**TOM LININGER***

# Grid and Beat It: How Regional Energy Grids Thwart Sustainability in the Siting of Gas-fired Power Plants

I congratulate the students involved with the Journal of Environmental Law and Litigation for organizing this important symposium addressing the issue of sustainability in land-use policy. I will focus on one aspect of sustainability that sometimes does not receive the attention it deserves: sustainability in the siting of power-generating facilities.

I believe that a sustainable policy for the siting of power plants requires three elements. First, the policy should create incentives for the conservation of energy—especially energy generated by the combustion of fossil fuel.[1] Second, the policy should maximize efficiency in both the generation and transmission of power.[2] Third, the policy should respect local control over land-use planning, which in the long run is the most crucial variable for sustainable development.[3]

* Assistant Professor, University of Oregon School of Law (B.A. Yale, J.D. Harvard). Thanks to Sarah Peters for her editorial assistance.

[1] From 1999 to 2004, North America added 200,000 megawatts of electric generating capacity, and combustion of natural gas generated 94% of this new power. Steven Ferry, *Power Future*, 15 DUKE ENVTL. L. & POL'Y F. 261, 268 (2005). "That makes just the new gas-fueled electricity capacity constructed in this five-year period about twice as large as all U.S. nuclear power plants. Between 2003 and 2008, the amount of natural gas burned in power plants nationally is expected to increase by 30%." *Id.*

[2] *Id.* at 270-71 (discussing the imperative of efficiency, especially in light of foreseeable constraints on the availability of fossil fuels).

[3] "A top-down approach cannot unleash the local leadership needed to sustain local communities." Kevin J. Klesh, *Urban Sprawl: Can the "Transportation Equity" Movement and Federal Transportation Policy Help Break Down Barriers to Regional Solutions?*, 7 ENVTL. LAW. 649, 660 (2001) (quoting THE PRESIDENT'S COUNCIL ON SUSTAINABLE DEVELOPMENT, TOWARDS A SUSTAINABLE AMERICA 66 (1999)).

Unfortunately, our present approach to the siting of power plants achieves none of these three objectives. The regional energy grid enables generation at sites remote from major population centers.[4] For example, "power farms" in Southern Oregon burn fossil fuel to transmit power to major cities in California.[5] The end users of the power have little incentive to reduce their consumption in order to reduce air pollution in the areas that generate the power. Furthermore, long-distance transmission of power creates inefficiencies, due to bottlenecks and other transmission constraints that become more problematic as distances increase.[6] Finally, the big cities' reliance on power generation in remote communities requires a land-use regime that trumps local autonomy: federal and state laws must supersede local control over land-use planning,[7] or else many elected officials in the power-generating communities would resist the siting of power plants in their backyards.

This brief essay will focus on the experience of Lane County, Oregon, with a proposal to build a gas-fired power plant that would serve utilities up and down the West Coast. The controversy drew attention to a provision of Oregon law that denies

[4] *See* Joel B. Eisen, *The Environmental Responsibility of the Regionalizing Electric Utility Industry*, 15 DUKE ENVTL. L. & POL'Y F. 295, 309 (2005) ("Keep in mind that electricity flows continuously throughout the large regional grids like the proverbial water in the swimming pool, so it is generated, flows onto the grid, joins other power, then is transmitted to a retail seller . . ."); Andrew R. Thomas, et al., *Regulation of Power Generated by Stationary Fuel Cells in the United States*, 18 TUL. ENVTL. L.J. 141, 151-52 (2004) (describing generally the process through which power is sold on the energy grid).

[5] One notorious example is the California-Oregon Border (COB) gas plant in Klamath County, Oregon. The local community's energy needs are slight, but the plant will have a capacity to generate 1,160 megawatts of power for transmission to more densely populated areas. For details about the site certificate issued by the Oregon Energy Facility Siting Council for the COB plant, see Oregon Deparment of Energy, Site Certificate for the COB Energy Facility 4 (2005), *available at* http://www.oregon.gov/ENERGY/SITING/COB.shtml.

[6] Richard J. Pierce, Jr., *Environmental Regulation, Energy, and Market Entry*, 15 DUKE ENVTL. L. & POL'Y F. 167, 176-78 (2005) (describing how bottlenecks and transmission constraints are particularly likely to hinder transmission of electricity to big cities); Ferry, *supra* note 1, at 279 (noting that gas plants should ideally be built near load centers due to inefficiencies in transmission lines).

[7] Alan Ramo, *California's Energy Crisis – The Perils of Crisis Management and a Challenge to Environmental Justice*, 7 ALB. L. ENVTL. OUTLOOK J. 1, 9 (2002) (expressing concern that siting decisions are being made without meaningful local influence, and gas plants are disproportionately sited in communities of color); *see*, *e.g.*, OR. REV. STAT. § 469.504 (2003); OR. ADMIN. R. 345-022-0030 (2005) (establishing procedures for developers of gas-fired power plants to bypass local approval process and obtain authorization from Oregon Energy Facility Siting Council).

local control over the siting of a power plant if the developer elects to present the land-use questions to a state agency. Critics organized a campaign that resulted in a legislative proposal to restore local control over the process. While the ultimate outcome left neither the developers nor the critics satisfied, the episode provides a useful example illustrating both the promise and the limitations of a sustainable approach to the siting of power plants.

## I

## THE PROPOSED POWER PLANT

In 2001, developers proposed to build a large power plant in Coburg, Oregon, a community with fewer than 1,000 residents.[8] Coburg lies just a few miles north of Eugene, a college town with approximately 140,000 residents. The developers proposed to generate power by burning natural gas. The developers indicated that the Coburg site was ideal due to the convergence of a natural gas pipeline and power transmission lines.

At the same time they filed their application to build the new power plant in Coburg, the developers announced their plans for marketing the electricity generated by the plant. The developers offered to sell some of the power to utilities in Lane County (although the local utilities expressed reservations about buying this power).[9] The developers of the Coburg plant also proposed to sell power to PacifiCorp, a six-state utility company that supplied only four percent of the electricity used in Lane County.[10] The developers sought to sell some of their power on the interstate market via the regional energy grid. "The electricity would be sold to whatever utility wants to buy it," commented the developers in a filing with a state agency. "[The buyers] could be in Seattle, Portland, Eugene, San Diego, or anywhere in between."[11]

[8] For details about the proposed plant, see *West Cascade Energy, LLC*, *Site Certificate Application for the West Cascade Energy Facility* (Dec. 8, 2003) (on reserve at the Eugene Public Library in Eugene, Oregon).

[9] Kera Abraham, *Power Play: Does the Proposed Gas-Fire Generator in Coberg Make Sense?*, EUGENE WEEKLY, Apr. 1, 2004, at 13 (quoting Commissioner Sandra Bishop of Eugene Water and Electric Board).

[10] Joe Harwood, *Developer Revives Plan for Coburg Power Plant*, EUGENE REGISTER-GUARD, Nov. 27, 2003, at A1.

[11] Proposed Coburg Power Project: Questions & Answers from the August 21, 2001, Information Meeting 12 (Aug. 21, 2001) (on file with autor). The proponents of the plant filed this document with the Oregon Department of Energy. *See id.* On February 24, 2004, one of the plant's proponents insisted that the new marketing

Critics of the proposed plant raised a number of concerns. First, they complained that the generating capacity of the plant far exceeded local demand. In support of this argument, critics cited the developers' own data indicating that Lane County's power demand would increase by 175 megawatts over the next 20 years.[12] The proposed generating capacity of the plant was 900 megawatts[13]—a capacity that greatly outpaced the foreseeable increase in local demand.

Critics also noted that the plant would produce a substantial amount of pollution. The plant would emit 402 tons of nitrogen oxide and 325 tons of fine particulates (10 microns or smaller) every year once it became fully operational.[14] In 2004, there was only one other plant in Lane County that had permission to emit a higher amount of these pollutants: a containerboard manufacturing plant in Springfield.[15] The Coburg power plant would contribute approximately six percent of the total fine particulate emissions in Lane County.[16] The Coburg plant would also generate approximately 100 million tons of carbon dioxide over the plant's 30-year lifespan.[17]

The plant's detractors feared that it would pose a hazard to human health. They cited research in the Journal of the American Medical Association indicating that both nitrogen oxide and fine particulates can aggravate the symptoms of children with asthma, even if the pollution falls within the limits set by the U.S. Environmental Protection Agency.[18] Critics noted that conditions in Lane County's airshed were already worrisome for the

strategy did not call for the sale of the plant's power in California. Gary Marcus, *Power Plant Will Be Clean, Valuable Asset*, REGISTER-GUARD, Feb. 24, 2004, at B4.

12 WEST CASCADE ENERGY LLC, *supra* note 8, at K-28.

13 Marcus, *supra* note 11, at B1.

14 WEST CASCADE ENERGY, LLC, APPLICATION TO THE LANE REGIONAL AIR POLLUTION AUTHORITY 2-13 (Nov. 2003) (copy on file with author).

15 Lane Regional Air Pollution Authority, Lane County Title V Source Permitted Emissions (2004) (detailing the permitted emission levels for Lane County's 20 largest industrial polluters) (copy on file with author).

16 Lane Regional Air Pollution Authority, Draft Inventory of County-Wide Pollution Levels in 1999 (2001) (copy on file with author); comments by David Baker, Air Quality Consultant, West Cascade Energy, Dec. 17, 2003, during a public meeting at the Coburg Elementary School, Coburg, Oregon.

17 WEST CASCADE ENERGY, LLC, *supra* note 8, at Y-9.

18 Janneane F. Gent, et al., *Association of Low-Level Ozone and Fine Particles with Respiratory Symptoms in Children with Asthma*, 290 J. AM. MED. ASSOC. 1859 (2003); George D. Thurston, *Air Pollution as an Underappreciated Cause of Asthma Symptoms*, 290 J. AM. MED. ASSOC. 1915 (2003).

county's 28,026 asthma sufferers. In fact, in April 2004—before the developers even broke ground at the Coburg site—the American Lung Association indicated that Lane County was the seventh-worst county in the nation for certain categories of particle pollution.[19]

In addition to concerns about human health, critics pointed to several potential environmental problems. The nitrogen oxide emitted by the plant could contribute to smog in the area, although the developers insisted that this effect would only be "marginal."[20] The one hundred million tons of carbon dioxide generated by the Coburg power plant could exacerbate global warming.[21] Indeed, state law would require the developers of the Coburg power plant to pay millions of dollars in order to offset the damage that the plant's emissions of carbon dioxide would cause to the environment.[22] Critics expressed concerns about the effect of the plant on local waterways and groundwater supplies.[23]

Opponents complained that the plant would provide few jobs in relation to its pollution. The plant would only employ thirty people on an ongoing basis.[24] The ratio of particulate emissions to jobs at the Coburg power plant would be remarkably low: over ten tons of particulate emissions per worker each year. In other words, each worker would produce fifty times his or her weight in particulate emissions each year. Lane County's top industrial polluters typically provide more than thirty jobs per plant, often with lower emissions than the proposed Coburg plant.[25]

Another objection concerned the plant's effect on the aesthetics of North Lane County. Critics argued that the plant would be an eyesore. With its 190-foot smokestacks, the plant would dom-

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[19] Joe Harwood, *Breathe Easy: Area's Bad Air Ranking May Not Be So Bad*, EUGENE REGISTER-GUARD, Apr. 30, 2004, at A1; AMERICAN LUNG ASSOCIATION, STATE OF THE AIR: 2004, Table 3: People at Risk in 25 Counties Most Polluted by Short-Term Particle Pollution, http://lungaction.org/reports/sota04_table3.html.

[20] Gary Marcus, *Editorial*, EUGENE REGISTER-GUARD, Feb. 22, 2004, at B4.

[21] WEST CASCADE ENERGY, LLC, *supra* note 8, at Y-1-Y-9.

[22] OR. ADMIN. R. 345-024-0500 (2005); Abraham, *supra* note 9, at 12 (noting that state law "requires new power plants to pay into the Oregon Climate Trust, which funds projects to offset 20 percent of the plants' carbon dioxide emissions").

[23] *See* Joe Harwood, *Water New Battleground Over Power Plant*, EUGENE REGISTER-GUARD, June 12, 2004, at B1.

[24] Harwood, *supra* note 10, at A1.

[25] LANE REGIONAL AIR POLLUTION AUTHORITY, *supra* note 15.

inate the landscape.[26] Coburg has relied heavily on tourism, and the new plant would undermine the historic, charming character of this community.

From the perspective of many Lane County residents, the proposed power plant would unfairly burden the local community in order to serve remote urban centers that needed the power. "They'd get the solution, and we'd get the pollution," alleged the critics.[27]

The developers of the Coburg plant appeared to realize that residents of Lane County were not enthusiastic about the proposal. In fact, the developers sought to reduce local democratic control over the siting of the plant. Under Oregon's laws for siting power plants in rural areas, the developers of the Coburg power plant could have submitted their land-use proposal for binding review by locally elected officials.[28] Instead, the developers opted to sidestep local officials and present the land-use questions to an unelected state agency, the Oregon Energy Facility Siting Council.[29]

In sum, the proposed Coburg power plant turned sustainability principles on their head. Far from encouraging conservation, a plant that sold power to remote urban centers would incentivize the profligate use of energy; after all, the end users would not exacerbate pollution in their own communities by relying on power generated in Lane County, Oregon. A plant that marketed power over hundreds of miles of transmission lines might lose some of that power in the transmission process, forsaking the efficiency that is crucial for sustainability. The subversion of local control jeopardized Oregon's long legacy of democratic land-use planning. Ironically, a plant that supposedly offered power to Lane County actually did the opposite: it threatened to undermine the power of the local community to govern itself.

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[26] WEST CASCADE ENERGY, LLC, supra note 14, at 7-23 and 7-24; Joe Harwood, *Power Plant's Danger to Farms Cited at Hearing*, EUGENE REGISTER-GUARD, Nov. 23, 2004, at D1.

[27] Thomas Lininger, *Advertisement: What's Wrong with the Coburg Power Plant*, EUGENE REGISTER-GUARD, May 24, 2004, at B3 (on file with author).

[28] OR. REV. STAT. § 469.504 (2003); OR. ADMIN. R. § 345-022-0030 (2005).

[29] WEST CASCADE ENERGY, LLC, *supra* note 8, at K-3.

## II

## OREGON SENATE BILL 527

As opposition mounted to the proposed power plant in Lane County, Oregon, a similar group was mobilizing to protest the plan for a larger plant in Klamath County, Oregon.[30] Klamath is a rural county near the California border. The developers of the plant in Klamath County sought to market a substantial amount of its power to utilities in California.

Curiously, an alliance emerged between the liberal Democrats in Lane County and the conservative Republicans in Klamath County.[31] Whether they couched their arguments in terms of environmental protection, livability, or local autonomy, citizen groups in both communities agreed on one thing: no developer should build a massive power plant in their backyards without the approval of local elected officials.[32]

This atypically bipartisan alliance brought a proposal, Senate Bill 527 (SB 527), to the Oregon Legislature in 2005.[33] SB 527 included three significant reforms. First, the bill would involve local elected officials more meaningfully in reviewing proposals for power plants.[34] Second, the bill would necessitate a review of the regional need for energy—and not simply an assessment of market conditions—as a predicate for approval of a power plant.[35] Third, the bill would require a coordinated environmental review for such plants.[36]

Many proponents touted the bill as a means of promoting sustainability in the siting of power plants. Local control over land-use planning, coupled with review of the need for the proposed plant's output, would increase the incentives for conservation. In other words, communities would be more likely to authorize only that amount of power generation minimally sufficient for local needs, because the community authorizing each power plant would bear the brunt of its pollution. Close proximity of plants to the markets they serve would increase efficiency and decrease

[30] Editorial, *Power Over Power Plants*, EUGENE REGISTER-GUARD, Apr. 13, 2005, at A12.

[31] *Id.*

[32] *Id.*

[33] S.B. 527, 73rd Leg., Reg. Sess. (Or. 2005), *available at* http://www.leg.state.or.us/05reg/measpdf/sb0500.dir/sb0527.a.pdf.

[34] *Id.* at 11, 15.

[35] *Id.* at 10.

[36] *Id.* at 5.

the loss of power transmitted over hundreds of miles. By preserving local control over the siting of power plants, SB 527 would maintain the democratic character of land-use planning—a vital condition for long-term sustainability.

Yet critics of SB 527 raised a number of objections. First, they insisted that SB 527 capitulated to NIMBYism. According to this argument, the bill would politicize the siting of power plants to the extent that no new plant could be built. SB 527 would thereby impede the replacement of inefficient coal plants with relatively clean-burning gas plants. The flaw in this argument is readily apparent. The developers of the gas plants were not necessarily proposing to decommission the coal plants; rather, the developers were seeking to supplement the coal plants with a separate new supply of power.

Another objection raised in connection with SB 527 is that state efforts to hinder construction of gas-fired plants would only drive such plants into Mexico. According to this argument, California would slake its thirst for power one way or the other, and Oregon's refusal to serve as California's "power farm" would relegate Mexico to this fate. Again, the criticism rests on a false premise. Mexico is already building power plants for California irrespective of Oregon's plans. And in any event, the risk that Mexico might consent to exploitation of its airshed by California does not justify a similar error in Oregon.

SB 527 won strong support in the Oregon Senate. In fact, when the bill finally came to the Senate floor, it won unanimous approval among both Democrats and Republicans.[37] However, Republican House Speaker Karen Minnis refused to allow SB 527 to reach the House floor. The bill died because of this procedural maneuver.

## III

## THE CURRENT STATUS OF THE COBURG POWER PLANT

While SB 527 posed no obstacle to the construction of the Coburg power plant, the developers put the project on hold nonetheless.[38] Among other problems, the high cost of natural gas

[37] David Steves, *Senate OKs Strict Power Plant Rules*, EUGENE REGISTER-GUARD, June 14, 2005, at D3.

[38] Karen McCowan, *Power Plant Effort Shorts Out*, EUGENE REGISTER-GUARD, May 12, 2005, at A1.

made the project less profitable than originally anticipated.[39] Both the developers and the critics realized that the battle over the Coburg plant was not over; it had simply been postponed to another day when natural gas became more affordable.

That day may come soon. Plans are afoot to build new terminals on the Oregon Coast so that ships can deliver liquified natural gas (LNG) from abroad.[40] A new network of pipelines for natural gas may be created at the same time the LNG terminals are built. Such infrastructural improvements may likely revive the proposal to build a power plant in Coburg.

## IV

## CONCLUSION

As long as power can be transmitted readily on the interstate energy grid, the largest population centers will be tempted to rely on more sparsely populated areas such as Lane County, Oregon, to generate their power. The subjugation of smaller communities to generate power for larger communities is antithetical to sustainable land-use planning. Incentives for conservation disappear when a remote airshed bears the burden for excessive consumption of energy in a large city. Transmission of electricity over a long distance results in incremental losses that require the burning of more fossil fuel per kilowatt of energy produced. Subversion of local autonomy jeopardizes the most important framework for sustainable land-use planning. A preferable regime would require each community to shoulder its own load—and only its own load—in order to meet the rising demand for electricity. The grid is not inherently exploitive, but it invites abuse if local governments cannot influence the siting of power plants within their boundaries.

[39] *See* David R. Francis, *The Escaping Price of Natural Gas*, CHRISTIAN SCIENCE MONITOR, Feb. 19, 2004, at 11.

[40] Joseph Frazier, *Liquid Natural Gas Terminal in Oregon Fuels Some Doubt*, EUGENE REGISTER-GUARD, Sept. 29, 2005, at D5.