

APPENDIX A
for

WHEN ENERGY ISSUES ARE LAND USE ISSUES:
ESTIMATING PREFERENCES FOR UTILITY-SCALE SOLAR ENERGY SITING

(for online publication only)

This appendix provides supplemental figures and tables to our main results, as well as our complete survey instrument.

Figure A1 presents the proportion of respondents that chose the status quo and the solar development plans across different types of land use. For forested land, more respondents chose the status quo option over solar development. For brownfield and commercial land types, a large majority (almost 80%) choose solar development over the status quo option.

Figure A2 represents the importance of each attribute for the respondents while making their decisions. Land use is the most important, which underscores the importance of including current land use in the context of solar siting. *Setback* is the least important, which explains the insignificant coefficient associated with it across all models.

Table A1 reports the demographic distribution for these three variables in our unweighted sample, the population, and the weighted sample. The unweighted sample means differ from the population means across all groups, but the application of survey weights balances the proportions exactly.

Table A2 presents random parameters logit regression estimates derived by estimating Equation (8) on two types of lands: desirable (farmland and forest), and undesirable (commercial and brownfield) in Columns 1 and 2, respectively. We find that the coefficient on *Acres* is weakly significant (at the 10% level) for farm and forest land types, but highly significant (at the 1% level) and positive for commercial and brownfield land types, implying that respondents prefer larger solar installations on undesirable land types than desirable ones. The coefficient on *PartVisibility* is negative in both columns, suggesting that respondents dislike partly visible installations on all land types, though the coefficient is significant only for the farm and forest column (at the 1% level). Fully visible installations are disliked regardless of current land use, implying that solar installations cause significant visual disamenities wherever they may be sited. The coefficient on *Setback* is positive and significant (at the 5% level) for commercial and brownfield land types only. This could represent respondents' willingness to remain distant from undesirable land types. The coefficient on *Probability* is negative and significant at the 1% level, similar to our main results, implying that as the probability of future residential development increases, people become less likely to choose the status quo option. The positive and significant coefficients on the *Farm* \times *ASC* and *Forest* \times *ASC* interaction terms, and the negative and significant ones on the *Brownfield* \times *ASC* and *Commercial* \times *ASC* terms are in

line with our main results: that respondents dislike solar installations on farms and forest lands but support their construction on commercial and brownfield lands.

Table A3 presents the coefficients derived from estimating a basic model with no land use-ASC interaction terms. The coefficients on *Acres*, *PartVisibility*, and *FullVisibility*, are qualitatively similar to our main results, with respondents demonstrating a liking for large installations that are not visible. The sign of the *Setback* coefficient is inconsistent across models, though it is insignificant throughout implying that the average respondent is unaffected by setback distance. *Probability* is significant and positive, which is in contrast to our main results, but makes sense in this context. Since this model does not differentiate between land use, the only way respondents’ preference for keeping the status-quo for farm and forest lands can be captured is by having a positive coefficient for *Probability*, which takes positive values only when the land use is forest or farmland. The *ASC* coefficient is inconsistent across models in both sign and significance. It is positive and insignificant in the CL model, negative and significant in the HCL and RPL models. The negative sign indicates that respondents prefer to choose a solar development plan over maintaining the status quo. This result is not surprising, given that over 80% of the subjects in our sample support solar energy. However, the large and significant SD value in the RPL model indicates that there is some heterogeneity in their preferences that remains unexplained, which we examine in our main specification with land use interactions.

Table A4 presents welfare estimates derived from our basic model with delta standard errors. As with our main model, we consider a 10 acre solar installation with full visibility, 150 feet setback distance and 0% probability of future residential development. The MWTP values for *Acres*, *PartVisibility*, and *FullVisibility*, are quite similar in both sign and magnitude compared to our main results. For *Setback*, the MWTP is negative for the CL and the RPL models, and positive for the HCL model, though insignificant throughout. We find that respondents’ MWTP for *Probability* is positive and significant, a result that is opposite to our main results. Finally, without accounting for the differences in land use, we find that our CV estimates are inconsistent across different models. The CL estimate is negative and significant at the 1% level, indicating that respondents need to be compensated \$8.29 for the construction of the particular solar installation under consideration. However, the CLH estimate implies a positive WTP of \$4.27 per month for the same kind of installation (though it is insignificant). The RPL value is negative and insignificant. Not only do these results underestimate the compensation levels for when construction happens on forest lands, but also the respondents’ positive WTP for solar development on commercial land and brownfields.

Tables A5-A11 present results using a variety of different model specifications. Table A5 presents a model estimated in willingness-to-pay space. Tables A6 and A7 present model results and welfare estimates from a variety of mixed logit specifications that allow for correlation between estimated preference distributions. Tables A8 and A9 present model results and welfare estimates from a generalized multinomial logit (GMNL) model.

Table A10 presents coefficients derived from a latent class model. We find that a 3-class model minimizes the BIC, and so use this as the specification of choice. There is clear preference heterogeneity between classes, which is true for attributes but is especially so in the alternative-

specific constant-land use interactions, suggesting that compensating variation estimates will likely be very different between classes.

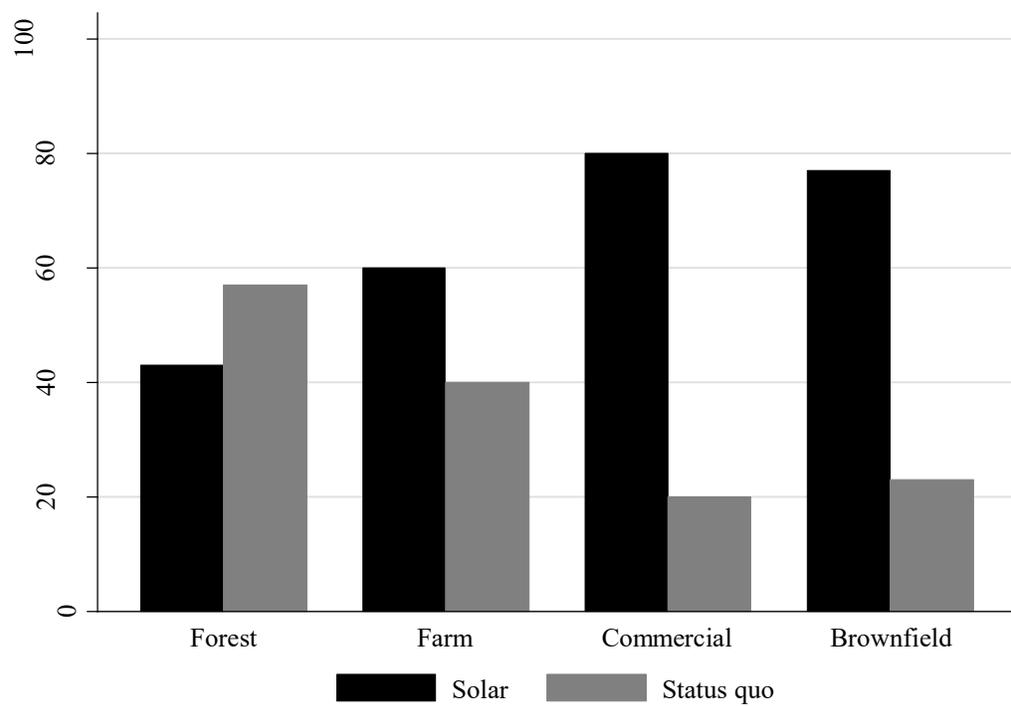
Table A11 presents sample-weighted average compensating variation for each land use estimated using class shares and parameter estimates from the latent class model. We find comparable patterns in the latent class model (column 4) to the models in our paper (columns 1 – 3). The main difference between this and our other models is that the latent class model generates higher average willingness-to-pay estimates for commercial and brownfield land uses. Both AIC and BIC suggest that, while the latent class model is a superior fit to the data than conditional and heteroskedastic logit models, it is not as good as the random parameters logit.

Table A12 examines heterogeneity in preferences by rural/urban residence by interacting the land use-ASC terms with dummy variables *Rural* and *Urban* equal to 1 indicating rural or urban residence, respectively. We report CL, HCL, and RPL estimates and standard errors, along with p values for tests examining whether coefficients for rural and urban preferences differ. No differences are statistically significant at the 95% confidence level, though urban-rural differences for farmland take the sign one would expect (with rural residents more hesitant to develop on farmland than their urban counterparts) and are statistically significant at the 90% confidence level in two of our three models (though not in our preferred model, the random parameters logit). This is fairly weak evidence of a rural-urban divide in preferences, though in the two models where it is marginally significant it translates to rural residents having a CV for development on farmland about \$7 per month lower than their urban counterparts.

Table A13 replicates Table 6 of our main manuscript but assumes electricity generation from a 6 MW installation. The incentives are smaller than our main results for all levels of aggregation but may still be realistic since levelized costs go down as capacity increases.

Following the Figures and Tables, we present our survey instrument. This includes one set of the six choice task questions, supplementing Figure 1 in the main text, as well as all other questions used in the analysis.

Figure A1: Alternative choice by land use



Notes: N = 1,298 for forest, 1,305 for Farm, 652 for commercial, and 653 for brownfield.

Figure A2: Importance of attributes while making choices

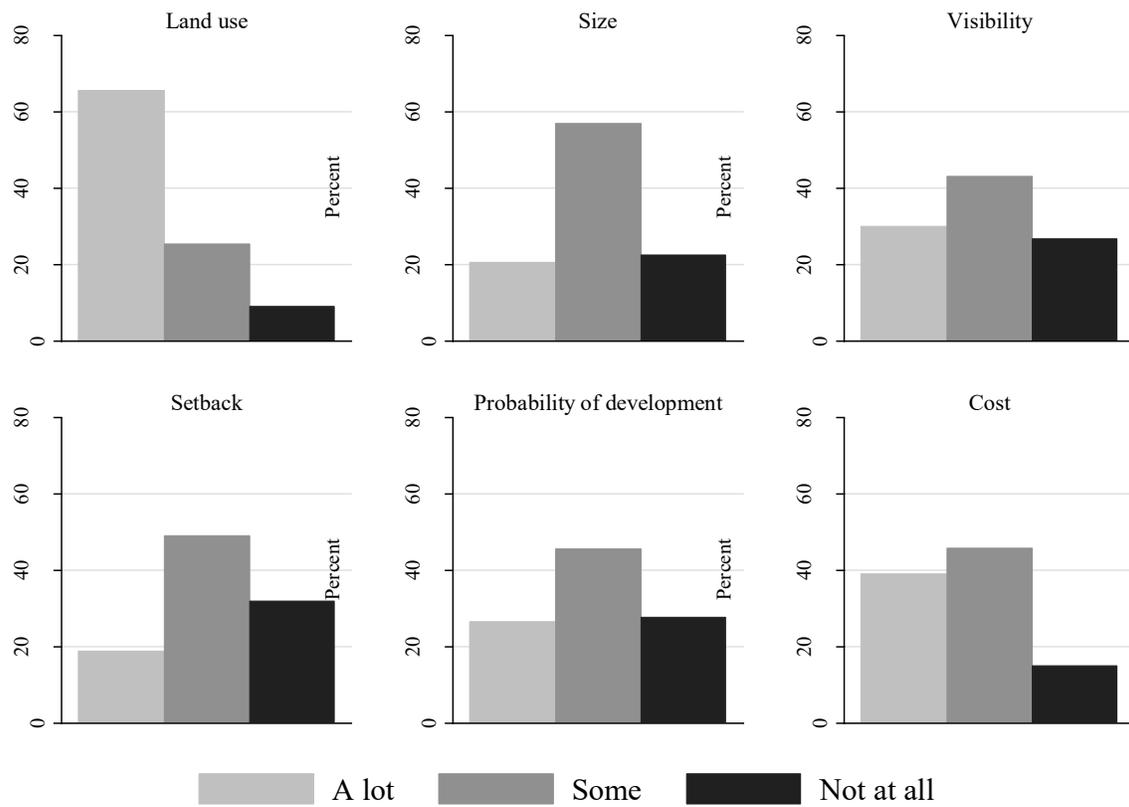


Table A1: Summary statistics for sampling weighting variables

| | | Unweighted sample | Population | Weighted sample |
|------------------------|-----------------|-------------------|------------|-----------------|
| Location | Rural (%) | 73.32 | 50.62 | 50.62 |
| | Urban (%) | 26.68 | 49.38 | 49.38 |
| Age | 18 - 39 (%) | 23.93 | 33.69 | 33.69 |
| | 40 - 59 (%) | 33.84 | 31.83 | 31.83 |
| | 60+ (%) | 42.23 | 34.49 | 34.49 |
| Party | Democrat (%) | 34.76 | 39.73 | 39.73 |
| | Republican (%) | 19.21 | 12.20 | 12.20 |
| | Independent (%) | 46.04 | 48.07 | 48.07 |
| Number of observations | | 656 | 778,666 | 656 |

Notes: Data come from Rhode Island voter registration database. All values are represented as percentages of the total number of observations.

Table A2: Attribute coefficients estimated separately by land types

| Variable | Greenfield | | Non-greenfield | |
|---------------------|------------|----------|----------------|----------|
| | Mean | SD | Mean | SD |
| Acres | -0.010* | 0.076*** | 0.043*** | 0.077*** |
| | (0.006) | (0.009) | (0.008) | (0.011) |
| PartVisibility | -0.374*** | 0.164 | -0.032 | 1.056*** |
| | (0.127) | (0.414) | (0.178) | (0.405) |
| FullVisibility | -0.914*** | 1.315*** | -0.567*** | 1.212** |
| | (0.173) | (0.253) | (0.210) | (0.508) |
| Setback (00's ft) | -0.003 | 0.471*** | 0.181** | 0.745*** |
| | (0.079) | (0.146) | (0.086) | (0.226) |
| Probability | -0.023*** | 0.056*** | | |
| | (0.006) | (0.013) | | |
| Cost (\$/month) | -0.067*** | | -0.111*** | |
| | (0.005) | | (0.013) | |
| Interactions | | | | |
| Farm × ASC | -0.260 | 2.838*** | | |
| | (0.278) | (0.467) | | |
| Forest × ASC | 1.813*** | 2.835*** | | |
| | (0.323) | (0.489) | | |
| Brownfield × ASC | | | -1.209*** | -0.050 |
| | | | (0.278) | (0.193) |
| Commercial × ASC | | | -1.625*** | 0.030 |
| | | | (0.276) | (0.128) |
| Observations | 7,809 | | 3,915 | |
| Log-likelihood | -2096.501 | | -1133.006 | |
| AIC | 4223.002 | | 2292.013 | |
| BIC | 4327.448 | | 2373.556 | |

Note: All estimates are derived from random parameters logit regressions. Acres refers to the size of the solar installation in acres. PartVisibility and FullVisibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per household per month. Sample weights are applied and constructed using stepwise adjustment on three variables: age, political affiliation, and rural/urban residence. Standard errors, clustered by respondent, are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A3: Attribute coefficients from logit regressions for basic specification without prior-land-use-specific ASC

| Variable | Conditional | Heteroscedastic | Random parameters logit | |
|---------------------------|----------------------|----------------------|-------------------------|---------------------|
| | Logit | Logit | Mean | SD |
| Acres | 0.010*** (0.002) | 0.024*** (0.004) | 0.012*** (0.002) | 0.020*** (0.004) |
| PartVisibility | -0.046 (0.060) | -0.029 (0.105) | -0.081 (0.067) | 0.004 (0.068) |
| FullVisibility | -0.276*** (0.070) | -0.418*** (0.117) | -0.372*** (0.085) | 0.428** (0.200) |
| Setback (00's ft) | -0.026 (0.030) | 0.032 (0.050) | -0.031 (0.039) | 0.184* (0.105) |
| Probability | 0.016*** (0.002) | 0.061*** (0.013) | 0.024*** (0.003) | 0.046*** (0.008) |
| ASC | 0.053 (0.096) | -0.434** (0.153) | -0.236** (0.119) | 1.274*** (0.121) |
| Cost (\$/month) | -0.033*** (0.002) | -0.071*** (0.007) | -0.039*** (0.003) | |
| Heteroskedastic variables | | | | |
| Farm | | -1.063*** (0.206) | | |
| Forest | | -1.263*** (0.153) | | |
| Commercial | | -0.005 (0.130) | | |
| Choices | 11,724 | 11,724 | 11,724 | |
| Respondents | 656 | 656 | 656 | |
| Log likelihood | -3976.756 | -3930.152 | -3721.082 | |
| AIC | 7967.51 | 7880.30 | 7468.17 | |
| BIC | 8019.10 | 7954.00 | 7563.97 | |

Note: Acres refers to the size of the solar installation in acres. Part visibility and Full visibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per person per month. Standard errors, clustered by respondent, are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A4: Welfare estimates for solar attributes without prior-land-use-specific ASC

| Attribute | Conditional logit | Heteroskedastic logit | Random parameters logit |
|-------------------|-------------------------------|------------------------------|-------------------------------|
| Acres | \$0.30*** [0.17, 0.43] | \$0.34*** [0.21, 0.47] | \$0.29*** [0.17, 0.42] |
| PartVisibility | -\$1.42 [-5.05, 2.20] | -\$0.41 [-3.51, 2.70] | -\$2.05 [-5.37, 1.28] |
| FullVisibility | -\$8.47*** [-12.81, -4.14] | -\$5.92*** [-9.43, -2.41] | -\$9.46*** [-13.62, -5.30] |
| Setback (00's ft) | -\$0.80 [-2.55, 0.94] | \$0.45 [-0.86, 1.77] | -\$0.78 [-2.58, 1.01] |
| Probability | \$0.50*** [0.37, 0.62] | \$0.87*** [0.40, 1.34] | \$0.60*** [0.42, 0.77] |
| Total WTP | -\$8.29*** [-13.69, -2.90] | \$4.27 [-8.37, 16.90] | -\$1.43 [-7.19, 3.83] |

Notes: Welfare estimates are in USD per person per month. The total WTP estimates assume a 10 acre, fully visible installation with a setback of 150 feet, and a 0% probability of development in the future. Confidence intervals errors, calculated using the bootstrap method (1000 replications), are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A5: Attribute coefficients from WTP-space model

| Variable | Mean | SD |
|----------------------|-----------------------|-----------------------|
| Acres | 0.185*** (0.047) | 0.673*** (0.057) |
| PartVisibility | -0.966 (1.249) | 1.861 (4.947) |
| FullVisibility | -7.324*** (1.880) | -10.537*** (3.190) |
| Setback (00's ft) | 0.944 (0.664) | 5.368*** (0.800) |
| Probability | -0.235*** (0.056) | 1.147*** (0.126) |
| Interactions | | |
| Farm × ASC | 13.151*** (2.953) | |
| Forest × ASC | 37.224*** (3.738) | |
| Brownfield × ASC | -18.522*** (2.947) | |
| Commercial × ASC | -22.559*** (3.122) | |
| Cost (\$/month) | -2.685*** (0.082) | |
| Log-pseudolikelihood | | -3374.204 |
| Observations | | 11,724 |

Note: Acres refers to the size of the solar installation in acres. Part visibility and Full visibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per person per month. Cluster robust standard errors are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A6: Attribute coefficients from correlated mixed logit models

| Variable | Fixed cost, normal distribution | Random cost, normal distribution | Random cost, log normal distribution |
|-------------------|---------------------------------|----------------------------------|--------------------------------------|
| Acres | 0.019*** (0.004) | 0.023*** (0.004) | 0.023*** (0.005) |
| PartVisibility | -0.135 (0.084) | -0.202** (0.100) | -0.247** (0.101) |
| FullVisibility | -0.467*** (0.136) | -0.690*** (0.158) | -0.641*** (0.123) |
| Setback (00's ft) | 0.123*** (0.042) | 0.159*** (0.060) | 0.196*** (0.060) |
| Probability | -0.026*** (0.009) | -0.043*** (0.011) | -0.062** (0.030) |
| Interactions | | | |
| Farm × ASC | 0.459 (0.433) | 1.163** (0.576) | 0.482 (0.695) |
| Forest × ASC | 3.090*** (0.498) | 4.571*** (0.693) | 4.995*** (0.845) |
| Brownfield × ASC | -2.273*** (0.816) | -2.747*** (0.685) | -3.662*** (1.067) |
| Commercial × ASC | -2.403*** (0.902) | -3.345*** (0.592) | -4.861*** (1.258) |
| Cost (\$/month) | -0.061*** (0.005) | -0.108*** (0.010) | -2.780*** (0.108) |
| Observations | 11,724 | 11,724 | 11,724 |
| Log Likelihood | -3,186.90 | -3070.96 | -3052.4 |
| AIC | 6483.805 | 6271.921 | 6203.031 |
| BIC | 6889.122 | 6750.931 | 6682.041 |

Note: Acres refers to the size of the solar installation in acres. Part visibility and Full visibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per person per month. Cluster robust standard errors are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A7: Welfare estimates for solar attributes from correlated mixed logit models

| Attribute | Normal cost | Random cost | Random cost, In transformed |
|------------------------------|-----------------------------------|-----------------------------------|------------------------------------|
| Panel A: Marginal WTP | | | |
| Acres | \$0.31*** [0.188, 0.426] | \$0.22*** [0.140, 0.293] | \$0.38*** [0.218, 0.536] |
| PartVisibility | -\$2.19 [-4.869, 0.482] | -\$1.87** [-3.659, -0.083] | -\$3.99** [-7.267, -0.709] |
| FullVisibility | -\$7.60*** [-11.917, -3.289] | -\$6.40*** [-9.011, -3.791] | -\$10.33*** [-14.596, -6.073] |
| Setback | \$2.00*** [0.658, 3.351] | \$1.48*** [0.428, 2.527] | \$3.16*** [1.266, 5.054] |
| Probability | -\$0.42*** [-0.687, -0.151] | -\$0.40** [-0.579, -0.222] | -\$0.99** [-1.977, -0.008] |
| Panel B: Total WTP | | | |
| Farmland | -\$9.00 [-21.452, 3.448] | -\$12.80** [-23.329, -2.279] | -\$9.60 [-30.918, 11.714] |
| Forest | -\$51.82*** [-65.733, -37.900] | -\$44.41*** [-53.923, -34.905] | -\$82.36*** [-109.870, -54.845] |
| Commercial | \$37.58*** [8.808, 66.345] | \$29.01*** [17.752, 40.264] | \$76.55*** [30.627, 122.467] |
| Brownfield | \$35.47*** [8.514, 62.424] | \$23.46*** [10.967, 35.953] | \$57.22*** [18.649, 95.788] |

Notes: Welfare estimates are in USD per household per month. Estimates in Panel A represent marginal WTP values. In Panel B, the estimates represent total WTP values and assume a 10 acre, fully visible installation with a setback of 150 feet, and a 0% probability of development in the future. In both panels, delta standard errors are calculated from 1000 replications.

Table A8: Attribute coefficients from GMNL regressions for interaction model

| Independent variables | Mean | SD |
|-----------------------|----------------------|---------------------|
| Acres | 0.023*** (0.008) | -0.065** (0.030) |
| PartVisibility | -0.136 (0.139) | 0.137 (0.207) |
| FullVisibility | -0.759** (0.300) | 0.911* (0.536) |
| Setback (00's ft) | 0.109 (0.073) | -0.535 (0.384) |
| Probability | -0.050*** (0.016) | 0.098*** (0.032) |
| Interactions | | |
| Farm × ASC | 1.434 (1.896) | 6.353*** (1.772) |
| Forest × ASC | 5.423** (2.526) | 6.650* (3.821) |
| Brownfield × ASC | -2.050** (1.013) | 0.593 (0.454) |
| Commercial × ASC | -2.457** (1.160) | 0.683 (0.513) |
| Cost (\$/month) | -0.127 (0.081) | |
| Tau | | 1.080** (0.522) |
| Gamma | | 0.372* (0.204) |
| Observations | | 11,724 |

Note: Acres refers to the size of the solar installation in acres. Part visibility and Full visibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per person per month. Cluster robust standard errors are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A9: Welfare estimates for solar attributes from models with correlated variables

| Attribute | GMNL model |
|------------------------------|-----------------------------------|
| Panel A: Marginal WTP | |
| Acres | \$0.18 [-0.118, 0.479] |
| PartVisibility | -\$1.07 [-3.758, 1.617] |
| FullVisibility | -\$5.96** [-11.009, -0.911] |
| Setback | \$0.85 [-0.872, 2.581] |
| Probability | -\$0.40** [-0.769, -0.023] |
| Panel B: Total WTP | |
| Farmland | -\$14.13 [-32.003, 3.740] |
| Forest | -\$45.44*** [-62.770, -28.109] |
| Commercial | \$16.42*** [7.009, 25.823] |
| Brownfield | \$13.22*** [5.186, 21.258] |

Notes: Welfare estimates are in USD per person per month. Standard errors are calculated using the delta method.

Table A10: Attribute coefficients from Latent Class logit regression

| Variable | Class 1 | Class 2 | Class 3 |
|---------------------------|----------------------|----------------------|----------------------|
| Acres | 0.015*** (0.006) | 0.011* (0.006) | 0.021*** (0.003) |
| PartVisibility | 0.16 (0.162) | -0.327* (0.197) | -0.235*** (0.084) |
| FullVisibility | -0.252 (0.172) | -0.522** (0.228) | -0.523*** (0.091) |
| Setback (00's ft) | 0.248*** (0.073) | 0.05 (0.100) | 0.039 (0.040) |
| Probability | -0.021** (0.009) | -0.028*** (0.008) | -0.006 (0.005) |
| Cost (\$/month) | -0.051*** (0.006) | -0.129*** (0.015) | -0.030*** (0.003) |
| Land use ASC interactions | | | |
| Farm × ASC | 4.723*** (0.768) | 0.094 (0.402) | -0.087*** (0.318) |
| Forest × ASC | 4.828*** (0.580) | 1.668*** (0.467) | 0.696*** (0.200) |
| Brownfield × ASC | 0.134 (0.258) | -1.197*** (0.346) | -2.356*** (0.431) |
| Commercial × ASC | -0.078 (0.257) | -1.539*** (0.345) | -2.629*** (0.435) |
| Share | 0.336 | 0.23 | 0.434 |
| Choices | | 11,724 | |
| Respondents | | 656 | |
| Log likelihood | | -3282.998 | |
| AIC | | 6629.997 | |
| BIC | | 6865.817 | |

Note: Acres refers to the size of the solar installation in acres. Part visibility and Full visibility are dummy variables = 1 if a solar installation is partially or completely visible, respectively. ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Cost is in terms of USD per household per month. Sample weights are applied and constructed using stepwise adjustment on three variables: age, political affiliation, and rural/urban residence. Standard errors, clustered by respondent, are in parentheses.

*, **, *** indicate significance at the 90%, 95% and 99% level, respectively.

Table A11: Compensating Variation estimates, comparison of latent class with other models

| Attribute | Conditional logit | Heteroskedastic logit | Random parameters logit | Latent class logit |
|---------------------------|-------------------|-----------------------|-------------------------|--------------------|
| <i>Panel B: Total WTP</i> | | | | |
| Farmland | -\$22.54 | -\$23.43 | -\$13.22 | -\$21.75 |
| Forest | -\$40.58 | -\$47.62 | -\$49.04 | -\$47.87 |
| Commercial | \$20.72 | \$14.43 | \$19.32 | \$38.33 |
| Brownfield | \$15.07 | \$10.06 | \$14.91 | \$32.39 |

Notes: Welfare estimates are in USD per household per month. Estimates represent total WTP values and assume a 10 acre, fully visible installation with a setback of 150 feet, and a 0% probability of development in the future.

Table A12: Models with rural-urban heterogeneity

| Variable | | Conditional Logit | Heteroskedastic Logit | Random Parameters Logit |
|----------------|----------------------------|----------------------|--------------------------|----------------------------|
| ASC*Farm | Rural | 0.976*** (0.132) | 1.643*** (0.281) | 0.839*** (0.308) |
| | Urban | 0.661*** (0.189) | 1.155*** (0.327) | 0.005 (0.645) |
| | P value (Rural = Urban) | 0.085* | 0.090* | 0.218 |
| ASC*Forest | Rural | 1.667*** (0.132) | 3.124*** (0.473) | 3.203*** (0.425) |
| | Urban | 1.524*** (0.184) | 2.843*** (0.517) | 2.282*** (0.546) |
| | P value (Rural = Urban) | 0.42 | 0.413 | 0.093* |
| ASC*Brownfield | Rural | -0.774*** (0.135) | -0.754*** (0.157) | -1.255*** (0.185) |
| | Urban | -0.814*** (0.197) | -0.813*** (0.211) | -1.447*** (0.341) |
| | P value (Rural = Urban) | 0.853 | 0.793 | 0.606 |
| ASC*Commercial | Rural | -0.981*** (0.136) | -1.007*** (0.193) | -1.616*** (0.192) |
| | Urban | -0.814*** (0.197) | -1.134*** (0.256) | -1.973*** (0.468) |
| | P value (Rural = Urban) | 0.624 | 0.607 | 0.454 |

Note: ASC is the status-quo alternative-specific constant, or a dummy variable = 1 for the status-quo choice and 0 otherwise. Standard errors, clustered by respondent, are in parentheses. *, **, *** indicate significance at the 90%, 95% and 99% level, respectively. All other aspects of the models (i.e., other variables included in the models) mirror those in Table 4 of the manuscript.

Table A13: Developing solar siting incentives justified by residents’ preferences, 6 MW array

| Policy Action | Household WTP | Household WTP/kWh | Aggregate WTP/kWh | | |
|---------------------------------|---------------|-------------------|------------------------------------|---------------------------------|----------------------------------|
| | | | Median households within 0.5 miles | Median households within 1 mile | Median households within 3 miles |
| | (1) | (2) | (3) | (4) | (5) |
| Forest to Commercial | \$68.36 | \$0.00029 | \$0.03 | \$0.09 | \$0.82 |
| Forest to Brownfield | \$63.95 | \$0.00027 | \$0.03 | \$0.09 | \$0.77 |
| Farm to Commercial | \$32.54 | \$0.00014 | \$0.01 | \$0.04 | \$0.39 |
| Farm to Brownfield | \$28.13 | \$0.00012 | \$0.01 | \$0.04 | \$0.34 |
| Fully visible to partly visible | \$6.47 | \$0.00003 | \$0.002 | \$0.01 | \$0.08 |
| Fully visible to not visible | \$8.43 | \$0.00004 | \$0.003 | \$0.01 | \$0.10 |

Notes: Household WTP values in Column 1 are derived from Column 3 of Table 5. The WTP for switching solar development from one land type to another is calculated by subtracting the total WTP for the former land type from the latter. The WTP for converting a fully visible installation into a partly visible one is obtained by subtracting the WTP for a partly visible installation from the WTP for a fully visible installation, and then changing the sign from negative to positive. The WTP for making a fully visible installation not visible at all is the negative of the marginal WTP estimate of *FullVisibility*. Column 2 values are calculated by dividing Column 1 by expected monthly electricity generation from a 6 MW installation. Columns 3, 4, and 5 take the household WTP/kwh values from Column 2 and aggregate them over the median number of households within a radius of 0.5, 1, 3 miles respectively. Based on population density from the 2010 RI Census, we calculate the median number of households within an area equivalent to 0.5 miles from a solar array is 239, within 1 mile is 955, and within 3 miles is 8,599.