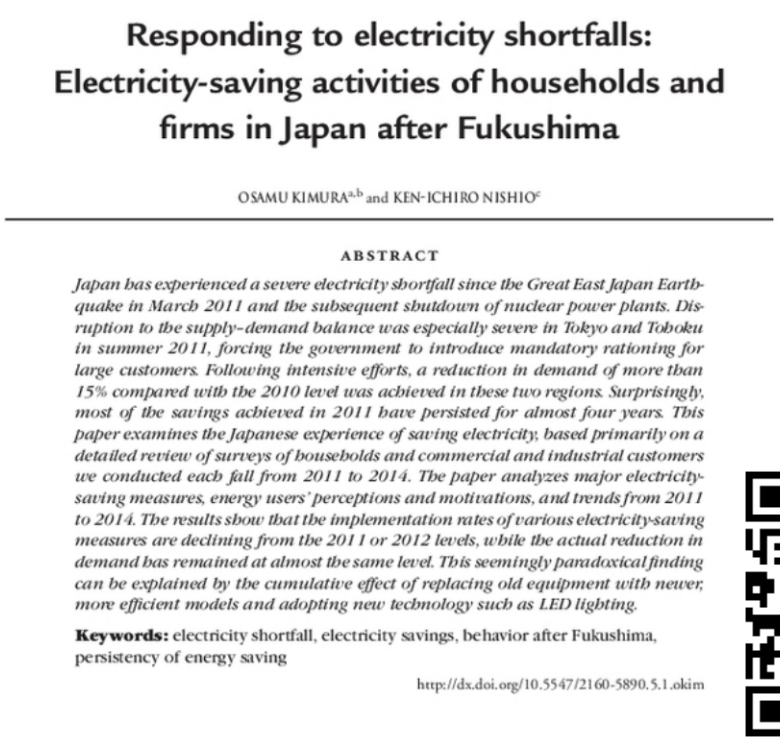

Responding to electricity shortfalls: Electricity-saving activities of households and firms in Japan after Fukushima

OSAMU KIMURA[a,b] and KEN-ICHIRO NISHIO[c]

ABSTRACT

Japan has experienced a severe electricity shortfall since the Great East Japan Earthquake in March 2011 and the subsequent shutdown of nuclear power plants. Disruption to the supply–demand balance was especially severe in Tokyo and Tohoku in summer 2011, forcing the government to introduce mandatory rationing for large customers. Following intensive efforts, a reduction in demand of more than 15% compared with the 2010 level was achieved in these two regions. Surprisingly, most of the savings achieved in 2011 have persisted for almost four years. This paper examines the Japanese experience of saving electricity, based primarily on a detailed review of surveys of households and commercial and industrial customers we conducted each fall from 2011 to 2014. The paper analyzes major electricity-saving measures, energy users' perceptions and motivations, and trends from 2011 to 2014. The results show that the implementation rates of various electricity-saving measures are declining from the 2011 or 2012 levels, while the actual reduction in demand has remained at almost the same level. This seemingly paradoxical finding can be explained by the cumulative effect of replacing old equipment with newer, more efficient models and adopting new technology such as LED lighting.

Keywords: electricity shortfall, electricity savings, behavior after Fukushima, persistency of energy saving

http://dx.doi.org/10.5547/2160-5890.5.1.okim

Electrical Demand Reduction Policies

Japan

The Japanese governments efforts to reduce electrical demand included a “Super Cool Biz” campaign to encourage ending dress codes calling for jackets and ties and wearing light, cool clothing instead.

Conducting Campaigns

Electricity savings

Change management

13 CLIMATE ACTION