

Appendix Table: Sources for estimates in Table 2.

Policy	Reference	Estimate (\$2017/ton CO₂)	Notes
A. Transportation			
Corn starch ethanol (U.S.)			Policies to blend ethanol with gasoline
	Irwin, Good (2017)	-\$18	Below the E10 blend wall based on costs of non-ethanol oxygenates
	Authors' calculations	\$312	Subsidy value based on 2017 actual average RIN value and CARB average pathway emissions
Biodiesel (U.S.)			Policies to blend ethanol with gasoline
	Waste oil - au calculations	\$146-243	Subsidy value based on 2017 actual average RFS RIN value and CARB (2018) average pathway emissions. Range excludes or includes biodiesel tax credit (tax credit was reinstated retroactively for 2017). Excludes additional subsidies through the LCFS.
	Tallow - au calculations	\$179-298	
	Soy oil - au calculations	\$251-418	
Renewable Fuel Standard			Policies requiring transportation fuels to contain a minimum amount of renewable fuels
	Sarica, Tyner (2013)	\$1.10 - \$15.70	
	Holland, Hughes, Knittel, Parker (2011)	\$72.70	
Renewable Fuel Subsidies			Policies to provide financial incentives for production of renewable transportation fuels
	Holland, Hughes, Knittel, Parker (2011)	\$103.30	
Gasoline Tax			Per gallon tax on gasoline
	Knittel, Sandler (2013)	\$18.20 - \$46.70	
CAFE Standards			Policies to set fuel efficiency and greenhouse gas emissions standards for certain vehicles
	Kok, Annema, van Wee (2011)	-\$107.40 to - \$155.40	
	Sarica, Tyner (2013)	\$224.80	
	Jacobsen (2013)	\$307.30	
Low Carbon Fuel Standard			Policies to limit the average emissions intensity of transportation fuels
	Holland, Hughes, Knittel, Parker (2011)	\$103.90	

	Holland, Knittel and Hughes (2009)	\$385 - \$2852	
Cash for Clunkers			Policy to provide financial incentives for consumers to trade in low efficiency vehicle and purchase new higher efficiency vehicle
	Knittel (2009)	\$270.80 - \$417	
Dedicated Battery Electric Vehicle Subsidy			Policy to provide financial incentives for consumers to purchase electric vehicles
	Archsmith, Kendall, Rapson (2015)	\$347.5 - \$637.30	
B. Power Sector			
Wind Energy Subsidies			Policies to provide financial incentives for wind energy projects
	Abrell, Kosch, Rausch (2017)	\$126.30 - \$264	
	Abrell, Kosch, Rausch (2017)	-\$5.60 to -\$8	
	Marcantonini, Ellerman (2013)	\$66.60	
	Frondel, Ritter, Schmidt, Vance (2010)	\$87.50	
	Metcalf (2009)	\$14.00	
	Callaway, Fowlie, McCormick (2015)	\$27 - \$93.7	
Clean Power Plan			National regulation to limit emissions from electricity generation in US
	Original EPA RIA (2015)	\$11	
Concentrating Solar Power Expansion (China & India)			Policies to provide financial incentives for new concentrating solar power projects in India and China
	Ummel (2010)	\$101.20	
Renewable Portfolio Standards			State policies to mandate a certain percentage of renewables in overall energy mix
	Chen, Wiser, Mills, Bollinger (2009)	\$0 - \$241.10	
	Johnson (2014)	\$13 - \$189.20	
Solar PV Subsidies			Policies to provide financial incentives for solar PV energy projects
	Abrell, Kosch, Rausch (2017)	\$574 - \$1492.30	
	Abrell, Kosch, Rausch (2017)	\$1102 - \$2146.70	
	Hughes, Podolefsky (2015)	\$138.80 - \$209.30	

	Marcantonini, Ellerman (2013)	\$813.40	
	Frondel, Ritter, Schmidt, Vance (2010)	\$1,159.60	
	Callaway, Fowlie, McCormick (2015)	\$224.10 - \$763.90	
	Macintosh, Wilkinson (2011)	\$242.80 - \$287.70	
	Gillingham, Tsvetanov (2018)	\$376.90 - \$615	
C. Energy Efficiency			
Energy Efficiency Programs (China)			Potential for efficiency upgrades to urban production processes in different regions in China
	Wang, Bian, Cheng (2017)	\$297.70	
Weatherization Assistance Program			Policy to fund energy efficiency improvements and lower heating fuel usage in low-income households
	Fowlie, Greenstone, Wolfram (2018)	\$346.20	
Behavioral Energy Efficiency			Program focusing on home energy reports
	Allcott, Mullainathan (2010)	-\$188.50	
D. Land Use			
Reforestation			Payments for ecosystem services to increase carbon sinks
	Jayachandran, de Laat, Lambin, and Stanton (2016)	\$0.60	
	Jack (2011)	\$9.70	
Agricultural Emissions Policies			Policies to limit greenhouse gas emissions from agricultural production
	De Cara, Jayet (2011)	\$49.80 - \$65.40	
Soil Management			Policies to limit greenhouse gas emissions through improved soil management techniques
	Beach, DeAngelo, Rose, Li, Salas, DelGrosso (2008)	\$56.90	
Livestock Management Policies			Policies to limit greenhouse gas emissions through improved livestock management techniques
	Beach, DeAngelo, Rose, Li, Salas, DelGrosso (2008)	\$71.20	
E. Extraction and Other			
Methane Flaring Regulation			State policy to limit methane flaring from natural gas production in North Dakota

	Lade, Rudik (2017)	\$20.40	
Reducing Federal Coal Leasing			Policies to reduce coal leasing on federal lands
	Gillingham, Stock (2016)	\$33 - \$68	
National Clean Energy Standard			National policies to mandate a certain percentage of "clean" energy in overall energy mix
	Sarica, Tyner (2013)	\$50.60 - \$112.40	

Notes: Source cost estimates were adjusted to 2017 dollars using the PCE price index.

Appendix References

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