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| **Name of project** |
| amSMARTerdam city |
| **Location** |
| Amsterdam, Netherlands |
| **Time frame** |
| 2009-2012 |
| **Lead organisation** |
| Alliander |
| **Sponsor/source of funding** |
| City of Amsterdam, Liander, kpn, Stadsdeel Nieuw-West |
| **Distribution, retail or both** |
| Distribution and Metering (Gas & Electric) |
| **Mandatory or opt-in** |
| Opt-in |
| **Trial or roll-out** |
| Trial |
| **Brief overview of project** |
| The pilot comprises 40,000 households of which 10,000 are fitted with smart meters. Many of the homes also have solar panels. The grid is also fitted with sensors and remote control capability. The purpose of the trial was to increase renewable generation by raising capacity limits through extensive monitoring and release of headroom. The project also included targeted conventional reinforcement to remedy hotspots. |
| **Customer type** |
| Residential. Participants were recruited from owner-occupied and rented homes in the north west district of the city. |
| **Technology used (high-level functionality)** |
| Equipment was installed in customers homes and distribution substations including:  • Substation monitoring from Locamation and Liandon  • Elster smart meters  • OSISoft PI Data Historian   * Demand controllable sockets - Plugwise   • In home displays and HEMS(various) |
| **Means of interaction with customer** |
| Via the in home displays a number of trials were carried out to assess comsumer behaviour. These included:   * Mobile device apps where the city’s data was open sourced and developers challenged to develop apps for residents * Climate Street – where different low carbon technologies are tested within a shopping street. Consumers are encouraged to visit and ask questions about the technologies. * Home Energy Management System in 250 homes * In home displays for 500 homes * Smart challenge – for employees and companies to reduce energy consumption at certain times * Community level campaign with competition between districts of the city. |
| **Appliances targeted** |
| No specific appliances, but includes heat pumps, smart appliances, PV panels, fuel cells and electric cars |
| **Period and duration of interruptions (for direct load control)** |
| HEMS trial – various interruptible periods and durations. |
| **Level of load reduction (overall and peak)** |
| Inconclusive and not measureable at grid scale - possibly due to small sample size, |
| **Consumer Experience** |
| 25% of users chose to either override the device or unplug it. The remainder allowed control of appliance (mainly wet goods). On the whole users did reduce their overall consumption during the 4 month trial. On average they checked a web based portal ever 2-3 days. |