

Unless otherwise stated, column definitions are as follows

1. Treated + all available controls
2. Treated + 1:1 matched controls based on pre-treatment consumption
3. Treated + 1:1 matched controls based on building characteristics
4. Treated + 1:1 matched controls based on pre-treatment consumption and building characteristics
5. Treated only

TWFE estimates for total energy; monthly data

Dependent Variable: Model:	(1)	(2)	log(energy) (3)	(4)	(5)
<i>Variables</i>					
treated_postTRUE	-0.1571*** (0.0063)	-0.1453*** (0.0072)	-0.1512*** (0.0070)	-0.1396*** (0.0074)	-0.1608*** (0.0109)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
cons_date	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	2,882,662	429,578	429,833	429,866	210,503
R ²	0.79219	0.80557	0.81004	0.81181	0.81159
Within R ²	0.00267	0.01011	0.01134	0.00962	0.00701

Clustered (id & cons_date) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

TWFE estimates for gas; monthly data

Dependent Variable: Model:	(1)	(2)	log(gas) (3)	(4)	(5)
<i>Variables</i>					
treated_postTRUE	-0.2081*** (0.0062)	-0.1944*** (0.0076)	-0.1993*** (0.0074)	-0.1901*** (0.0078)	-0.2260*** (0.0093)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
cons_date	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	2,874,433	428,688	429,313	429,103	210,050
R ²	0.85408	0.85549	0.85894	0.86033	0.86047
Within R ²	0.00384	0.01381	0.01480	0.01352	0.01040

Clustered (id & cons_date) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

TWFE estimates for electricity; monthly data

Dependent Variable: Model:	(1)	(2)	log(elec) (3)	(4)	(5)
<i>Variables</i>					
treated_postTRUE	-0.0387*** (0.0099)	-0.0138 (0.0121)	-0.0084 (0.0123)	0.0015 (0.0117)	0.0390 (0.015)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
cons_date	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	2,908,550	432,238	432,263	432,424	211,76
R ²	0.46709	0.50410	0.49463	0.49444	0.5078
Within R ²	8.72×10^{-5}	5.66×10^{-5}	2.07×10^{-5}	7.29×10^{-7}	0.0002

Clustered (id & cons_date) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Sun + Abraham estimates

The Sun and Abraham correction is estimated by interacting a cohort dummy with a time-to-treatment dummy. In our monthly data, we observe 49 different “cohorts” (i.e., households retrofit in 49 different months). Our data has 250 different “time to treatments” (i.e., months before and after retrofit). This implies estimating a model with about 10,000 dummy variables. This is not feasible. Instead, to estimate the Sun and Abraham model, I convert to annual data first. The results first show the TWFE estimates based on annual data.

TWFE estimates for energy; annual data

Dependent Variable: Model:	(1)	(2)	log(energy) (3)	(4)	(5)
<i>Variables</i>					
treated_postTRUE	-0.1682*** (0.0060)	-0.1573*** (0.0079)	-0.1605*** (0.0077)	-0.1489*** (0.0090)	-0.1910*** (0.0086)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
conyear	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	246,541	35,175	35,165	35,178	16,419
R ²	0.80826	0.84582	0.85472	0.85053	0.85274
Within R ²	0.01388	0.06664	0.07291	0.06048	0.03305

Clustered (id & consyear) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Sun+Abraham estimates for energy; annual data

Dependent Variable: Model:	(1)	(2)	log(energy) (3)	(4)	(5)
<i>Variables</i>					
ATT	-0.1668*** (0.0037)	-0.1544*** (0.0049)	-0.1577*** (0.0047)	-0.1468*** (0.0048)	-0.0570*** (0.0092)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
conyear	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	246,541	35,175	35,165	35,178	16,419
R ²	0.80831	0.84640	0.85521	0.85139	0.85298
Within R ²	0.01414	0.07016	0.07603	0.06588	0.03463

Clustered (id & consyear) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Sun+Abraham estimates for gas; annual data

Dependent Variable: Model:	(1)	(2)	log(gas) (3)	(4)	(5)
<i>Variables</i>					
ATT	-0.1958*** (0.0042)	-0.1848*** (0.0055)	-0.1890*** (0.0053)	-0.1781*** (0.0054)	-0.0390*** (0.0055)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
conyear	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	247,154	35,234	35,244	35,248	16,460
R ²	0.82162	0.84958	0.86034	0.85334	0.85702
Within R ²	0.01857	0.08732	0.09513	0.08423	0.04636

Clustered (id & consyear) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Sun+Abraham estimates for electricity; annual data

Dependent Variable: Model:	(1)	(2)	log(elec) (3)	(4)	(5)
<i>Variables</i>					
ATT	-0.0495*** (0.0071)	-0.0265** (0.0093)	-0.0195* (0.0101)	-0.0146 (0.0093)	-0.0172 (0.0229)
<i>Fixed-effects</i>					
id	Yes	Yes	Yes	Yes	Yes
conyear	Yes	Yes	Yes	Yes	Yes
<i>Fit statistics</i>					
Observations	246,819	35,183	35,170	35,180	16,420
R ²	0.64327	0.70877	0.70024	0.70385	0.72055
Within R ²	0.00060	0.00172	0.00150	0.00112	0.00172

Clustered (id & consyear) standard-errors in parentheses

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Event study plot

