

Property Tax Incentives for Renewable Energy: Pervasive Yet Idiosyncratic

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The institute partners with the Lincoln Institute of Land Policy in Cambridge, Mass., in a joint venture creating significant features of the property tax. This Web-based data set includes extensive multiyear information covering a wide range of property tax topics.

All states provide tax incentives to individuals or businesses to encourage some types of behavior or activities. As part of their energy policies, they have adopted incentives to increase the use of systems powered by renewable energy resources. Because property taxes figure predominately in the costs of both the installation and operation of these systems,¹ it is not surprising that property tax incentives are more widely offered than income or sales tax incentives. In its review of renewable energy tax incentives, Dsireusa, a national database funded by the Department of Energy, compared the states' use of property tax incentives, sales tax incentives, and income tax incentives. It found that as of January 2013, 38 states and the District of Columbia used property tax incentives, 24 states and the District of Columbia provided income (corporate and personal) tax incentives, and 28 states provided sales tax incentives.² Overall, we have identified 81 incentive programs that have been adopted by 38 states as of

December 31, 2012.³ (See sidebar as to how programs are counted for our review.)

Although the use of property tax incentives is pervasive, each state has its own set of renewable energy resources included in its incentives. The results are a diverse array of programs targeting those “resources of continuous energy flow or that are perpetually replenished and whose utilization is sustainable indefinitely,”⁴ which may include solar, wind, water, and geothermal energy, as well as waste and biomass conversion. This report examines three dimensions of property tax incentives: the renewable energy resources that are eligible for incentives, the types of incentive provided, and the taxpayers or industries that are eligible for the incentive.

Defining Renewable Energy Resources

State incentives incorporate a wide range of activities beyond those focused on expanding the adoption of renewable energy devices. Incentives supporting energy efficiency and conservation, and encouraging the development and manufacturing of energy devices and systems are also included. The incentives included in this review apply to a diverse set of renewable resources defined broadly as “from sources that are continually replenished from the sun, the earth or the waste stream.”⁵ Incentives aimed at improving the efficiency of fossil fuels, such as coal gasification or ethanol, are usually not included in this discussion. However, if such incentives are so integrated with those for renewable energy resources that the components of the programs cannot be disentangled, the fossil fuel components are included in this report.

¹Property taxes have been cited as one of the major cost considerations in several studies and in the press. *See, e.g.*, Justin Barnes et al., “Property Taxes and Solar PV Systems: Policies, Practices, and Issues,” North Carolina Solar Center and Meister Consultants Group (2013); David J. Ratliff et al., “An Analysis of State-Level Economic Impacts from the Development of Wind Power Plants in San Juan County Utah,” U.S. Department of Energy; “Solar Farm Near Climax Losing Money Because of Property Taxes,” MLive.com, May 16, 2011; Clean Energy Group, “Tax Incentives.”

²Database of State Incentives for Renewables & Efficiency.

³State programs are drawn from Significant Features of the Property Tax and are summarized in Table 2. A detailed listing of programs is available on both the George Washington Institute of Public Policy and Significant Features of the Property Tax websites.

⁴Colo. Rev. Stat. section 40-1-102(11).

⁵Ariz. Rev. Stat. section 41-1514.02(11).

Table 1.
States That Have Property Tax Incentive Programs for Renewable Energy Resources

Inclusive (S,W,G,H,B)+	Solar	Wind	Geo-thermal	Hydroelectric	Biomass	Other	Efficiency
Alaska+	California	Hawaii	Idaho	Hawaii	Hawaii	Hawaii	Arizona
Arizona+	Colorado	Idaho	Indiana	Indiana	Michigan	Michigan	Maryland
Colorado	Connecticut	Illinois	Iowa	Massachusetts	Minnesota	Montana	Nevada
Connecticut	Hawaii	Indiana	Maryland		Montana		New York
Kansas	Illinois	Iowa	Montana		New Hampshire		Virginia
Maryland+	Indiana	Maryland	North Dakota		New Jersey		
Missouri	Iowa	Massachusetts	Tennessee		New York		
Montana+	Louisiana	Michigan					
Nevada	Maryland	Minnesota					
New Hampshire	Massachusetts	Montana					
New Jersey	Michigan	Nebraska					
Ohio+	Minnesota	New Hampshire					
Oregon	Montana	New Jersey					
Rhode Island+	New Hampshire	New York					
South Dakota	New Jersey	North Dakota					
Vermont	New Mexico	Oklahoma					
Virginia	New York	Oregon					
	North Carolina	Pennsylvania					
	North Dakota	South Dakota					
	Rhode Island	Tennessee					
	Tennessee	Texas					
	Texas	West Virginia					
	Virginia	Wisconsin					
	Wisconsin						

Key: S= Solar, W = Wind, G = Geothermal, H = Hydropower, B = Biomass, I = Inclusive (S,W,G,H,B), O = Other, E = Energy-Efficient Buildings, Efficiency and Conservation, X = Nonrenewable
 + Also includes other resources such as fuel cells
 Source: Compiled by the authors from Significant Features of the Property Tax, Special Report, Lincoln Institute of Land Policy and George Washington Institute of Public Policy, available at <https://www.lincolninst.edu/subcenters/significant-features-property-tax.edu>.

States generally have clearly identified in statutes what is meant by renewable energy. Nationwide, 38 states have property tax incentive programs covering a wide range of renewable energy resources. Incentives for wind and solar devices are the most common, with the greatest number of property tax incentives for solar energy systems. Using the method described in the sidebar, “How Programs Are Counted,” Table 1 lists the types of

renewable energy resources included in property tax incentives. When states include several resources in a single program, the state is listed under each type. When all the most common types of energy — that is solar, wind, geothermal, hydroelectric, and biomass — are included in one program, the state program is listed as inclusive. If the state has multiple programs, some of which target only one or a few types of energy, the state is listed under each of the types

of energy. Overall, 38 states have at least one program.⁶ Of the 38 states, four — California, Louisiana, New Mexico, and North Carolina — have programs just for solar, and three — Oklahoma, Pennsylvania, and West Virginia — have programs just for wind.

State incentives incorporate a wide range of activities beyond those focused on expanding the adoption of renewable energy devices.

In addition to encouraging the use of renewable resources, incentives are also targeted at the expansion of the industry at large — being provided for the development of the technologies and for manufacturing of energy devices and systems components. For instance, Arizona provides reduced assessments for facilities engaged in manufacturing biodiesel fuel from feedstock and for renewable energy manufacturing or headquarter operations, including research and development and environmental technology manufacturing.⁷ In other states, specific economic development program zones have been set aside to encourage the development of renewable technologies. Michigan, in redeploing its economic development zones in 2006, designated a number for renewable energy, attracting facilities that focus on using renewable energy, manufacture renewable energy systems, or focus on R&D of such systems.⁸

Other programs considered here provide incentives for energy efficiency or conservation. Most common are those for sustainable or high-performance buildings, generally defined as meeting Leadership in Energy and Environmental Design (LEED) or similar building standards.⁹ Explicit programs for energy-efficient buildings have been ad-

opted in five states — Arizona, Maryland, Nevada, New York, and Virginia. In other states, incentives for LEED buildings have been appended to more general provisions of state and local programs, such as the expansion of community development programs or general local property tax authority, and are not included here.¹⁰ Less common are those that target some elements of a building, most notably, green roofs. However, not all incentives for green roofs provide property tax relief. For example, New York City provides a property tax credit for green roofs,¹¹ but other green roof programs, such as those in Minneapolis and Nashville, Tenn., are part of local storm water programs, and the installation of green roofs reduces the storm water or sewer fees.¹²

Types of Property Tax Incentives

Unlike income and sales taxes, which are not used in all states, the property tax is imposed in all states, and 38 have enacted at least one property tax incentive for renewable energy resources. For the most part, the property tax incentives focus on adjusting the taxable value of the property as a means of reducing the tax bill. Overall, there are 81 distinct programs, with 57 incentives that exempt some or all of the value of the renewable energy system or device. Eight states include programs that extend some sort of preferential treatment for renewable energy improvement, resulting in taxable value lower than other properties. Some incentives provide relief from property taxes but impose an alternative tax considered a payment in lieu of taxes (PILOT). The least common incentive is providing a tax credit, with only four states offering such incentive. Table 2 shows the incentives provided by each state in terms of the type of renewable energy targeted for each. For those incentives directed at several types of renewable resources, each resource is indicated and if there is more than one incentive, each incentive is indicated with parenthesis. Incentives that include the five most common resources — solar, wind, geothermal, hydroelectric, and biomass — are identified with an “I.” Other types of renewable resources, such as fuel cells, are noted with “O,” and programs that include nonrenewable resources, such as ethanol, are noted with an “X.”

⁶The states that had no property tax incentives for renewable energy as of December 31, 2012, were Alabama, Arkansas, Delaware, District of Columbia (its program did not take effect until January 1, 2013), Georgia, Kentucky, Maine, Mississippi, South Carolina, Utah, Washington, and Wyoming. Florida has an exemption for renewable energy devices, but it was not in effect because of an amendment to the state constitution adopted in 2008. Legislation enacted in 2013 provides that renewable energy devices are not to be considered in valuing residential property, effective July 1, 2013. This was enacted in HB 277.

⁷Ariz. Rev. Stat. sections 12006(7) and 15006(7).

⁸Mich. Comp. Laws section 125.2688a, e, and f.

⁹Several organizations provide guidelines and certification for buildings that meet some environmental and efficiency standards, such as the U.S. Green Building Council for LEED, the Green Globes Building Certification, and the National Association of Home Builders Green Building Program for residential green building standards.

¹⁰For example, Cincinnati’s incentive for LEED is incorporated in the city’s Community Reinvestment Area, most recently under City Ordinance 502-2012. Houston adopted a Green Building Resolution, exempting LEED-certified properties under the city’s general tax abatement authority under Article IV ordinances.

¹¹N.Y. R.P.T. Law section 499-aaa through ggg.

¹²Minneapolis Code of Ordinances ch. 510.60; the Metro Government of Nashville and Davidson County Code of Ordinances ch. 15.44.050.

Table 2.
Renewable Energy Property Tax Incentives as of December 31, 2012

State	Number of Programs	Full Exemption	Partial Exemption	Preferential	PILOT	Credits
Alabama	0					
Alaska	1	(I,O)*				
Arizona	4	(I,O), (E)	I,O	I,O,X		
Arkansas	0					
California	1	S				
Colorado	4	S	(I,O), (I)			(I,O)*
Connecticut	2	I,X	S*			
Delaware	0					
District of Columbia	0					
Florida	0					
Georgia	0					
Hawaii	2	2(S,W,B, H, O,X)*				
Idaho	1				W,G	
Illinois	2		S	W		
Indiana	2	S	S,W,H,G			
Iowa	3	(S,W), (G)	W*			
Kansas	1	I,X				
Kentucky	0					
Louisiana	1	S				
Maine	0					
Maryland	4	S,W	S,G			(E)*, (I,O)*
Massachusetts	2	S,W			H	
Michigan	2	(S,W,B,O,X), (B,X)				
Minnesota	3	(S), (B)*			W	
Mississippi	0					
Missouri	1		(I,O,X)*			
Montana	5	I,O,X	(I,O,X)*,(I,O,X), (S,W,B,G,O,X)	(S,W,B,G,O,X)		
Nebraska	1				W*	
Nevada	4	I				(I,X)*, 2(E)
New Hampshire	2	(S,W,B)*			(I,X)*	
New Jersey	2		I,X	(S,W,B)*		
New Mexico	1	S				
New York	5	(S,W,B)*	(S,W,B)*	E		(E), (S)
North Carolina	2		2(S)			
North Dakota	2	S,W,G		W		
Ohio	3	I,O			2(I,O,X)*	
Oklahoma	1	W				
Oregon	2		(I,O,X), (I,O)*			
Pennsylvania	1	W*				
Rhode Island	2	(I,O)*	S			
South Carolina	0					
South Dakota	2		I,O		W	
Tennessee	2		(W), (S,W,G,X)			
Texas	1	S,W				
Utah	0					
Vermont	1	(I,X)*				
Virginia	4		(S)*, (I,O,X)*	(E)*, (I,X)*		
Washington	0					
West Virginia	1		W			
Wisconsin	1	S,W				
Wyoming	0					

Key: S= Solar, W = Wind, G = Geothermal, H = Hydropower, B = Biomass, I = Inclusive (S,W,G,H,B), O = Other, E = Energy-Efficient Buildings, Efficiency and Conservation, X = Nonrenewable

*Program at local option

Source: Compiled by the authors from Significant Features of the Property Tax, Special Report, Lincoln Institute of Land Policy and George Washington Institute of Public Policy, available at <https://www.lincolnst.edu/subcenters/significant-features-property-tax.edu>.

The most generous incentive is a full exemption of the value of the property that is attributable to the renewable device or system. This is accomplished in several ways. Some states include renewable energy systems in the statutes that set out properties that are exempt from property tax. Similarly, states that do not tax personal property may exempt renewable energy property by defining it as personal property, tantamount to granting a full exemption. To illustrate, in Colorado, residential solar generation facilities are defined as household furnishings and as such are exempt.¹³ This is similar to the treatment in Louisiana. Louisiana's statute defines a solar energy system that is attached to an owner's home or swimming pool as personal property and, like other personal property used in the home, is exempt.¹⁴

If property is not exempt by virtue of being enumerated as exempt, some states provide the exemption by defining the renewable property as "adding no value." For example, in delineating its standard appraisal techniques, Arizona states that renewable energy devices installed for on-site consumption add no value.¹⁵

The property tax is imposed in all states and 38 have enacted at least one property tax incentive for renewable energy resources.

California's exemption is somewhat different as it is tied to the state's Proposition 13 limitation of growth in assessed value. Under Proposition 13, the value of any new construction generally is added to the assessed value. However, the installation of an active solar energy system is specifically not considered new construction, so its value is excluded from assessed value.¹⁶ Unlike exemptions in other states, the California incentive applies only to the current owner since, under Proposition 13, the property is revalued on sale, and, at that time, the value of the solar energy system is captured in the new owner's assessed value to the extent that the solar energy system is reflected in the selling price or market value.¹⁷

A variation on the incentive for renewable energy investment occurs in New Jersey. In that state, farmland, when used for agricultural purposes, is valued based on its farm use and not on its potential or highest and best use. Such preferential treatment is voided if the land is not farmed. However, if renewable energy facilities are developed on the land, the agricultural use remains intact and the preferential treatment continues. Therefore, the presence of the renewable energy facilities on the farmland does not change the value of the property.¹⁸

PILOTs associated with renewable energy in most states are considered an alternative tax, replacing the property tax on the renewable facilities of commercial operations.

In a few states, a full exemption is available, but a compensating tax is imposed through a PILOT. Generally, PILOT programs are based on a voluntary agreement between the locality and the exempt entity, designed to be a contribution commensurate with the share of the cost of government that would normally be paid for by the property tax.¹⁹ However, PILOTs associated with renewable energy in most states are considered an alternative tax, replacing the property tax on the renewable facilities of commercial operations.

Eight states, as well as Kauai County, Hawaii, have provisions for a full exemption contingent on the payment of a PILOT. The exemption in Idaho, however, applies only to wind or geothermal energy facilities of nonregulated utilities. The tax is a gross earnings tax imposed at 3 percent.²⁰ Massachusetts distinguishes between the exemptions for solar and wind facilities and those for hydropower facilities. Only the hydropower facilities are subject to the PILOT, as these facilities are commercial operations, while the exemption for solar and wind facilities is limited to those used for on-site consumption. Because these commercial facilities are exempt from property taxes, a PILOT is imposed on gross income.²¹ In Ohio, similar to replacement taxes in other states, a PILOT for solar facilities is based on

¹³Colo. Rev. Stat. sections 39-1-102(6.8) and 39-3-102.

¹⁴La. Rev. Stat. section 47:1706.

¹⁵Ariz. Rev. Stat. 42-11054(C)(3)(a) and (c).

¹⁶Calif. Revenue and Taxation Code section 73.

¹⁷In California, a property's assessed value resets to market value when it is sold. However, there have been various voter-approved constitutional amendments that exclude some property transfers from triggering a reassessment. See California Legislative Analyst's Office, "Understanding California's Property Taxes" (Nov. 29, 2012) at 10.

¹⁸Some restrictions apply, such as the amount of energy generated and consumed on the property. N.J. Rev. Stat. section 54:4-23.3 et seq.

¹⁹Daphne Kenyon and Adam Langley, "Payment in Lieu of Taxes: Balancing Municipal and Nonprofit Interests," Policy Focus Paper, Lincoln Institute of Land Policy (Nov. 2010) at 6.

²⁰Idaho Code section 63-602JJ.

²¹Mass. Gen. Laws ch. 59 section 5-45a.

facility capacity. For renewable facilities other than solar, the rate per megawatt is scaled by the ratio of Ohio employees to total employees, with the rate decreasing as the Ohio share of the workforce increases. For larger facilities of five megawatts or more, the county may be required to approve the exemption as well as impose an additional annual service payment and require that roads and other public infrastructures that may have been affected by the construction of the facility be repaired.²²

In Minnesota and Nebraska, wind systems are exempt from property taxes and instead pay a production tax based on system capacity. Minnesota's rate increases as the size of the project increases with small-scale systems with capacity of 0.25 megawatts or less being exempt from both property and production taxes.²³ Nebraska imposes a flat rate per megawatt, but customers that generate electricity on their side of the meter do not have to pay the capacity tax.²⁴ In South Dakota, a PILOT is applied to commercial wind farms based on an annual tax of \$3 per nameplate capacity and a 2 percent gross receipts tax. This later payment is subject to a rebate if the facilities are primarily engaged in generation and the associated transmission facilities make up less than 50 percent of the value.²⁵

Several states do not impose an alternative production-based tax as a PILOT, but rather a PILOT is paid voluntarily or is subject to negotiations. In Kauai County, for example, taxpayers on commercial renewable energy facilities may opt for a full exemption of the value of the land, instead of just a 50 percent exemption, on payment of 1 percent of gross revenue.²⁶ The PILOT program in New Hampshire is a traditional PILOT, with payments based on a contract or agreement between the taxpayer and the local government, rather than a tax imposed on an alternative base. As in the other states, the PILOT is applied to generating companies that produce electricity for resale. However, rather than being a permanent replacement for property taxes, the agreements are generally in place for five years and can be extended for additional five-year periods.²⁷

New York state's PILOT has several different elements. Under the New York exemption, the jurisdiction may decide not to seek a PILOT payment while providing the exemption. Like New Hampshire's program, the payment would then be a contractual arrangement, not a separate tax imposed on a different base. The PILOT, however, while it

cannot exceed the forgone revenue because of the exemption, is limited to 15 years.²⁸ Unlike the other PILOT programs, which provide a full exemption, the one in New York is in conjunction with a partial exemption. The value of the exemption is the added value attributed to the renewable system.²⁹ This is often defined as the difference between the value of the property with the renewable facility compared with the value of the property with conventional energy facilities.

Partial exemptions, as defined in New York or using some similar language, are provided in 18 states, with most of the incentives provided for solar and wind projects. Some states have a different twist on their definitions of a partial exemption. In Montana, for example, the exemption is a flat amount, \$20,000 for a single-family home for making a "nonfossil capital energy investment," available over 10 years.³⁰ This is markedly different from South Dakota's incentive for small on-site systems. Here, an exemption is applied to the first \$50,000 or 70 percent, of the assessed value of the renewable energy property, whichever is greater. Except for geothermal facilities, there is no time limit on the exemption.³¹ In Iowa, local governments can provide a special valuation of wind energy projects. For the first year, none of the net acquisition value is taxed, that is 100 percent is exempt. Over the next five years, the exemption decreases by 5 percent such that after the sixth year 70 percent is exempt, and 30 percent of the net acquisition value is taxed.³²

A less common way of exempting a portion of the value attributed to renewable investment is to tax a smaller percentage of value. This is generally found in states that have a complex property classification scheme whereby different property classes are taxed at different value percentages. By reclassifying renewable energy property so that a lower percentage of value is taxed, the taxpayer enjoys a partial exemption. For instance, in Arizona, which has nine property classes, the state reclassifies renewable energy manufacturing firms from class one to class six, and the property is taxed at 5 percent, compared with 20 percent — a partial exemption equal to 15

²⁸N.Y. R.P.T Law section 487.

²⁹The statute provides for a partial exemption, unless the local jurisdiction opts out, and chooses not to provide the exemption. N.Y. R.P.T Law section 487.

³⁰A \$100,000 exemption is available for similar investments in all other buildings. Mont. Code Ann. section 15-6-157.

³¹For geothermal facilities that produce energy rather than electricity, the exemption is limited to the first four years for residential projects and three years for commercial operations. S.D. Codified Laws section 10-4-44.

³²Iowa Code section 427B.26.

²²Ohio Rev. Code section 5727.75.

²³Minn. Stat. sections 272.02 and 272.029.

²⁴Neb. Rev. Stat. section 77-6203.

²⁵S.D. Codified Laws section 10-35-16 et seq.

²⁶Kauai County Code section 5A-11.30.

²⁷N.H. Rev. Stat. Ann. Section 72:74.

How Programs Are Counted

One of the tasks in compiling energy incentives is determining how to identify individual programs. For this report our initial step considered how the state delineated the programs in its statutes. In those cases in which separate statutes or sections of statutes provided identical or nearly identical incentives, we deemed them a single program. Programs were combined despite differences in energy sources, duration of the program, production capacity, administrative requirements, or time of adoption. Similarly, when a statute covered both renewable and nonrenewable sources, or provided incentives in decidedly different ways, we made distinct programs based on characteristics such as separating out the nonrenewable aspects, the need for local approval, or presence of additional eligibility requirements. Programs that did not address specific energy sources but rather encouraged energy efficiency, such as green buildings, remain as individual programs.

When a state enacted a program that required local adoption, we counted it as a single program regardless of the number of local jurisdictions that

adopted it. On the other hand, in Hawaii, the state relinquished property tax authority to its local governments and therefore enacts no statewide property tax program. Each local program was therefore counted as a separate program.

The final consideration was the availability of the program or the time frame for qualifying for it. Those programs that required eligible activities to be completed before December 31, 2012, were excluded even though taxpayers may still be benefiting from them. Similarly, programs that did not begin until January 1, 2013, or after were not included. This is the date of the data found on the Significant Features of the Property Tax, which was the primary source for the programs included here.

Based on these criteria, we have identified 81 programs among 38 states. These programs have been compiled and displayed in Table 2. A more complete description of each program is available on both the George Washington Institute of Public Policy and Significant Features of the Property Tax websites.

percent of the value of the property and improvement.³³ Similarly, Montana, a state that also taxes property based on its class, provides an incentive for a wide range of both generation systems and manufacturing facilities. These are reclassified as class 14 and are taxed at 3 percent as of January 2013 instead of a higher rate, which for some properties now in class 14 could be as much as 12 percent.³⁴

The least frequently used property tax incentive is adjusting the tax bill by providing a credit or, as it is sometimes referred to, a tax abatement.³⁵ Credit incentives are used in just four states — Colorado, Maryland, Nevada, and New York. Only the programs in Nevada are statewide. Colorado's and Maryland's programs are available at local discretion, while in New York, because of statutory and constitutional limitations, the statutes apply to "cities with a population of one million or more," which restricts the programs to New York City.³⁶

Nevada has three credit programs. The state provides tax abatements for commercial and industrial buildings that are LEED-certified based on their design and sustainability. The percentage of the taxes abated depends on the LEED rating and the points for energy conservation.³⁷ The other two programs are directed at generation facilities — one program is directed at those facilities that use a wide range of renewable energy resources and one that generates on-site electricity from recycled materials.³⁸

Colorado and Maryland permit local governments to determine whether they want to grant such relief. In both states, statutes for local option programs generally impose few limitations, thus allowing the local governments to adopt a program that is attractive to the jurisdiction in terms of providing an adequate incentive without jeopardizing local finances. The Colorado program gives local governments the option of providing either a property tax credit or a sales tax rebate for the installation of renewable energy devices on residential or commercial property.³⁹ In Maryland the local government may grant a tax credit against local property taxes imposed on high-performance buildings. The only criterion imposed by the statute is that the building must achieve at least a silver LEED or similar green

³³Ariz. Rev. Stat. sections 42-12006(7) and 42-15006.

³⁴Mont. Code Ann. section 15-6-157.

³⁵According to the International Association of Assessing Officers, an abatement can be the reduction of assessed valuation after completion of original assessment or an reduction or elimination of one's tax liability. As used here, an abatement is a credit when the statute grants a full or partial abatement of property taxes. The other abatements are included in either full or partial exemptions.

³⁶In 2012, New York enacted a statewide exemption for LEED- or similar certified buildings that began construction on or after January 1, 2013. N.Y. R.P.T section 470.

³⁷Nev. Rev. Stat. section 701A.100 et seq. and Nev. Admin. Code 701A.280.

³⁸Nev. Rev. Stat. section 701A.100 et seq.

³⁹Colo. Rev. Stat. sections 30-11-107.3 and 31-20-101.3.

building rating. The local government decides the amount, duration, and any other particulars of the credit.⁴⁰ The other local program in Maryland provides a credit for up to three years for properties that are heated, cooled, or have electricity provided by a solar, geothermal, or qualifying energy conservation device. Again, the state allows the county or municipality to decide the amount, duration, and any other particulars of the credit, as well as the definition of solar, geothermal, and qualifying energy conservation devices. Under the authorization, one county applies the incentive to those improvements that reduce energy consumption or improve the efficiency, such as improved insulation and programmable thermostats.⁴¹

New York City, as permitted by state law, provides two credits. Unlike the flexibility provided to local governments in Colorado and Maryland, New York's state law delineates the credit programs for New York City.⁴² As mentioned earlier, one credit is for green roofs, in which the one-time credit applied to the owner's property tax is based on \$4.50 per square foot of the green roof. The second credit applies to the property tax but is based on the cost of the installation of solar energy systems for non-utilities. The credit, available for four years, is based on a sliding scale depending on when the system was put in place. The credit is based on a greater percent of costs for those systems installed in the early years of the program (8.75 percent before January 1, 2011), compared with the percentage for systems put in place between January 1, 2012, and January 1, 2015 (2.5 percent). The credit applies for four years, so for those who installed the solar energy system early in the program, the savings is 35 percent. Clearly, the incentive is designed to jump-start the adoption of solar energy rather than to provide an ongoing benefit for adopting solar energy.

Targeted Taxpayers

In addition to targeting the use of some renewable energy resources, most incentive programs also distinguish between facilities used for on-site consumption and those designed for wholesale or retail generation. Some states provide an incentive to homeowners or single-family properties only, as mentioned above with Montana's exemption. Connecticut initially limited the exemption to residential properties but has expanded the exemption to apply for commercial and industrial purposes beginning statewide in 2014.⁴³ Other states do not distin-

guish between the types of property — residential, commercial, or industrial — but do specify that the energy generated must be intended for on-site consumption. This restriction may be very general, as in Oregon, which states that the facilities must be designed to offset on-site electricity use,⁴⁴ or more specific as in New Jersey, where a partial exemption applies to all buildings as long as the renewable energy system equipment is for on-site generation.⁴⁵

Property tax incentives stand out in their ability to provide an ongoing benefit by directly lowering the costs to the taxpayer.

States have also combined their energy policies and economic development policies by providing some incentives for renewable energy projects for economic development projects. For instance, Minnesota has in the past provided incentives for specific projects for electric utilities that included, in some cases, the use of renewable energy resources.⁴⁶ Other states focus less on specific projects and more on the creation of specific economic development zones that emphasize renewable energy. Oregon provides the option for local governments to establish a rural renewable energy zone,⁴⁷ while Missouri created renewable energy generation zones by expanding its enhanced enterprise zone program.⁴⁸ As mentioned earlier, Michigan has designated some of the economic development zones as renewable energy renaissance zones for facilities that focus on research, development, or manufacturing of systems or components of renewable systems. Other states provide incentives to a variety of firms engaged in renewable energy, such as in Arizona, where environmental technology manufacturing facilities, including those making solar and other renewable energy products, are reclassified and taxed at a lower percent of value as long as the firms met some investment or employment levels.⁴⁹ Montana provides a partial exemption for renewable energy facilities and equipment for R&D, as well as for all the property of a renewable energy manufacturing facility that, while not in a development zone, does require the prevailing wages for heavy construction be paid during construction.⁵⁰ Another incentive in

⁴⁰Md. Code, Tax — Property section 9-242.

⁴¹Md. Code, Tax — Property section 9-203; Montgomery County Code section 52-18R.

⁴²In many instances, the state law is enacted at the request of New York City.

⁴³Public Act No. 13-61.

⁴⁴Ore. Rev. Stat. section 307.175.

⁴⁵N.J. Rev. Stat. section 54:4-3.113a.

⁴⁶Minnesota House of Representatives Research Department Primer on Minnesota's Property Taxation of Electric Utilities (Oct. 2006).

⁴⁷Ore. Rev. Stat. sections 285C.350-285.370.

⁴⁸Mo. Rev. Stat. section 135.950 et seq.

⁴⁹Ariz. Rev. Stat. section 41-1514.02.

⁵⁰Mont. Code Ann. section 15-24-3111.

Montana is a local option that includes new or expanding firms that produce energy from renewable sources. The incentive is an exemption that is phased out over 10 years provided that the firm makes a minimum investment or improvements.⁵¹ All these programs then seek to be a positive factor in expanding the state's economic base as well as in the development of the renewable energy technology and industry.

Conclusion

Property tax incentive programs for the expansion of use and development of renewable energy are pervasive yet idiosyncratic. Three-fourths of the states have them, yet programs vary as to the renewable energy identified, the incentives provided, and the intended beneficiaries.

Overall, there are 81 property tax programs, promoting a diverse assortment of renewable energies: solar (active or passive), wind, water (tidal, wave, or hydro), geothermal; and conversion processes (waste, biomass, algae, or landfill gases), with heavy emphasis on solar and wind energy. These incentives, which reduce property taxes and thus the cost of installation and operations of renewable facilities, include exemptions (full or partial) and taxable value reductions, and tax credits are available to a variety of taxpayers, including individual homeowners, manufacturing and R&D firms, and public utilities.

While there is a broad range of state and federal policy options for encouraging the use of renewable energy sources, property tax incentives stand out in their ability to provide an ongoing benefit by directly lowering the costs to the taxpayer to install and operate such systems either over the lifetime of the facility or at least during the initial years. These incentives are used extensively throughout the United States, with even some coal-rich states embracing renewables, although often in conjunction with fossil fuel programs. While this report covers those programs in effect as of December 2012, states continue to enact new incentives or expand existing ones. One such program is the District of Columbia's incentive, which was enacted in 2012 but not effective until 2013. Similarly, Florida enacted legislation in 2013 to implement a 2008 voter-adopted constitutional amendment that permits the exemption of renewable energy source devices on residential property to be exempt.⁵² Also, at least five other states enacted legislation effective after December 2012 aimed at new or expanding property tax incentives for renewable energy.⁵³ The volume and diversity of tax incentives programs continue, reflecting the intricacies of both the property tax and renewable energy sources, adding a layer of complexity to the already opaque property tax. ☆

⁵¹Mont. Code Ann. sections 15-24-1401 and 15-24-1402.

⁵²Fla. Stat. section 193.624.

⁵³Barnes et al., *supra* note 1.