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**CONSUMER PREFERENCES FOR IMPROVEMENTS OF POWER
SUPPLY SERVICE QUALITY. RESULTS FROM A CHOICE
EXPERIMENT IN HYDERABAD, INDIA AND IMPLICATIONS FOR
ENERGY POLICY**

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ABSTRACT

The power sector in the south Indian State of Andhra Pradesh faces a significant supply deficit and low quality electricity supply. Investments in new power plants will increase the installed capacity with various implications on the energy sector until 2012. However, even this amount of additional capacity will be insufficient to cover power demand with growth rates of 8 to 10% per year. Moreover, the share of coal in gross electricity generation is more than 50% and the planned capacity enhancements will raise this share with significant climate change impacts of the power sector. These developments highlight the importance of energy efficiency improvements to moderate growth in power demand. However, research on energy efficiency measures rarely consider consumers preferences, hence there is limited understanding of the willingness to pay (WTP) for improved electricity quality. Hence, the main questions are how does consumer surplus change with the introduction of energy efficiency measures and if consumers are willing to bear additional costs due to these initiatives.

We use a choice experiment which is embedded into a questionnaire including attitudes, perceptions and knowledge concerning shortfalls and potentials in the power sector of Andhra Pradesh. With a survey of 800 household customers we estimated the marginal WTP for improvements of power supply quality in terms of reduced scheduled and unscheduled power cuts, for renewable energy and preferences of institutional settings.

For the estimation we apply a random parameter (mixed) logit model to elicit individual WTPs and account for unobserved heterogeneity. The results of the survey provide comprehensive knowledge of preference structures regarding consumptions patterns and investment behaviour in de-central and renewable technologies and allow for recommendations to improve regulations schemes of the power sector.

KEY WORDS: electricity sector, choice experiment, energy market regulation