ACCEPTED PRESENTATION

IRES 2012 International Renewable Energy Conference
12.-14.11.2012, Berlin Congress Center
Session E2

THE BUILDING AS SYSTEM LEVEL FOR MANAGEMENT AND STORAGE – ELECTRICITY AND HEAT STORAGE IN APARTMENT AND OFFICE BUILDINGS

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Electricity production for own consumption gets increasingly interesting as PV prices fall rapidly and small CHP plants improve. In four years time, electricity from the own roof may be 40% cheaper than electricity from the wall outlet for residential and small commercial consumers in Germany. However, because of legal difficulties, the discussion until now has focused on those cases where the consumer owns the whole building – single family houses or small industries. However, in most of Europe the majority of the population lives in apartment houses. Also office buildings often accommodate more than one company. Electricity supply is usually ruled by contracts between the utility and the single consumer. The building owner or manager has nothing to do with this relationship – unlike in most arrangements for heating. Installing separate PV installations on a shared roof is expensive and complicated. Moreover this would not make much sense as, especially for residential use, captive solar power generation gets economically interesting only when combining it with some kind of electric or thermal storage. Thermal storage requires space and has much less losses in larger units. Electricity storage requires much lower capacities if a larger number of users are combined. All this calls for considering integrated systems at the building level. The presentation looks at organisational, legal, technical and financial aspects of such an approach and gives estimations for the considerable potential. Discussing examples it explores which regulatory measures could facilitate the direct involvement of the majority of the population in building-level captive power supply.