FACTORS AFFECTING ELECTRICITY CONSUMPTION IN THE U.S. (2010 - 2035)

IEE Report
March 2013

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An Institute of The Edison Foundation

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EXECUTIVE SUMMARY

In the coming decades, many factors will affect electricity consumption in the United States. This report, prepared by EnerNOC Utility Solutions Consulting, examines the potential effects of three key factors on electricity consumption:

1. Improvements to building energy codes and appliance/equipment efficiency standards
2. Growth in ratepayer-funded electric efficiency (EE) programs including both utility programs and those administered by state or regional program administrators
3. Electrification of the transportation sector; primarily light duty vehicles and commercial light trucks.

Table 1 shows the impact of each of these factors on electricity consumption in 2025 and 2035 under two scenarios – a *moderate* scenario which is very plausible and under a more *aggressive* scenario – relative to the Reference Case from the Energy Information Administration's (EIA) Annual Energy Outlook 2012 (AEO 2012).[1]

Table 1: Factors Affecting Electricity Consumption in the U.S. in 2025 and 2035

	2010 Total Electricity Use (TWh)	2025 Total Electricity Use (TWh)	Percentage of Total Use	2035 Total Electricity Use (TWh)	Percentage of Total Use
Reference Case	**3,730**	**4,099**	**100%**	**4,440**	**100%**
Moderate Scenario					
Moderate Codes and Standards		-277	-6.8%	-420	-9.5%
*Ratepayer Funded EE Programs**		-242	-5.9%	-249	-5.6%
Moderate Electric Transportation		16	0.4%	33	0.8%
TOTAL EFFECT		**-504**	**-12.3%**	**-635**	**-14.3%**
IEE MODERATE FORECAST		**3,595**		**3,805**	
Aggressive Scenario					
Aggressive Codes and Standards		-478	-11.7%	-769	-17.3%
*Ratepayer Funded EE Programs**		-242	-5.9%	-249	-5.6%
Aggressive Electric Transportation		52	1.3%	147	3.3%
TOTAL EFFECT		**-668**	**-16.3%**	**-871**	**-19.6%**
IEE AGGRESSIVE FORECAST		**3,431**		**3,569**	

* To avoid double counting, ratepayer-funded EE programs exclude the effects of utility-administered codes and standards programs. In 2035, we project an overlap of 46 TWh, meaning that EE programs achieve an additional 46 TWh of savings related to codes and standards programs which is 15.8% of the ratepayer-funded EE Programs component.

[1] http://www.eia.gov/forecasts/archive/aeo12/index.cfm

About IEE

IEE is an Institute of The Edison Foundation focused on advancing the adoption of innovative and efficient technologies among electric utilities and their technology partners that will transform the power grid. IEE promotes the sharing of information, ideas, and experiences among regulators, policymakers, technology companies, thought leaders, and the electric power industry. IEE also identifies policies that support the business case for adoption of cost-effective technologies. IEE's members are committed to an affordable, reliable, secure, and clean energy future.

IEE is goverened by a Management Committee of 23 electric industry Chief Executive Officers. IEE members are the investor-owned utilties who represent about 70% of the U.S. electric power industry. IEE has a permanent Advisory Committee of leaders from the regulatory community, federal and state governement agencies, and other informed stakeholders. IEE has a Strategy Committee of senior electric industry executives and 33 smart grid techology company partners.

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