Section V

Siting Electrical Transmission and Distribution Lines

Livia DeMarchis, Yale University

BACKGROUND

As President Obama recently stated in his address to the joint session of Congress, “We will soon lay down thousands of miles of power lines that can carry new energy to cities and towns across this country,” (Obama, 2009). Land trusts must be informed and ready to participate in the discussion about transmission line expansion because it will inevitably impact areas of conserved land.

General information

Construction of new transmission and distribution lines is required when the capacity of lines is insufficient to prevent transmission congestion. Transmission congestion happens when planned or actual flows of electricity on a power line or other piece of transmission equipment are reduced to a level below what is desired because of either the physical or electrical capacity of the equipment, or because of restrictions enforced to protect the reliability and security of the power grid. Electricity consumers can be adversely impacted by transmission congestion for multiple reasons. If a large section of a power grid is seriously congested or constrained, it might be necessary for grid operators to restrict service to some consumers to protect overall grid reliability. In addition, when transmission congestion constrains the amount of power that can safely be transmitted to a load center (the area where the energy will be used) from a desirable energy source, a more expensive alternative source of power must be found. In many areas, the costs of transmission congestion do not justify investments in infrastructure to change the situation; however, in other areas, congestion costs can be quite high and some methods of alleviating constraints are needed. More than one way to eliminate or reduce transmission constraints exists. Possibilities include: new transmission construction, new generation construction close to a major load center, or demand-side management (U.S. DOE, Feb 2006).
The U.S. Department of Energy’s 2006 National Electric Transmission Congestion Study classified congested areas into three different classes: critical congestion areas, congestion areas of concern, and conditional congestion areas. Critical congestion areas include Southern California and the Atlantic coast area from metropolitan New York to Northern Virginia. Congestion Areas of Concern consist of New England, the San Francisco Bay area, the Seattle/Portland area, and the Phoenix/Tucson area. Conditional Congestion Areas, on the other hand, include Montana-Wyoming, the Southeast, Illinois, Indiana and Upper Appalachia, the Dakotas-Minnesota, and Kansas-Oklahoma (U.S. DOE, Feb 2006).

The Energy Policy Act of 2005 created a new section of federal law, “SIETF”, related to siting interstate electric transmission lines. Under SIETF, the Secretary of Energy must, from time to time, perform a nationwide study on electric transmission congestion. Based on studies, such as the one discussed above, the Secretary must issue a report that may designate “National Interest Electric Transmission Corridors” (National Corridors) in areas that are experiencing transmission capacity limitations or congestion. Once such a designation has been made, SIETF allows the Federal Energy Regulatory Commission (FERC) to permit public utilities to build or modify electric transmission facilities in the national interest corridor in certain situations. Such a permit from FERC allows a utility to exercise eminent domain to obtain needed rights-of-way within a national interest corridor. Even though this power of eminent domain cannot be used across property owned by a state, SIETF could allow for the preemption of a state’s control over the siting of electric transmission facilities (McLaughlin, 2008). Some state statutes currently in force may serve to mitigate the
taking of conserved land for transmission line construction. For example, the Virginia Open-Space Land Act, adopted in 1966 to authorize the creation and enforcement of conservation easements, provides restrictions on the conversion or diversion of land encumbered by an open-space easement unless certain mitigation requirements are met (McLaughlin, 2008).

In addition to studies and plans being made to address transmission congestion generally, there has been specific interest recently in “green” power line proposals. Early this year, Senate Majority Leader Harry Reid proposed to use federal eminent domain to establish transmission lines specifically for green power, or power produced from renewable sources such as wind and solar energy. The proposal would allow FERC to use eminent domain to construct transmission lines across the country if needed and if regional planning entities do not develop plans for transmission line location. Reid’s proposal has faced opposition from senators who disagree with giving the federal government so much authority and who question the requirement that the power lines carry primarily green energy. The argument behind Reid’s proposal is that the county lacks sufficient capacity to distribute energy from solar and wind resources that are located in areas of low population density (Mascaro, 2009). Figure 5, below, shows the transmission expansion that will be needed by 2030 to accommodate all new electrical generation, including wind energy.

The Center for American Progress has also recently released a report and “action plan” focused on building a “national clean-energy smart grid.” The report advocates a grid that includes two specific components: “an interstate transmission ‘sustainable transmission grid’ that will transport clean utility-scale renewable energy long distances to market, and a digital ‘smart distribution grid’ to deliver this electricity efficiently to local customers” (Hendricks, 2009). The “smart grid” plan also advocates the construction of more transmission lines to allow new large-scale renewable energy sources to be connected to the national grid (Hendricks, 2009).

While transmission lines to carry green power may sound like an environmental idea, their practical implications have come under criticism from land trusts and other environmental groups. A rapid increase in construction of transmission lines can easily lead to increases in power generation from dirtier power sources, even if the lines are intended to carry clean energy. An impact analysis by the Union of Concerned Scientists in 2008 found that in the mid-Atlantic region, the construction of projects being publicized as supporting renewables would actually result in an increase of carbon dioxide emissions high enough to eliminate the benefits of the area’s Regional Greenhouse Gas Initiative. Power systems favor “least-cost” generation facilities, so even if new transmission lines are meant to foster renewable energy, because renewable energy is more expensive than coal and other energy sources, it will still not be used as much as the dirtier energy sources (Pennsylvania Land Trust Association, 2009). In California, the Sierra Club and the Centre for Biological Diversity have actively opposed the construction of the Sunrise Powerlink project to bring renewable energy from the Imperial Valley to San Diego. The
organizations want a guarantee that the transmission lines will only by used to transmit renewable energy (The Economist, 2009).

**What are the impacts of transmission lines on land conservation?**

Transmission corridor and transmission line construction can have significant impacts on conserved land in terms of aesthetic impacts and habitat disruption. When transmission corridors are cut into protected land they often indiscriminately cross bucolic views, lake and river resources and undisturbed woodland. Transmission lines themselves are “industrial eyesores” and cannot be concealed once constructed. Furthermore, as they cross different ecosystems, transmission lines can fragment habitat and lead to the clearing of sensitive vegetation. Refuge managers for the Upper Mississippi National Wildlife and Fish Refuge, for example, have attempted to limit transmission lines to specific, clearly defined rights of way to prevent added intrusion into habitat (Cusick, 2009).

In addition to significant aesthetic and habitat impacts, transmission lines can hamper recreational use on conserved land because they may cross popular bodies of water and hiking or biking paths. On the flip side, transmission corridors may create new access paths into previously inaccessible areas, disrupting wildlife by encouraging human recreational activity in areas that had previously been undisturbed (Public Service Commission of Wisconsin).

Transmission lines proposed in areas of rich farmland, for example in the Midwest, also have the potential to remove valuable conserved farmland from production. High quality farmland in transmission corridors can be damaged over time by soil compaction, water drainage disruption and other effects connected with transmission line construction and maintenance (Cusick, 2009).

**Projections for development**

While it is instructive to discuss the possibilities of controlling energy demand through energy conservation measures, it is unrealistic to believe that the growth of overall power consumption can be significantly curbed (at least in the near term).

**Figure 3 Electricity end use (billions kilowatt-hours)**

![Graph showing electricity end use](image)

Source: EIA Review (2009)
Electricity use, especially use by residential and commercial sectors in the United States, has experienced a steady increase through the last several decades. Projections indicated that commercial and residential demand for electricity will continue to increase steadily throughout the next two decades as well, though interestingly, industrial use is expected to stay relatively level (Figures 3 and 4).

Figure 4  Annual electricity sales by sector, 1980-2030 (billions kilowatt-hours)

The consistent pace with which electricity consumption has continued to rise in the United States means that increasing transmission line capacity cannot be avoided. It remains to be seen exactly how much, and not whether, additional electricity infrastructure will need to be built. As discussed above, even renewable energy sources need additional transmission infrastructure to make their power accessible to centers of population density. Maps have been made, for example, projecting the need for transmission line expansion requirements as wind becomes a more prevalent source of electricity (Figure 5).
How is the land conservation community responding?

Many members of the land trust community have been upset by proposals to increase transmission line construction in undisturbed areas. Some have taken a strong stance and have actively engaged in legal battles related to transmission expansion. The Piedmont Environmental Council (PEC), for example, joined other parties in bringing a suit against rules set by FERC in implementing the Energy Policy Act of 2005. The decision in the recent case decided in favor of PEC and its coparties “upholds a State’s right to reject a transmission line project without fear of the federal government stepping in to overrule that State’s determination” (Lazaro, 2009).

One focus of organizations opposed to new transmission line construction has been finding alternatives to reduce increased transmission needs. Many in the land trust community believe that more research is needed into the role of local communities in energy production. Local energy generation can reduce the demand for externally produced energy, decreasing the need for transmission lines. For example, community wind projects, which are typically built on a smaller scale than commercial projects, can be developed to serve local needs where transmission systems are currently limited (Mazza, 2008). Some states have taken the lead in incorporating non-transmission alternatives into plans to address electric system needs. For example, Vermont has created the Vermont System Planning Committee.
to facilitate a full consideration of cost-effective non-transmission alternatives to building new transmission projects (Vermont Systems Planning Committee website). In addition to community-scale energy, alternatives to building new transmission lines that should be considered and perhaps advocated by land trusts include: replacing or upgrading existing lines, corridor sharing, and underground electric transmission lines (Public Service Commission of Wisconsin).

While many in the land trust community have been actively opposing increased transmission lines, many members of the environmental community more broadly do believe that increased transmission is needed to make renewable resources more readily accessible. In a recent statement on the “Key Principles” surrounding the balancing of renewable energy and land conservation written by numerous environmental groups, it was stated that new transmission lines should be sited in such a way that they may easily serve renewable resources as opposed to expanding carbon-intensive electrical generation (Defenders of Wildlife et al., 2008).

**QUESTIONS FOR CONSIDERATION**

1) To what degree might new transmission lines be compatible with land conservations? Are they compatible at all?

2) Are new transmission facilities really necessary?

3) Are there feasible alternatives to locating transmission facilities on land that has been protected because it has significant conservation or historic values?

4) If the facilities are determined to be necessary and there are no feasible alternatives, can the impact of the facilities on the conservation and historic values of the land be minimized (e.g., can the lines be buried)?

5) If transmission facilities are constructed on conserved land through a taking by eminent domain, what compensation should be paid to the holders of conservation easements upon such takings? How should the public value of the good taken be valued?

6) To what extent can better regional-scale planning limit conflicts between land trusts and transmission facilities? And what are the best models for conservation organization involvement in such planning efforts?

7) Upon takings of land for transmission facilities by eminent domain, can the conservation easements be subordinated to the rights-of-way for the facilities (as opposed to extinguished) so that when the need for such facilities passes the land is still protected?

8) How should the issue of monetization of conservation values play a role in the context of energy infrastructure? Should it play a role at all?

9) To what extent can mitigation credits be used to offset the negative impacts of transmission line construction on conserved land?
ORGANIZATIONS AND INDIVIDUALS DOING INTERESTING WORK

- Nancy McLaughlin, University of Utah (mclaughlinn@law.utah.edu)
- Chris Miller, Piedmont Environmental Council of Virginia (http://www.pecva.org/anx/index.cfm)
- Pennsylvania Land Trust Alliance (http://conserveland.org/pp/Transmission/index)
- Upper Delaware Preservation Coalition (http://www.udpc.net/)
- Public Service Commission of Wisconsin (http://psc.wi.gov/utilityinfo/electric/newsinfo/smartgrowth.htm)
- Vermont System Planning Committee (http://www.vermontspc.com/default.aspx)
- Center for American Progress (http://www.americanprogress.org/issues/2009/02/wired_for_progress.html)

USEFUL READINGS/WORKS CITED


Thank you, Mr. Chairman, for this opportunity to testify today. My name is Christopher G. Miller and I am President of the Piedmont Environmental Council (PEC), a non-profit organization working to safeguard the landscapes, communities and heritage of the Virginia Piedmont by involving citizens in public policy and land conservation. PEC has been an active participant in energy and transmission planning since our inception in 1972, most recently as a Respondent in a state proceeding considering the proposed Trans-Allegheny Interstate Line project, and in the Department of Energy’s proceedings on implementation of §1221 of the Energy Policy Act of 2005.


Our participation in these proceedings has given us a very practical insight into electrical transmission and the strengths and weaknesses of current federal policies. And we appreciate the opportunity to provide this testimony as the Committee continues its consideration of the appropriate federal role in transmission policy.

As a land use and land conservation organization PEC deals with transmission not just as an energy issue, but also as a particularly intrusive land use. Current engineering of high voltage electric transmission has a substantial footprint, requiring rights of way that often exceed 200 feet in width and tower heights that can exceed 180 feet. In addition to the impact on the properties that these lines cross, the impact on cultural, historic and economic interests of the surrounding areas cannot be ignored. In some cases, land protections take the form of public ownership, such as Federal and state park lands. But in other cases, environment, historic or scenic values have been protected by tools such as conservation easements. We believe that the potential conflicts should be avoided whenever possible and adequately mitigated.
THE GREENWASHING OF TRANSMISSION LINES

As important or more important than the potential impacts and conflicts with other public policies is that the current and proposed transmission policies may produce a transmission grid that is over-built, overly complex and subject to reliability problems, and encourages increased reliance on fossil-fuel generation rather than distributed renewable generation, energy efficiency, conservation, and load management. Expanded, guaranteed, enhanced, virtually risk-free regulated returns on transmission investments and economic dispatch will increase use of coal based power plants and result in increased greenhouse gas emissions. Those emissions will not be subject to financial and regulatory controls for years, even under this Committee’s proposed legislation.

Three years ago the utilities were claiming that they must ‘build, build, build’ for reliability reasons. That pressure has been removed by the drastic economic slowdown and the initial commitment to energy efficiency and energy conservation measure. Now, the claim is that additional transmission is necessary to encourage renewables. Any federal siting authority and financial incentives for transmission should require a FERC decision supported by findings and conclusions based upon a record that clearly shows that power needs cannot be met through conservation, efficiency, improvements to existing lines and distributed, clean generation.

As I will argue throughout my testimony, transmission is just one part of an energy equation that includes everything on the supply side and everything on the demand side. The location, amount and timing of generation and demand are crucial to making a decision on when and where to build transmission, and whether transmission is necessary at all. Before we set federal policy that permits a $100-200 billion grid build out, we should make every effort to better utilize existing transmission infrastructure, reduce the need for new supply, and encourage clean distributed generation.

Let me begin by outlining two of our observations regarding transmission:

Transmission planning is overwhelming energy planning. Federal policy and state utility commissions are increasingly deferential to the energy planning done by Regional Transmission Organizations (RTO) and Independent System Operators (ISO), which are private entities run by member utilities and energy stakeholders, and are by design, predisposed toward transmission solutions. This “transmission first” planning, combined with the generous federal incentives that are being awarded by FERC, put nontransmission energy alternatives at a marked disadvantage, even when those alternatives have lower emission profiles, a smaller footprint, lower price tag, or would create more long-term jobs.

There is no transmission proposal shortfall. State Utility Commissions are siting transmission lines across the nation, often in less than two years. There is no compelling reason to go to a federal siting process, thereby putting the people whose lands will be taken even farther away from the decision makers.

For example, the Trans-Allegheny Interstate Line through Pennsylvania, West Virginia and Virginia and CapX2020 through South Dakota and Minnesota. Many others are proceeding unimpeded through the state’s regulatory process.
TRANSMISSION MYTH VS. REALITY

As we consider whether new federal transmission authority is warranted, a number of inconsistent justifications continue to emerge:

Myth 1: The current regulatory scheme discourages transmission from being built
Not true, interstate transmission line proposals are being pursued and approved throughout the country. Lines are rarely turned down by State Utility Commissions, and such denials are exceptions, not the norm. In many jurisdictions, new transmission lines are being approved with scant attention to alternatives such as improved efficiency and better generation alternatives.

The poster child for delayed state siting is AEP’s Wyoming to Jackson Ferry 765 kV line between West Virginia and Virginia. This line which was originally announced in 1990 did not go into service until 2006. This single incident is frequently cited as a reason to remove siting authority from States. But an examination of the history of this line demonstrates that the reason for the delay had more to do with evolving electricity markets and a proposed crossing over National Forest property. Once legitimate state concerns were addressed and the federal land issue was resolved, the line was approved and built.

Myth 2: Future renewable generation will be located far from the load and require massive transmission investment
According to a number of the bills pending before Congress, future generation sources, particularly renewable generation sources, will be located “distant from load centers,” in “rural areas,” or be “location-constrained.” This assumes a continued reliance on distant generation sources, and ignores the significant potential for off-shore wind, distributed solar, geothermal, natural gas peaking plants, and other forms of generation that could be more easily located near the load. To the degree that future renewable generation is sited in the solar-rich Southwest or wind-rich Midwest, that generation can be used to serve urban centers closer to the source – Las Vegas, Los Angeles, Phoenix, Denver, Madison, Wichita, and Sioux Falls. As for the East Coast, as PJM Interconnection pointed out in comments to FERC on March 6, 2009:

> ...off-shore wind from New Jersey and Canada, and greater strides in energy efficiency, may be deliverable to customers in New England, New York and new Jersey sooner and more cost-effectively than the Midwest wind resources.3

This point was reiterated in a May 4 letter from ten East Coast governors, in which the governors argued:

> While we support the development of wind resources for the United States wherever they exist, this ratepayer-funded revenue guarantee for land-based wind and other generation resources in the Great Plains would have significant, negative consequences for our region: it would hinder our efforts to meet regional renewable energy goals with regional resources and would...
establish financial conditions in our electricity markets that would impede
development of the vast wind resources onshore and just off our shores for
decades to come.

Myth 3: Transmission can be easily targeted toward renewable
Operators cannot control which electrons flow along a given transmission line. That
flow is determined by the laws of physics. Once a transmission line is built, it will fill
with whatever electrons are produced by the available generators. In a December
2008 report,4 the Union of Concerned Scientists warned:

Expanded capacity to transmit electricity would likely mean an even greater
near term flow of coal-fired electricity from western PJM to eastern PJM and
other RGGI states. Lower congestion costs would make coal-fueled power
plants in the west even more competitive, while power producers in eastern
PJM states continued to face higher fuel costs because of their greater
dependence on natural gas. This trend could spur even more proposals for
new coal plants and new transmission capacity, as electricity production
moved away from higher-priced states. The result would be greater amounts
of heat trapping emissions.

And as Bill Raney, President of the West Virginia Coal Association, outlined in a
recent statement in support of the proposed Potomac Appalachian Transmission
Highline through West Virginia, Virginia and Maryland:

Enhanced transmission capacity helps increase the amount of low-cost, coal
fired generation dispatched into the regional grid. This helps preserve the
future of existing power plants already on line, justifies additional invest-
ment in these plants and increases the likelihood that new, clean-coal elec-
tric fired generation will be constructed in the state.5

As shown in the two attached maps the grid backbone concept put forward by
American Electric Power and the American Wind Energy Association has the very
real potential to enable access to large coal deposits rather than wind energy. For this
reason, it is critical that no such grid expansion take place prior to enactment of
strong and enforceable carbon regulations or a reform of the dispatch system to
emphasize environmental priorities, as opposed to the current system prioritizing
economic dispatch.

Myth 4: All proposals for new transmission have been fully vetted and alternatives
have been examined
Operation of the electric transmission grid has been expressly delegated to the
Independent System Operators and Regional Transmission Organizations. The
continued availability of electricity on demand day after day is ample testimony to
the skill of those operations. However in PEC’s experience, the RTOs’ single-minded
focus on transmission does not translate well when it comes to planning. PJM, the
largest of the regional transmission organizations, has repeatedly stated that the only

5 Letter filed under West Virginia Public Service Commission Case # 09-0770-ECN.
solution to electric reliability problems is to order the construction of new transmission lines. PJM is a limited liability corporation, authorized to do only what its members agree to. Its voting membership is composed of transmission companies, generators, utilities and industry insiders. When considering a new transmission project it does not consider whether alternatives would satisfy the identified problem nor does it consider the impact of the line on the environment, the cultural or historic properties that will be affected.

**Myth 5: More transmission means better reliability and national security**

From a technical standpoint, building more transmission to allow for greater interregional power transfers will make the power system less reliable, not more reliable. As electrical engineer and member of the New York State Reliability Council George Loehr said in his testimony to the Senate Energy & Natural Resources Committee in July, 2008:

> Reliability is a function of the standards used, not the amount of wire in the air... If more generation is built in remote areas, and less generation and other resources are built close to load centers, then the load centers will be increasingly dependent on distant generating capacity – located perhaps hundreds of miles away. It would be like running a long extension cord to a friend’s house a block or two away to power your toaster, instead of plugging it into an electric outlet right in your own kitchen. The more major cities depend on long transmission lines, the more subject they will be to power outages and blackouts due to major contingencies on the transmission system.

Or as it was put in a 2003 article written by famed energy expert and Chief Scientist at the Rocky Mountain Institute, Amory Lovins:

> …as one utility executive notes, the emerging policy consensus — that we need to build more and bigger power lines because usage has outpaced capacity — is as wrong as prescribing bloodletting for a patient with a high fever. It reflects a fundamental misunderstanding of what is amiss.

> In fact, more wires may make cascading failures more likely and widespread. And they’re almost always slower and costlier than three functionally equivalent alternatives: using electricity efficiently, letting customers choose to tailor their usage to price, and decentralized generation.

> And as Dr. Vannevar Bush, one of the 20th century’s most brilliant electrical engineers predicted nearly forty years ago:

> The more complex a society [or a system], the more chance there is that it will get fouled up ....Power systems have grown enormously and have become interconnected over vast regions. And we have had two severe blackouts and are undoubtedly headed for more.
**Myth 6: Transmission needs additional incentives**

In 2006 FERC adopted regulations that promote transmission investment through the allowance of generous financial incentives. The regulations allow transmission developers a higher return on equity (usually 50-200 basis points), recovery of construction work-in-progress, recovery of abandonment costs and include an advanced technology “adder”.

Since adopting these new regulations, FERC has approved twenty-seven of the thirty three transmission projects that have sought enhanced rates of return. Those twenty seven projects are valued at $27 billion dollars and if constructed, would cover 8,000 miles. Only three projects have been turned down for these enhanced returns.

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**Myth 7: Demand Growth dictates investment in new transmission**

According to the Energy Information Administration, in 2008 electric demand actually fell by 1.6% and in 2009 it is expected to fall by another 1.8%. Over the next two decades, EIA expects average residential demand growth per capita to slow further, with overall growth increasing at a rate of around 1% per year.

If the current economy is any indication, demand growth may not rebound to previous growth levels for quite some time. In the meantime, aggressive implementation or energy efficiency standards will further blunt demand growth. According to the American Council on an Energy Efficiency Economy (ACEEE):

> In total, the energy efficiency provisions in H.R. 2454 could reduce U.S. energy use by 4.4 quadrillion Btu's, which accounts for about 4 percent of projected U.S. energy use in 2020.... By 2030, these energy efficiency savings grow to 11 quadrillion Btu's, accounting for about 10 percent of projected U.S. energy use that year.

ACEEE goes on to call for increasing the energy efficiency component of the Combined Efficiency and Renewable Energy Standard with H.R. 2454 to 10% savings by 2020 and devoting one-third of electric utility allowances to efficiency. They estimate that this strengthened energy efficiency component would increase these 2030 energy savings by about 25 percent. These investments in energy efficiency produce green jobs, save consumers money and are a better way to reduce carbon emissions that investment in expensive and intrusive investment in transmission.

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**Myth 8: FERC sites gas lines, transmission is a natural evolution**

The comparison between gas transmission lines and electric transmission lines is inapposite. Transmission lines, which are strung on towers that range in height from 10-18 stories (compared to a 6 foot high or buried gas line) are visually intrusive, particularly in areas that aren’t highly developed or industrialized. The 200 foot rights-of-way required by most transmission companies require regular maintenance and clearing, helicopter servicing for painting or visual inspection, and access roads. In addition, transmission conductors emit an electric field that crackle and pop during most months of the year.
From an engineering perspective, the comparison is even less appropriate. The flow of natural gas can be directed and controlled, the fuel can be stored, and the source and destination easily identified. Electric power, on the other hand, cannot be controlled or directed over one path rather than another. Further, it cannot be stored in bulk; it must be used instantaneously as it is created. But the most important difference between gas transmission and electric power transmission systems is that gas transmission is essentially point-to-point, whereas electric transmission is through a highly integrated, extremely complex grid. As an electric engineer told us recently:

There is a kind of grid in the gas production field itself, and certainly at the customer distribution end. But it moves long distances between the gas fields and local distribution systems through a series of point-to-point pipelines, with no connections between them. Electric power, on the other hand, moves over extensive grids composed of many thousands of individual transmission lines. The grids themselves have literally thousands of nodes or junctions, and uncounted parallel paths. The difference in complexity between gas and electric systems is comparable to the difference between a flashlight’s electric circuit, and the guidance system of the space shuttle.

**Myth 9: Environmentalists agree we need more transmission, fast**

Not everyone thinks transmission is the answer — and to the extent that environmental groups do support new transmission policy, that support is limited to lines that would enable the rapid deployment of renewable energy generation. In a recent letter to Carol Browner and congressional leadership, environmental organizations warned:

> Piecemeal energy policy—especially electric transmission policy reform—in advance of a comprehensive national climate regime can have the real but unintended effect of facilitating *more*, not less, greenhouse gas pollution.

For this reason, many environmental groups believe a federal transmission siting provision could do more harm than good unless it is part of a comprehensive climate strategy that puts strong and enforceable carbon regulations in place.

**CONCLUSION**

Instead of new FERC siting authority, what we really need is federal policy that directs Integrated Resource Planning approach to energy planning at a state, regional and federal level. We should look at demand, supply and transmission in concert, without being limited to or predisposed toward investments in transmission.

If Congress does choose a federal approach to transmission siting, it should require:

1. **An Integrated Resource Planning approach.** Energy solutions, be they new generation, transmission or demand side options should be reviewed together. The solution that best solves an identified problem, with the lowest
environmental and economic impact, taking into account all costs, should be chosen.

2) **An open and inclusive process.** A federal process should include a thorough review of alternatives, and not be RTO-driven. Stakeholders should also include state utility commissions, environmental organizations and interested localities. And participants should have access to data resources to fully participate.

3) **Limited federal siting authority that targets transmission projects that directly enhance access to renewable generation.** If the problem is getting renewable on to the grid, then having strong carbon controls in place and requiring a greenhouse gas interconnection standard prior to implementation of federal transmission authority is critical.

4) **Genuine land and environmental protections.** Damages to private and public values from development of existing and new rights of way should be minimized and appropriately mitigated.

A number of transmission titles have been introduced to date, some try to target renewables while others provide for grid expansion regardless of the generators that would benefit. Congressman Inslee’s title does include a greenhouse gas interconnection standard, and we have spoken with his office about the need to include provisions for avoidance of transmission siting on lands conserved through a conservation easement. Subcommittee Chairman Markey and Committee Chairman Waxman have focused their transmission title on planning and setting national objectives on the deployment of renewable and other zero-carbon sources. In the Senate, the titles appear more transmission-first oriented. On the positive side, Senator Reid’s title includes a 75% renewable reserve and Senator Cantwell has authored language that would impose an alternatives analysis at an early stage of the planning process and a greenhouse gas interconnection standard into Senator Bingaman’s title. We are grateful for those efforts and hope to continue to work with Senators and Members to achieve a balanced energy program.

However, if we fail to change the policies and we continue on this rate payer financed experiment in massive grid expansion, we run the very real risk of building a gold-plated, highly intrusive system that benefits old ways and methods, while deterring new investment in energy efficiency and renewable energy going forward. What is worse, in some cases we are planning these lines in non-inclusive manner that ignores adverse impacts and produces results that are unnecessary and unfair. If we just plan for transmission, transmission will be all that we build. And in the end many of your constituents will be left living beneath an aluminum sky.
KEY TAKEAWAYS FROM THE DISCUSSION

Nathanael Greene, Director of Renewable Energy Policy for the Natural Resources Defense Council (NRDC) and Chris Miller, President of the Piedmont Environmental Council in Virginia, started the discussion on the siting of the new transmission lines that many see as essential to the deployment of cleaner, smarter electrical systems.

“We need both renewable energy and land conservation at scale.”
— Nathanael Greene, NRDC

Both clean energy and land conservation are critical parts of the response to climate change. Both reduce emissions of greenhouse gases, while land conservation also stores carbon and improves the resilience of many water systems.

Clean energy and land conservation advocates need to better understand where their interests overlap. Instead of focusing on just the projects where their goals conflict, they should find the processes and locations where they can both say yes to new projects at scale. To do so, they each need to: minimize the tradeoffs they each have to make; make those tradeoffs carefully; and make sure they receive what they bargained for when the tradeoff was made. One way to start is for more members of the land trust community to participate in the clean energy/climate discussions – such as through membership in the Energy Futures Coalition.

“Climate policy drives the world towards greater electrification and that’s a good thing. Climate policy can also create incentives that favor larger generating facilities.”
— Jim Dooley, Joint Global Change Research Institute

New transmission lines are needed in some areas. While there is a risk that coal-fired power plants will benefit most from new lines in particular regions, issues of intermittency and distance to load centers for wind and solar power are likely to be best addressed through at least some new transmission lines. Increasing the interconnectedness of the transmission network is also an important part of efforts to make the system more efficient through the use of “smart grid” technology.

“The utility industry is not known for its soft touch… land trusts need to stick up for themselves in adversarial proceedings, as well as to find ways to collaborate.”
— Chris Miller, Piedmont Environmental Council
Administrative hurdles cause more delays in siting transmission lines than does siting costs. Groups within the larger land conservation community are often powerful opponents of siting proposals. The ability to slow the process substantially can provide a powerful bargaining chip in efforts to say yes to projects sited through significantly different processes.

The process for siting such new transmission lines needs to be more integrated and participatory. Traditional assumptions of continued energy growth should be tested against opportunities to reduce demand through energy efficiency. Cost allocation discussions should also include externalized costs such as the impact on ecosystem services. More extensive and earlier efforts should be made to reach out to concerned stakeholders in governments, business, and community organizations. Zones to steer clear of should be identified at a regional scale, along with zones more suitable for new transmission lines – such as “infrastructure corridors” combining roads, rail, pipelines and other linear projects. As people work to identify and protect key greenways/wildlife corridors, so too should efforts focus on consolidating development corridors.

The internet and other new information technologies offer novel opportunities to engage a broader public in siting processes. National data on protected lands is now being gathered through efforts by organizations such as Landscape, NatureServe, National Geographic, USGS, and others. Much of this data will be available for use in energy/infrastructure planning efforts. Using the data as part of public engagement efforts offers useful ways forward.

NRDC is taking three major steps to navigate the tensions between clean energy and land conservation – steps that offer opportunities for partnerships with members of the land conservation community, such as:

- Supporting specific transmission projects in areas of lower conservation value.
- Participating in multi-stakeholder planning and siting processes such as the Renewable Energy Transmission Initiative (“RETI”) in California (http://www.energy.ca.gov/reti/index.html)/
- Advocating for more comprehensive planning and protections in federal energy legislation such as bringing privately conserved land into consideration as part of the federal preemption powers being discussed in the US Senate.

Similarly, the new Secretary of the Interior Department has identified green energy and treasured landscapes as his top two priorities. He has also brought a number of noted conservationists into the department. This creates additional opportunities for land trusts to bring their experience and skills to efforts to navigate the tensions between clean energy and land conservation – for example, possibly by seeking to influence the Council on Environmental Quality’s review of the facility siting processes used by the Interior Department and the Federal Energy Regulatory Commission.
“Conserved land is often undeveloped, contiguous, and cheap... hence attractive for new transmission lines.”

— Rand Wentworth, Land Trust Alliance

Substantial federal money has been spent on conserving land – it would be a great waste to turn around and take the land for transmission lines. At a minimum, federal and state authorities should be required to “stop, look, and listen” to data on the ecosystem values/services at stake before proceeding.

Should conserved land be taken for new transmission lines, full compensation – including for conservation/ecosystem values – must be paid. New methods for articulating these values in condemnation proceedings need to continue to be developed.