



IEA DRR Task XIII



“Master” Technology Case Study Summary DR Technology (Note: AU-1, 2, 3....etc are cross referenced in the Case Study Indexes which follows this table)	Residential Energy Management	Commercial Peak-load Reduction (typ. min. 100 MW)	Load Curtailment & Shifting	
			Energy Suppliers	TSO
Metering and Communication				
Advanced meters, including Sub-meters				
Interval meters				
Energy information systems – involving meters, sub-meters			KO- 1	
Automated Meter Reading (AMR)				
Gateways (for pulse output of utility meter) and specialized analytical software (either licensed or via vendor ASP services).				
Highly integrated approaches for event notification			KO-1	KO-1
Expanded use of broadband technologies for automated load control.				
Energy Management				
Whole house energy systems				
Energy management systems				
Smart thermostats				
Financial incentive payments for business Customers to install energy efficiency equipments & upgrades (typically – lighting, HAVC, motors & energy storage devices)				
Geothermal heat pumps				
Incentives for permanent demand reduction efforts				
Standard performance contracting programs				
Generation of electricity				
Dispatchable emergency generators				
Combined heat and power generation applications (CHP)				
Wind and photovoltaic supplement systems				
Load Control				

Direct load control of air conditioners and water Heaters	KO-2		KO-2	
Cycling of commercial air conditioners			KO-2	
Ice storage & bldg. thermal storage				
Load curtailment –shifting	KO-1,2		KO-1,2	
Large customer interruptible programs			KO-1	
Voluntary and mandatory load reduction programs				
Demand buy-back programs				
Regional black-out reduction programs				
Reserve capacity programs with incentives for large customers to curtail load or operate onsite generation during electricity reserve shortages.				
Day ahead demand response programs which give larger customers the opportunity to bid load reductions into a regional market's day-ahead wholesale electricity market – Note: In some day ahead programs running standby generators is not permissible				
Systems implementation and control strategies via new systems	KO-1		KO-1	
Verification of Load Control				
Load control and load reduction verification	KO-1,2		KO-1,2	
Verification through load profiling and sample-based spot metering applications				
Marketing and Education				
Highly integrated approaches to the marketing of demand response programs				
Technical & educational assistance				

KO Technology Case Study Index:

KO-1 Direct Load Control in KEMCO

KO-2 Remotely Controlled Air-Conditioners

Overview of Technology Case Studies
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KO Tech Case #1: Direct Load Control in KEMCO

DLC can be divided into two parts, upper system and lower system, according to characteristics and functions of each layer. The upper system is designed to exchange information with the wholesale power market (load and pricing). The lower system is designed to give KEMCO the ability to monitor consumer usage and remotely shed specific loads based on tariff and/or contractual agreements with the consumer

KO Tech Case #2: Remotely Controlled Air Conditioners

The Korea Electric Power Corporation (KEPCO) offers incentives to customers who install remotely controlled air-conditioners to effectively manage the cooling load when needed during summer peak periods. The remotely controlled air-conditioners are installed with the remotely controlled cycling device which permits KEPCO to periodically turn them off and on during the height of the summer season. KEPCO operates the control system within the extent of giving no discomfort to the affected customers.