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Analysis of the Economic Impact of a Green Bank in South Carolina

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Abstract

Green banks are an innovative financial tool for climate-conscious economic development. Green banks sustainably facilitate the expansion of renewable energy and disaster-resistant infrastructure by strategically allocating and growing an initial endowment of funds. This paper explores how a hypothetical green bank could operate in South Carolina and models the potential economic impacts a green bank could have on the state's economy.

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Chapter 1: Explanation of Green Banks

A "Green Bank" is an institution that facilitates the funding of environmentally-conscious projects via a variety of financing methods.[1] Green Banks are typically non-profit organizations that start out with an endowment of money which they maintain and send out into the local economy to bridge finance gaps which prevent individuals, businesses, and municipalities from undertaking climate-related projects. Instead of giving out grants, green banks preserve their capital stock and instead disperse their money in ways such that the money returns to them to be used again and again. For instance, if a business wants to switch to solar power but doesn't have the money saved up to purchase and install the panels, a Green Bank could provide a low-interest loan for that business to install solar panels. The business would then pay back the loan using the money it would save after lowering or eliminating its energy costs. This way, climate-conscious development becomes a more financially feasible option, and the green bank still has at least as much money as it started with so that it can keep investing in other projects.

For this analysis, a hypothetical green bank in South Carolina would focus specifically on climate-conscious development; that is to say, its focus would be *climate*

[1] "What Is a Green Bank?" Coalition for Green Capital. https://coalitionforgreencapital.com/what-is-a-green-bank/.

change mitigation and *climate change adaptation*, rather than a broader focus that includes other environmental topics like litter mitigation.

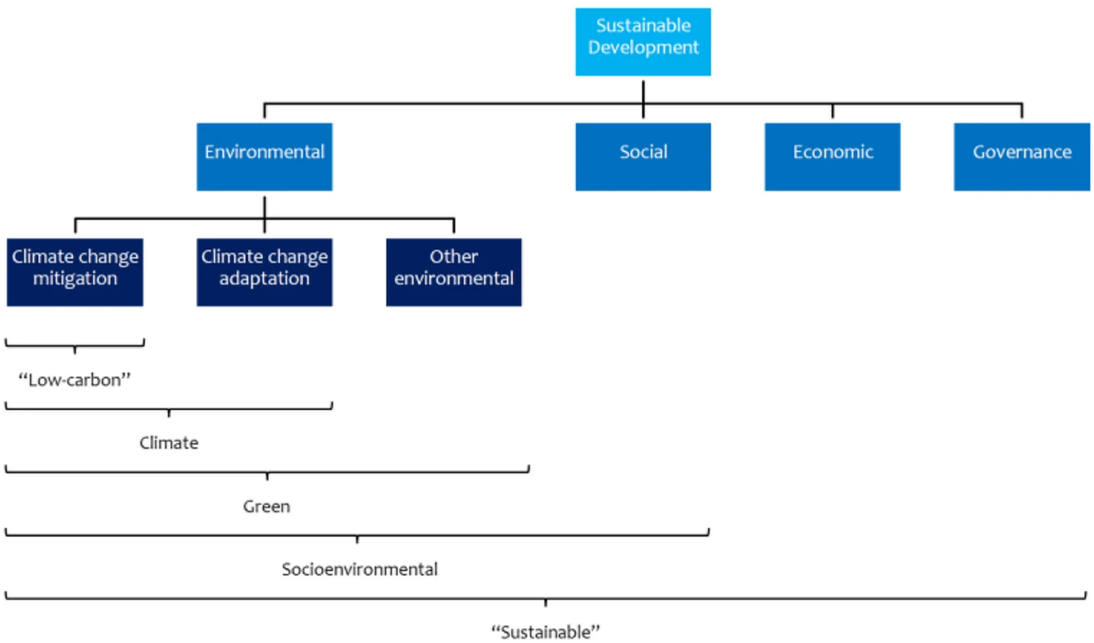

Figure 1.1 "A simplified schema for understanding broad environmental terms."[2]

A green bank can use an array of financial and informational tools to accelerate climate-conscious development. A 2020 market overview from Duke University and the Coalition for Green Capital describes four roles a green bank can play[3]:

[2] Forstater, M. & Zhang, N. (2016). Inquiry: Design of a Sustainable Financial System. Definitions and Concepts: Background Note. United Nations Environment Programme. https://unepinquiry.org/wp-content/uploads/2016/09/1_Definitions_and_Concepts.pdf

[3] Weiss, J., H. Beinecke, and J. Bunting. (2020). How a Green Bank Can Drive the North Carolina Clean Energy Economy. Durham, NC: Nicholas Institute for Environmental Policy Solutions, Duke University. https://nicholasinstitute.duke.edu/sites/default/files/publications/How-a-Green-Bank-Can-Drive-the-North-Carolina-Clean-Energy-Economy.pdf.

1. **Connector:** Green banks can serve as a hub for information, templates, and community contacts. These services can be provided without expending much capital, but having them available as a public resource can help facilitate development
2. **Risk Mitigator:** Green banks can encourage green capital investment by making those investments less risky. This can be accomplished by offering "interest rate buy-downs and loan loss reserves"[4] in order to unlock private capital that would otherwise be unavailable for such projects.
3. **Direct Lender:** A green bank can provide loans to individuals or institutions at lower interest rates or for longer payback periods than for-profit investors may offer. This helps bridge finance gaps when private-sector lenders are not inclined to finance clean energy projects because the returns are not high enough to be more profitable than other investment opportunities.
4. **Bundler:** Many projects are too small for private-sector investors, but a green bank, using its community ties and stakeholder network, can seek out and bundle many smaller projects into a package that is large enough for private financiers to take an interest in.

In this paper, I have generated three models to illustrate how a South Carolina green bank could act as a direct lender that makes use of a *revolving fund*—an initial endowment from which funds are sent out into the community and are eventually returned to the green bank to facilitate more projects.

[4] Weiss

Chapter 2: Prospective Models

The three prospective green bank models that are based on existing green bank programs in other areas. These three models are the solar cost sharing model, the on-bill loaner model, and the loan + grant model (each model is described in detail in its own section below).

Each model relies on the following definitions:

- *Net Funds* includes the amount of cash currently available to the green bank, plus all cash that an organization has agreed to eventually pay to the green bank.
- *Total Available Funds* refers only to the amount of cash that is currently available to the green bank. The total available funds are calculated before and after the new projects are funded each year.
- *Number of Projects Funded* is the number of new projects the green bank takes on each year.
- *Cumulative Total Projects Funded* is the total number of projects the green bank has funded since its start.
- *Cumulative Direct Investment* is the total amount of money that the green bank has spent on projects since its start.
- *Cumulative Community Savings* is calculated by totaling the fraction of the money that organizations save on energy costs that they get to keep each year while they're making payments to the Green Bank, plus their entire yearly energy savings once they are finished making payments to the Green Bank, minus their

contribution to the initial investment. In the loan + grant model, Cumulative Community Savings does not include the grant amounts, just the money saved on energy costs.

Every model relies on the following assumptions and parameters:

- The green bank distributes funds to entities at the beginning of each year and receives repayments from entities monthly.
- Administrative costs and yearly additions to the green bank's endowment are calculated at the beginning of each year. For simplicity, both of these amounts are $0, which is the same as assuming that yearly additions to the green banks funds would exactly cover any administrative costs.
- Cumulative community savings is calculated at the end of each year.
- For simplicity of modeling, the number of months in the payment period is rounded to the nearest integer.
- In the green bank's first year, it would fund only 5 projects, then in subsequent years, it would fund as many projects as it could with its total available funds up to a maximum of 10 projects.
- The green bank would start with a $1 million endowment, because this amount would be large enough to achieve substantial results, small enough to be a conservative estimate, and simple enough to model in a manner that's easy for readers to picture.
- The average project cost is set to $20,000.[5]

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[5] This is an estimate of the initial gross costs of a solar installation project that an Audubon South Carolina study used in their publication, "An Economic Analysis of the Solar Industry in South Carolina".

- Average yearly energy savings are set at $2,200.[6]

Solar Cost Sharing Model

In a solar cost sharing model, a green bank would make an agreement with an organization where the green bank would pay a certain percentage of the upfront costs of installing on-site solar panels, and each month, the green bank would receive that same percentage of the organization's energy cost savings until the green bank recoups its initial investment plus a percentage.

In this iteration of the solar cost sharing model, the green bank pays 85% of a project's initial installment costs, then collects 85% of the organization's monthly savings that result from the solar installation until 120% of the green bank's initial investment is recouped. The *principal payback period* is the amount of time it takes the green bank to recoup its initial investment, and the *total payback period* is the amount of time it takes the green bank to recoup 120% of its initial investment.

With these parameters, we see the green bank's total available funds decline until year 11 (see figure 2.1), at which point the green bank's total available funds begins to grow, since that is when the green bank's returns become greater than its yearly project expenditures. Even though this model limits the number of yearly projects to 10 after the first year, a green bank with a growing pool of available funds would be increasingly capable of taking on more projects as time goes on. This will also depend, however, on the capacity of the green bank's administrators, and taking on more projects would naturally require an increase in administrative costs.

[6] Hefner, p. 11

Table 2.1 Parameters for the solar cost sharing model

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
% of initial investment to recoup	120%
Principal Payback Period (months)	109
Principal Payback Period (years, rounded up)	9.09
Total Payback Period (months)	131
Total Payback Period (years)	10.9
GB's % of costs and savings	85%

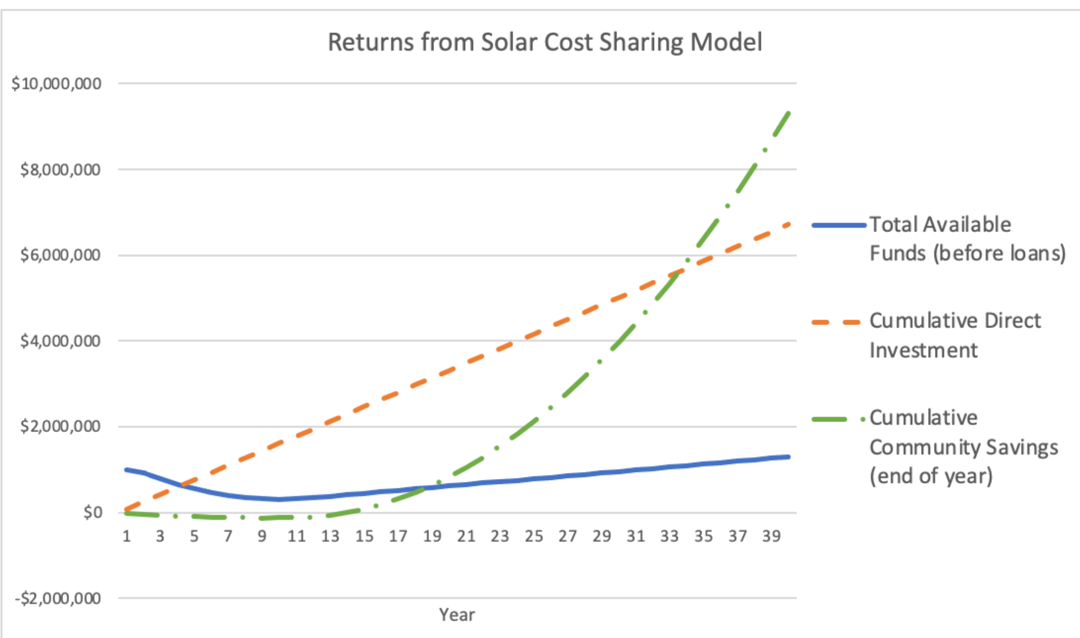

Figure 2.1 Estimated returns under the solar cost sharing model

Cumulative community savings does not reach a net positive value until year 14, because the organizations' portions of the initial investment put their net savings in the negative at first. After their energy savings meet their initial expenditures, however, the organizations' net savings becomes net positive and continues to increase. After 40 years, cumulative community savings reaches $9,318,350.

Cumulative direct investment by the green bank increases at a steady rate in this model because of the stipulation that the number of new projects per year is capped at 10; however, recall that this is a conservative estimate and the capacity for new projects will increase with time as the green bank's total available funds grow.

On-Bill Loaner Model

In an on-bill loaner model, the green bank pays all of the initial costs of solar installation for an entity. In return, the green bank is reimbursed over a fixed amount of time and subject to a fixed interest rate, with payments collected via the entity's utility bill in partnership with the entity's energy provider. This is based on "Hawaii's Green Energy Money $aver On-Bill Program"[7]. In this iteration of the on-bill loaner model, the loan is paid back over 20 years at 3.5% interest.

Under these parameters, even though the green bank's net funds grow steadily, the green bank's total available funds quickly dwindles at first until it eventually levels off just over $100,000 at the beginning of each year. Notice that the number of new projects per year is around 6 to 5 after it levels off, as this is the maximum number of projects that can be undertaken with the yearly equilibrium of total available funds.

[7] "Nonprofit, Small Business, & Commercial Tenant" (2015). - Hawai'i Green Infrastructure Authority. https://gems.hawaii.gov/participate-now/gems-inquiry-form-nonprofit/

Table 2.2 Parameters for the on-bill loaner model

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
Interest Rate	3.50%
Total Payback Period (months)	240
Total Payback Period (years)	20.0
Average monthly payment	$86.25

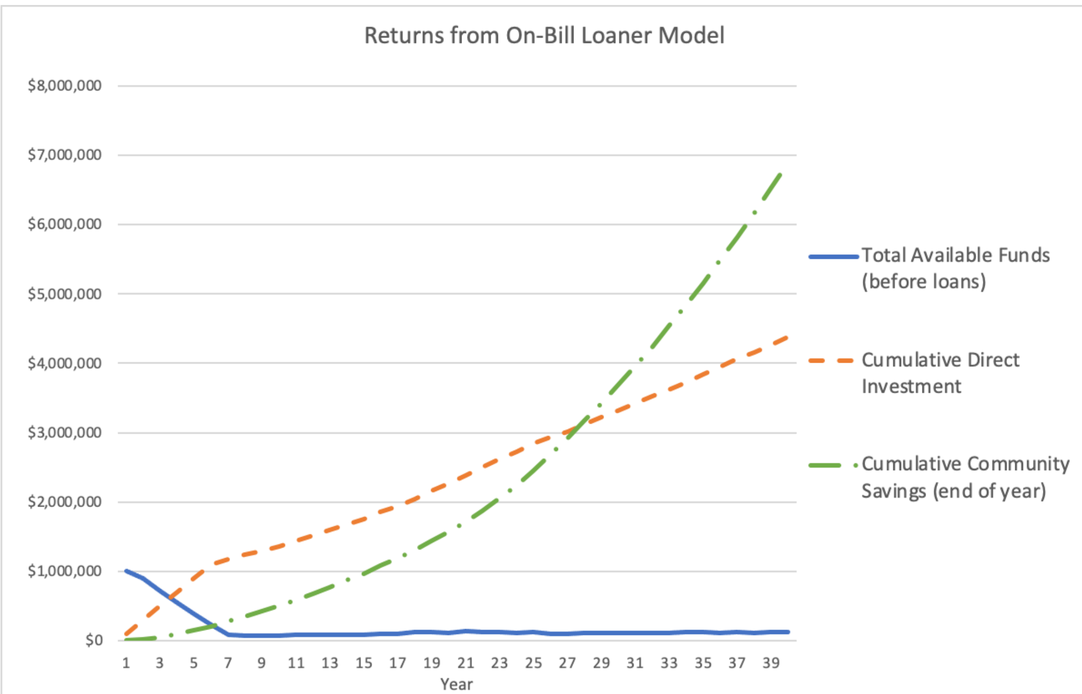

Figure 2.2 Estimated returns under the on-bill loaner model

Cumulative community savings continues to grow at an increasing rate, and unlike in the solar cost sharing model, does not start out with net negative community savings. This is due to the green bank footing the bill for the upfront costs, rather than requiring the organization to pay a portion of the initial costs. Over a 40 year period, cumulative community savings grows to $6,891,354, which is considerable, but also 26% less than the 40 year cumulative community savings in the solar cost sharing model.

The rate at which cumulative direct investment grows is steady for the first 6 years as the green bank maxes out its investments with 10 new yearly projects in years 2 through 6, but that rate slows in year 7 as the number of new projects the green bank can take on becomes limited by the equilibrium total available funds.

Loan + Grant Model

In the loan + grant model, the green bank provides an entity with a loan (in a manner similar to the on-bill loaner model) but also provides the entity with a grant. This model is based on the ConserFund Plus program run by the South Carolina Energy Office.[8] In this iteration of the model, the loan has a payback period of 15 years and an interest rate of 1.5%. The loan is 10% of the project cost.

Like the on-bill loaner model, the green bank's total available funds declines at first, then after year 9, it levels off around $90,000 at the beginning of each year. Also like the on-bill loaner model, the yearly number of new projects starts off high, then quickly levels out between 4 to 6. Unlike the prior two models, however, the green bank's net funds decrease each year.

[8] "ConserFund Plus Basics". (2015). South Carolina Energy Office. http://www.energy.sc.gov/files/view/ConserFundPlusBasics.pdf

Table 2.3 Parameters for the loan + grant model

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
Interest Rate	1.50%
Total Payback Period (months)	180
Total Payback Period (years)	15.0
Percent Grant	10%
Average monthly payment	$101.50

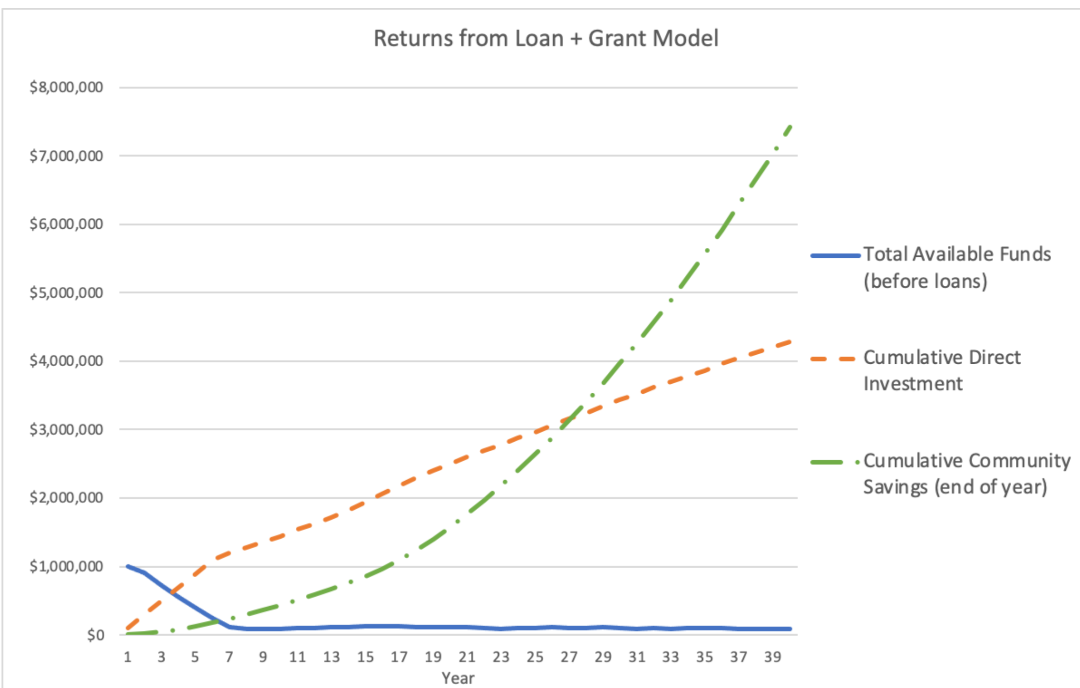

Figure 2.3 Estimated returns under the loan + grant model

This, of course, is unsustainable in the long term, and in order for the green bank to at least maintain its initial endowment, it would require periodical additions from outside sources. If the green bank were to raise interest rates enough to maintain its endowment, it would offset the grant amount, effectively eliminating the grant from the model and making it more akin to the on-bill loaner model.

Cumulative community savings continues to grow at an increasing rate, and like the on-bill loaner model, it does not start out with net negative community savings. Over a 40 year period, cumulative community savings grows to $7,417,990, which is higher because of both the lower interest rate and the grant.

The rate at which cumulative direct investment grows is steady for the first 6 years as the green bank maxes out its investments with 10 new yearly projects in years 2 through 6, but that rate slows in year 7.

Chapter 3: Conclusion

A green bank in South Carolina could take on a variety of different roles and offer multiple financing options for the development of green capital throughout the state. The possibilities are by no means limited to the programs present in the three models included in this analysis; these models are only intended to illustrate a few different financing programs and their returns to the green bank and to the community it serves over time. Also note that as a green bank is establishing itself, it may choose to focus on a single project type, as in these models; however, as time goes on, it may feel more comfortable branching out and running a variety of programs as its administrative capabilities and capital stock grow over time.

Of the three models analyzed in this paper, the solar sharing model may be more appropriate for communities that have some financial capital for their portion of the initial investment; however, for communities with small to no capital reserves, the on-bill loaner program may be more appropriate, as cumulative community savings is never negative. Both programs, however, are able to operate long-term without yearly additions beyond administrative costs. In contrast, the loan + grant model would require yearly additions beyond the green bank's administrative costs because each grant would function as a subsidy which wouldn't return to the green bank. The grant would also serve as an economic stimulus to the recipients, but without additional yearly funding to cover such grants, a green bank would be chipping away at its own ability to fund green capital.

Ultimately, a South Carolina green bank would have multiple means for facilitating the development of climate conscious capital and infrastructure, but as the models in this paper illustrate, the question of which programs would be most effective in South Carolina's energy landscape would depend on which communities are most willing to participate, what kind of financial commitment those communities are open to, and the amounts of initial and continuous funding the green bank would receive.

For further research, one might incorporate data on administrative learning curves and marginal administrative costs in order to better assess the administrative capacity of the green bank; as time goes on and the green bank administrators become more experienced with the requirements of managing green bank projects, the marginal administrative costs of green bank projects will likely decrease.

Further expansion upon these models could also include eliminating the 10-project cap in each model (particularly the solar cost sharing model, since it's the only model that hits that limit under the current parameters). That limitation was only included this time for simplicity in modeling. Parameters like interest rates and maturity dates could also be changed to allow for more direct, quantitative comparisons between models (as opposed to the qualitative comparisons for which these models were intended).

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Appendix A: Data Tables

Table A.1 Data table for solar cost sharing model

Year	Net Funds (start of year)	Total Available Funds (before loans)	# of projects funded	Total Available Funds (after loans)	Cumulative total projects funded	Cumulative Direct Investment	Cumulative Community Savings (end of year)
1	$1,000,000	$1,000,000	5	$915,000	5	$85,000	-$13,350
2	$1,017,000	$924,350	10	$754,350	15	$255,000	-$38,400
3	$1,051,000	$782,400	10	$612,400	25	$425,000	-$60,150
4	$1,085,000	$659,150	10	$489,150	35	$595,000	-$78,600
5	$1,119,000	$554,600	10	$384,600	45	$765,000	-$93,750
6	$1,153,000	$468,750	10	$298,750	55	$935,000	-$105,600
7	$1,187,000	$401,600	10	$231,600	65	$1,105,000	-$114,150
8	$1,221,000	$353,150	10	$183,150	75	$1,275,000	-$119,400
9	$1,255,000	$323,400	10	$153,400	85	$1,445,000	-$121,350
10	$1,289,000	$312,350	10	$142,350	95	$1,615,000	-$120,000
11	$1,323,000	$320,000	10	$150,000	105	$1,785,000	-$115,350
12	$1,357,000	$345,571	10	$175,571	115	$1,955,000	-$98,050
13	$1,391,000	$379,713	10	$209,713	125	$2,125,000	-$58,750
14	$1,425,000	$413,854	10	$243,854	135	$2,295,000	$2,550
15	$1,459,000	$447,996	10	$277,996	145	$2,465,000	$85,850
16	$1,493,000	$482,138	10	$312,138	155	$2,635,000	$191,150
17	$1,527,000	$516,279	10	$346,279	165	$2,805,000	$318,450
18	$1,561,000	$550,421	10	$380,421	175	$2,975,000	$467,750
19	$1,595,000	$584,563	10	$414,563	185	$3,145,000	$639,050
20	$1,629,000	$618,704	10	$448,704	195	$3,315,000	$832,350
21	$1,663,000	$652,846	10	$482,846	205	$3,485,000	$1,047,650
22	$1,697,000	$686,988	10	$516,988	215	$3,655,000	$1,284,950
23	$1,731,000	$721,129	10	$551,129	225	$3,825,000	$1,544,250
24	$1,765,000	$755,271	10	$585,271	235	$3,995,000	$1,825,550
25	$1,799,000	$789,412	10	$619,412	245	$4,165,000	$2,128,850
26	$1,833,000	$823,554	10	$653,554	255	$4,335,000	$2,454,150
27	$1,867,000	$857,696	10	$687,696	265	$4,505,000	$2,801,450
28	$1,901,000	$891,837	10	$721,837	275	$4,675,000	$3,170,750
29	$1,935,000	$925,979	10	$755,979	285	$4,845,000	$3,562,050
30	$1,969,000	$960,121	10	$790,121	295	$5,015,000	$3,975,350
31	$2,003,000	$994,262	10	$824,262	305	$5,185,000	$4,410,650
32	$2,037,000	$1,028,404	10	$858,404	315	$5,355,000	$4,867,950
33	$2,071,000	$1,062,546	10	$892,546	325	$5,525,000	$5,347,250
34	$2,105,000	$1,096,688	10	$926,687	335	$5,695,000	$5,848,550
35	$2,139,000	$1,130,829	10	$960,829	345	$5,865,000	$6,371,850
36	$2,173,000	$1,164,971	10	$994,971	355	$6,035,000	$6,917,150
37	$2,207,000	$1,199,113	10	$1,029,113	365	$6,205,000	$7,484,450
38	$2,241,000	$1,233,254	10	$1,063,254	375	$6,375,000	$8,073,750
39	$2,275,000	$1,267,396	10	$1,097,396	385	$6,545,000	$8,685,050
40	$2,309,000	$1,301,538	10	$1,131,538	395	$6,715,000	$9,318,350

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
% of initial investment to recoup	120%
Principal Payback Period (months)	109
Principal Payback Period (years, rounded up)	9.09
Total Payback Period (months)	131
Total Payback Period (years)	10.91
GB's % of costs and savings	85%

Table A.2 Data table for on-bill loaner model

Year	Net Funds (start of year)	Total Available Funds (before loans)	# of projects funded	Total Available Funds (after loans)	Cumulative total projects funded	Cumulative Direct Investment	Community Savings (end of year)
1	$1,000,000	$1,000,000	5	$900,000	5	$100,000	$5,825
2	$1,003,500	$905,175	10	$705,175	15	$300,000	$23,300
3	$1,010,500	$720,700	10	$520,700	25	$500,000	$52,425
4	$1,017,500	$546,575	10	$346,575	35	$700,000	$93,200
5	$1,024,500	$382,800	10	$182,800	45	$900,000	$145,625
6	$1,031,500	$229,375	10	$29,375	55	$1,100,000	$209,700
7	$1,038,500	$86,300	4	$6,300	59	$1,180,000	$278,435
8	$1,041,300	$67,365	3	$7,365	62	$1,240,000	$350,665
9	$1,043,400	$71,535	3	$11,535	65	$1,300,000	$426,390
10	$1,045,500	$78,810	3	$18,810	68	$1,360,000	$505,610
11	$1,047,600	$89,190	4	$9,190	72	$1,440,000	$589,490
12	$1,050,400	$83,710	4	$3,710	76	$1,520,000	$678,030
13	$1,053,200	$82,370	4	$2,370	80	$1,600,000	$771,230
14	$1,056,000	$85,170	4	$5,170	84	$1,680,000	$869,090
15	$1,058,800	$92,110	4	$12,110	88	$1,760,000	$971,610
16	$1,061,600	$103,190	5	$3,190	93	$1,860,000	$1,079,955
17	$1,065,100	$99,445	4	$19,445	97	$1,940,000	$1,192,960
18	$1,067,900	$119,840	5	$19,840	102	$2,040,000	$1,311,790
19	$1,071,400	$125,410	6	$5,410	108	$2,160,000	$1,437,610
20	$1,075,600	$117,190	5	$17,190	113	$2,260,000	$1,569,255
21	$1,079,100	$134,145	6	$14,145	119	$2,380,000	$1,712,634
22	$1,083,300	$132,135	6	$12,135	125	$2,500,000	$1,872,921
23	$1,087,500	$125,985	6	$5,985	131	$2,620,000	$2,050,549
24	$1,091,700	$115,695	5	$15,695	136	$2,720,000	$2,244,351
25	$1,095,200	$120,230	6	$230	142	$2,840,000	$2,455,494
26	$1,099,400	$100,625	5	$625	147	$2,940,000	$2,682,811
27	$1,102,900	$95,845	4	$15,845	151	$3,020,000	$2,919,446
28	$1,105,700	$111,065	5	$11,065	156	$3,120,000	$3,165,098
29	$1,109,200	$108,355	5	$8,355	161	$3,220,000	$3,419,679
30	$1,112,700	$107,715	5	$7,715	166	$3,320,000	$3,683,190
31	$1,116,200	$109,145	5	$9,145	171	$3,420,000	$3,956,580
32	$1,119,700	$111,610	5	$11,610	176	$3,520,000	$4,239,935
33	$1,123,200	$115,110	5	$15,110	181	$3,620,000	$4,533,255
34	$1,126,700	$119,645	5	$19,645	186	$3,720,000	$4,836,540
35	$1,130,200	$125,215	6	$5,215	192	$3,840,000	$5,150,955
36	$1,134,400	$112,855	5	$12,855	197	$3,940,000	$5,476,284
37	$1,137,900	$120,495	6	$495	203	$4,060,000	$5,812,829
38	$1,142,100	$110,205	5	$10,205	208	$4,160,000	$6,160,287
39	$1,145,600	$119,915	5	$19,915	213	$4,260,000	$6,519,695
40	$1,149,100	$128,590	6	$8,590	219	$4,380,000	$6,891,354

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
Interest Rate	3.50%
Total Payback Period (years)	20.0
Total Payback Period (months)	240
Average monthly payment	$86.25

Table A.3 Data table for loan + grant model

Year	Net Funds (start of year)	Total Available Funds (before loans)	# of projects funded	Total Available Funds (after loans)	Cumulative total projects funded	Cumulative Direct Investment	Cumulative Community Savings (end of year)
1	$1,000,000	$1,000,000	5	$900,000	5	$100,000	$4,910
2	$991,350	$906,090	10	$706,090	15	$300,000	$19,640
3	$974,050	$724,360	10	$524,360	25	$500,000	$44,190
4	$956,750	$554,810	10	$354,810	35	$700,000	$78,560
5	$939,450	$397,440	10	$197,440	45	$900,000	$122,750
6	$922,150	$252,250	10	$52,250	55	$1,100,000	$176,760
7	$904,850	$119,240	5	$19,240	60	$1,200,000	$235,680
8	$896,200	$92,320	4	$12,320	64	$1,280,000	$298,528
9	$889,280	$90,272	4	$10,272	68	$1,360,000	$365,304
10	$882,360	$93,096	4	$13,096	72	$1,440,000	$436,008
11	$875,440	$100,792	5	$792	77	$1,540,000	$511,622
12	$866,790	$94,578	4	$14,578	81	$1,620,000	$591,164
13	$859,870	$113,236	5	$13,236	86	$1,720,000	$675,616
14	$851,220	$117,984	5	$17,984	91	$1,820,000	$764,978
15	$842,570	$128,822	6	$8,822	97	$1,940,000	$860,232
16	$832,190	$126,968	6	$6,968	103	$2,060,000	$966,961
17	$821,810	$126,332	6	$6,332	109	$2,180,000	$1,091,254
18	$811,430	$120,824	6	$824	115	$2,300,000	$1,233,619
19	$801,050	$110,444	5	$10,444	120	$2,400,000	$1,393,074
20	$792,400	$113,974	5	$13,974	125	$2,500,000	$1,569,619
21	$783,750	$111,414	5	$11,414	130	$2,600,000	$1,763,254
22	$775,100	$102,764	5	$2,764	135	$2,700,000	$1,968,396
23	$766,450	$94,114	4	$14,114	139	$2,780,000	$2,182,440
24	$759,530	$105,464	5	$5,464	144	$2,880,000	$2,406,266
25	$750,880	$98,032	4	$18,032	148	$2,960,000	$2,638,892
26	$743,960	$110,600	5	$10,600	153	$3,060,000	$2,882,417
27	$735,310	$103,168	5	$3,168	158	$3,160,000	$3,135,825
28	$726,660	$96,954	4	$16,954	162	$3,240,000	$3,399,149
29	$719,740	$109,522	5	$9,522	167	$3,340,000	$3,673,474
30	$711,090	$102,090	5	$2,090	172	$3,440,000	$3,959,915
31	$702,440	$93,440	4	$13,440	176	$3,520,000	$4,257,592
32	$695,520	$102,354	5	$2,354	181	$3,620,000	$4,567,487
33	$686,870	$90,050	4	$10,050	185	$3,700,000	$4,888,617
34	$679,950	$95,310	4	$15,310	189	$3,780,000	$5,219,868
35	$673,030	$99,352	4	$19,352	193	$3,860,000	$5,561,137
36	$666,110	$102,176	5	$2,176	198	$3,960,000	$5,913,405
37	$657,460	$85,000	4	$5,000	202	$4,040,000	$6,275,692
38	$650,540	$86,606	4	$6,606	206	$4,120,000	$6,646,879
39	$643,620	$88,212	4	$8,212	210	$4,200,000	$7,027,984
40	$636,700	$88,600	4	$8,600	214	$4,280,000	$7,417,990

Starting Amount	$1,000,000
Yearly Addition	$0
Yearly Administrative Costs	$0
Average Project Cost	$20,000
Average Yearly Energy Savings	$2,200
Interest Rate	1.50%
Total Payback Period (years)	15.0
Percent Grant	10%
Total Payback Period (months)	180
Average monthly payment	$101.50