### Transportation Infrastructure – Oil Pipelines

#### Transportation infrastructure includes modes to carry energy.

National Energy Policy Development **Group** **2001** (Reliable, Affordable, and Environmentally Sound Energy for America’s Future, Chapter Seven: America’s Energy Infrastructure, p. 15)

Energy Transportation Infrastructure

The infrastructure used to transport energy products includes ocean tankers; inland barges; specialized trucks for oil and refined products, such as gasoline and heating oil; railroad tank cars and coal cars; and the waterways, highways, and railroads upon which they travel. There is also a substantial inventory of river and oceanside port facilities that are used for moving energy materials.

#### Transportation infrastructure includes highways, bridges, ports, airports, railroads, and pipelines.

**Goodchild et. al**, **2002** (Michael – director of University of California, Santa Barbara’s Center for Spatial Studies, Richard L. Church, and Val Noronha, Spatial Information Technologies in Critical Infrastructure Protection, National Consortium on Remote Sensing in Transportation, p. 2)

Examples of Critical Transportation Infrastructure (CTI)

1. Major arterial highways and bridges comprising the National Highway System (NHS), including the Strategic Highway Network (STRAHNET) and National Intermodal Connectors.

2. International marine harbors, ports and airports.

3. Major railroads, including depots, terminals and stations.

4. Oil and natural gas pipelines.

5. Transportation Control Systems (e.g., air traffic control centers, national rail control centers) [Everett].

#### Contextual definitions include oil and gas pipelines.

**Borisocheva**, November **2007** (Ksenia, Analysis of the Oil- and Gas-Pipeline-Links between EU and Russia: An account of intrinsic interests, Centre for Russia and Eurasia, Athens, Greece, p. 3)

The transportation infrastructure, i.e. oil- and gas-pipelines, plays a vital role in this relationship of interdependence. The existing and projected routes offer the possibility of uninterrupted, secure supply energy. However, they are also a subject of a great deal of political and economic power-play, which, in turn, potentially undermines or endangers their efficiency. This work intends to bring to light the current state of affairs regarding the energy supply transportation infrastructure between the EU member states and Russia. Part One presents an overview of the existing transport infrastructure, both overland and sea routes, between the EU and Russia. Part Two introduces the concept of ‘Diversification’ and its divergent meanings for the producer and supplier states. Projected new routes and the rationale behind them, including their economic viability and political motivations, are presented in Part Three. Part Four attempts to make policy recommendations that could be useful in the attempt to improve the levels of trust between EU and Russia, or in other words, which could lead to an advancement of ‘energy security’ between the regions. Conclusion offers a summary.

#### More contextual evidence

Department of Transportation **2011** (U.S. Department of Transportation Call to Action to Improve the Safety of the Nation’s Energy Pipeline System, p. <http://www.phmsa.dot.gov/staticfiles/PHMSA/DownloadableFiles/110404%20Action%20Plan%20Executive%20Version%20_2.pdf>)

In the wake of several recent serious pipeline incidents, U.S. DOT/PHMSA is taking a hard look at the safety of the nation’s pipeline system. Over the last three years, annual fatalities have risen from nine in 2008, to 13 in 2009 to 22 in 2010. Like other aspects of America’s transportation infrastructure, the pipeline system is aging and needs a comprehensive evaluation of its fitness for service. Investments that are made now will ensure the safety of the American people and the integrity of the pipeline infrastructure for future generations.

### Transportation Infrastructure – Exclude Pipelines

#### Pipeline infrastructure is distinct from transportation infrastructure.

**Babson**, May **2011** (Adam – senior portfolio analyst, Structuring a listed infrastructure portfolio, Russell Research, p. 1-2)

While the global infrastructure universe can be analyzed in a variety of ways, the space can be disaggregated into the following categories: transportation infrastructure, utilities, pipelines and communications infrastructure. Transportation infrastructure assets include toll roads, bridges, ports (sea and air) and rail. Utilities infrastructure includes electricity distribution and generation, gas distribution and storage, water and renewable energy. The pipelines sector comprises companies involved in the storage and transportation of oil and gas. Communications infrastructure features cable networks and satellite systems. Some subsectors—such as power generation—may be ignored altogether by “orthodox” investors looking to minimize volatility and correlations to global equities, while other sectors that are only indirectly related to infrastructure—such as mobile telecom companies—may be attractive to “thematic” managers looking for enhanced returns (managers willing to invest in higher-beta, competitively exposed companies).

### Transportation Infrastructure – Laundry List

#### Large consensus that transportation infrastructure refers to fixed physical assets designed to transport people and goods.

**Orr and Keever**, January **2008** (Ryan – executive director at the Collaboratory for Research on Global Projects and teaches Global Project Finance, and Gregory – private attorney, Collaboratory’s Executive Committee, Enabling User-Fee Backed Transportation Finance in California, Working Paper #41, p. http://crgp.stanford.edu/publications/working\_papers/Orr\_Keever\_Enabling\_User\_Fee\_Backed\_Transportation\_Finance\_wp0041.pdf)

Here transportation infrastructure is defined as “**any fixed physical asset designed for transporting people and goods including highways, arterial streets, bridges, tunnels, and mass transportation systems**.” 1 An often overlooked aspect of transportation infrastructure, even of the most well constructed type, is that it is a consumable asset: it has a finite life, wears out with use, and needs periodic replacement. This paper is intended for a wide audience: state assembly members who approve major freeway and mass-transportation projects, public officials at Caltrans and local governments who are involved in project implementation, and other participants in the decision making process, including but not limited to local government agencies (such as local transit authorities), state agencies (such as Business, Transportation and Housing), regional councils (such as the Bay Area Council), nongovernmental organizations (NGOs) (such as environmental and neighborhood groups), infrastructure operators and funds, labor groups, the Treasurer’s Office, the Governor’s office, and taxpayers and users.

#### Transportation infrastructure includes airports, bridges, harbors, major roads, and railroad.

**Neumann and Price**, June **2009** (James – coeditor of The Impact of Climate Change on the United States, Principal of Industrial Economics, and Jason, Adapting to Climate Change: The Public Policy Response, Resources for the Future, p. 9)

The scope of the Larsen et al. (2008) study includes transportation infrastructure, such as airports, bridges, harbors, major roads, and railroads. The net present value of maintenance and replacement costs for transportation infrastructure in their inventory through 2030 is approximately $24.5 billion (in 2006$). The authors estimate that, under climate change with no adaptation, transportation systems could incur increased maintenance and replacement costs of $2.3 to $4.3 billion, or about 9.3 to 17.7 percent of the base case expenditures, depending on the climate scenario. They found similar ratios of base case expenditures and climate‐attributed increases in costs for their projection of costs to 2080.

### Infrastructure Investment – Laundry List

#### Infrastructure investment includes direct spending, grants, and subsidized borrowing for both state and private actors.

Congressional Budget Office/Joint Committee on Taxation, October **2009** (Subsidizing Infrastructure Investment with Tax-Preferred Bonds, p. <http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/106xx/doc10667/10-26-taxpreferredbonds.pdf>)

The federal government supports infrastructure investment in a variety of ways. It spends money directly, makes grants to state and local governments for their capital spending and, through the tax system, subsidizes the borrowing of both of those levels of government as well as certain private entities to finance infrastructure projects. However, the most common means of providing a tax subsidy for infrastructure investment—by offering a tax exemption for interest on state and local bonds—is generally viewed to be an inefficient way to subsidize state and local borrowing, largely because the revenue cost to the federal government may exceed the interest-cost subsidy provided to state and local governments by a substantial amount.

### Infrastructure Investment – Spending

#### Infrastructure investment is capital spending and excludes programs and R&D.

Congressional Budget Office/Joint Committee on Taxation, October **2009** (Subsidizing Infrastructure Investment with Tax-Preferred Bonds, p. 2-3)

In this analysis, investment in infrastructure is defined as capital spending on transportation, utilities (for example, water and power supply), environmental projects, and schools. 1 In addition, because they account for a significant share of the tax-exempt debt issued, health care facilities and hospitals are treated as infrastructure in this study, although they might not be classified as such for many other types of analyses. Capital spending under this study’s definition consists of investment in physical capital, such as structures and facilities, rather than intangible capital, which is formed by spending on educational programs or on research and development.

#### Infrastructure investment covers constructing and renovating by using direct expenditures and tax incentives.

Congressional Budget Office/Joint Committee on Taxation, October **2009** (Subsidizing Infrastructure Investment with Tax-Preferred Bonds, p. [1](http://www.cbo.gov/sites/default/files/cbofiles/ftpdocs/106xx/doc10667/10-26-taxpreferredbonds.pdf))

Investment in the nation’s infrastructure each year amounts to roughly a half-trillion dollars. Both government and the private sector fund that investment, which covers the costs of constructing and renovating such facilities as highways and airports, water and energy utilities, dams, waste-disposal and other environmental sites, schools, and hospitals. The federal government makes a significant contribution to that investment through its direct expenditures and the subsidies it provides indirectly through the tax system. Direct expenditures comprise what the federal government **spends on infrastructure** (for example, by funding construction of dams and other water resources by the Army Corps of Engineers) and what it provides as grants and loan subsidies to states and localities (primarily for transportation projects). Because infrastructure facilities typically provide a stream of benefits (and revenues for repayment) well into the future, their construction is often financed by borrowing. States and localities issue debt to finance projects undertaken by government and, in some cases, by the private sector (bonds issued by states and localities to finance either government operations or certain private-sector activities are known as municipal bonds). The federal government **subsidizes the issuance of municipal bonds** by offering tax preferences that lower the cost of debt incurred for those projects.