, “Port pursues eminent domain purchase of island for dredging disposal,” The Daily News Online, http://tdn.com/news/local/port-pursues-eminent-domain-purchase-of-island-for-dredging-disposal/article\_b556f4f4-9bbd-11e1-9d20-0019bb2963f4.html

Port officials say the land is needed to dispose of dredge material removed from the Columbia to maintain shipping lanes. "This is clearly the closest and most economical (spot) for that purpose," Port Director Ken O'Hollaren said. Deepening the lanes three feet last decade to accommodate larger ships has increased maintenance dredging needs. So the Port of Longview and five other lower river ports who were local sponsors of the channel-deepening project are responsible for obtaining disposal sites. The port of Longview's share of buying Howard Island would be about $152,000, using the port's appraisal as the sales price. The ports of Kalama, Woodland and Vancouver will consider joining the port's condemnation action against Davis in the last week of May. Howard Island has been used to store dredge spoils in the past, but port officials said they need to acquire the land to fulfill a corps' requirement to find a place that can handle maintenance dredge spoils for 20 years. By law, the government can go to court to force private land owners to sell property for public use through eminent domain. Port attorneys say they plan to file suit in Cowlitz County Superior Court this summer, and a trial date would likely be scheduled for next year. Port attorney Randolph said the two sides plan to continue negotiating for a settlement. Port commissioners said they know eminent domain leaves a bad taste with the public, but they feel they have no other choice. The corps has said Howard Island has a 40-year capacity to store dredge spoils, the best site near the mouth of the Cowlitz.

#### In the original case neg

**Gerena 05**— Online Editor at Federal Reserve Bank of Richmond, Business Writer at Federal Reserve Bank of Richmond, Freelance Writer and Editor at Self-employed (Sole Proprietorship), Senior Editor at EQUITIES Magazine (Charles, “Sink or swim”, Winter, Region Focus, ProQuest, <http://proxy.lib.umich.edu/login?url=http://search.proquest.com.proxy.lib.umich.edu/docview/201535291?accountid=14667>) EL  
  
In addition to making more room in its waterways for container ships and other large vessels, ports will need more dry land as operational improvements at existing terminals prove insufficient to deal with rising cargo volume. Land also has to be available nearby for additional warehousing and distribution centers. Some ports have land inventoried for future expansion, but it can take a while to develop it. The construction of a new terminal for the Port of Charleston at a former naval base will take up to five years once the permit is approved. Moreover, the land may never be fully exploited if there are insufficient roads and rail lines to transport the additional cargo volume. Charleston's proposed expansion on Daniel Island was scratched partly due to concerns about nearby road capacity, while a proposed third bridge-tunnel system in Hampton Roads is critically important for the Port of Virginia's future terminal on Craney Island because it will help relieve local traffic jams. "More and more folks want to live closer to the water," says Miller. "That's putting additional pressure on road infrastructure. As the {coastal} population continues to grow, perhaps even faster than the trade grows in port cities," governments will have to respond. Cargo Or Condos? Coastal development has also made it difficult for ports to expand. "Most of our major commercial ports are located in highly developed, urban areas, and as a result face real constraints on how much land is available for use as marine terminals," said Christopher Koch, president of the World Shipping Council, in May 2001 testimony to a House of Representatives subcommittee. Homes and businesses surround the terminals of the Port of Virginia, but there is still some room for projects such as the planned expansion of a paper distribution facility near the Newport News terminal. Development is occurring along Wilmington's waterfront, but mostly in the northern half where older maritime facilities are being converted into condominiums, offices, and marinas. The southern waterfront where the port resides has remained mostly commercial. As for Baltimore and Charleston, residential, office, and tourism-driven retail development encroach on maritime activities, making port expansion very difficult. Every Fifth District port competes for land with the private sector to some degree. Waterfronts contain underutilized or abandoned industrial property, but they also offer great views that residents and office workers value. "The most desirable land is always coastland, so {ports} have a lot of competition with real estate development," Rodrigue says. "People prefer to see condos rather than a port terminal." **Port authorities have the power of eminent domain**, thanks to state legislation, but they rarely use it. Taking private property for public use usually requires lengthy court proceedings that often become mired in legal disputes. Additionally, this power isn't unlimited. Rather than public ports bidding against private developers, some port advocates suggest using restrictive zoning to preserve waterfront property for future port expansions. In September, Baltimore officials created a "maritime industrial overlay district" that prohibits nonmaritime development along a large stretch of harbor for the next 10 years. But what if ports don't need the land and other industrial users aren't demanding it due to consolidations and market shifts in the manufacturing sector? The rezoned property would simply sit unused. Such a scenario would probably be hard for local governments to swallow. Since their interest is in encouraging economic growth, they provide incentives like tax breaks and clean-up assistance to support waterfront redevelopment. "I have heard of horror stories where real estate projects aimed at closing almost the entire port because building condos and commercial real estate would generate more taxes," Rodrigue says. Instead of government arbitrating development, as Baltimore did, developers argue that buyers and sellers should determine the highest and best use of waterfront property. Anyone who is willing to put their money on the table should be allowed to redevelop a site, especially someone who wants to convert underutilized industrial space into housing or office space that is in demand. Regardless of how these issues will be resolved, Fifth District ports are acutely aware of the competition they face. The next generation of larger container ships will be sailing the oceans in coming decades, and will require ports to get bigger and smarter to handle the growing volume of containers, or else develop other customer bases.

### AT: EU Alt Caus

#### EU solving now

Hutchens 7-30

Gareth, “European resolve raises hopes for local investors,” http://www.brisbanetimes.com.au/business/european-resolve-raises-hopes-for-local-investors-20120729-236gb.html

Local fund managers said the signs from Europe were encouraging but much more would need to be done to ensure a longer-term rally in equities markets, particularly heading into what is expected to be a disappointing profit reporting season next month. "In outright terms it's not going to be a good reporting season, but relative to expectations it's possible that there will be pockets of positive surprise," Will Seddon, of White Funds Management, said yesterday. "Expectations in the market at this stage are for a pretty decent recovery in earnings [this financial year], so investors will be watching outlook statements very closely to see how their companies' expectations compare to market expectations." Advertisement His comments follow a rally on Wall Street on Friday, which resulted in the Dow Jones Industrial Average index climbing above 13,000 points for the first time since May. The rally was sparked by comments from the president of the European Central Bank, Mario Draghi, who said he planned to use Europe's rescue funds to buy government bonds to help reduce the borrowing costs for debt-stricken nations such as Italy and Spain. German and French leaders issued a joint statement on Friday, promising to do everything they could to stop the 17-country economic bloc from breaking up.