Equipment – The key end point items that can be deployed to handle meter reading

Dumb Meter
The traditional manually read meter that has been providing information to the industry for over 100 years. This is the type of meter that requires a meter reading be done by a human being with a hand held device (e.g. optical port, or reading the dials visually) or a clipboard.

Billing Meter System
These are typically deployed as drive by, one way or daily (or less frequently) read two way systems. They typically have several days of on board storage for reading data and have some ability to provide a record of the events that occurred at the location, such as momentary outages.

Operational Metering System
The operational meters are newest innovation in smart metering. The key to Operational metering systems is not only that the end points have more sensor capability, but they are connected to a near real time network that is capable of handling alerts and alarms in very short periods of time (normally measured in single digit seconds). They may not have the processing power and storage of a billing meter, but since they communicate frequently then do not need 60 or more days of storage in the meter. Typically the network is required to support Home Area Networks.

Disconnect Switch
At latching relay (in the case of electricity, or a cut off valve in the case of water and gas) that allows the service to a location to be turned off remotely. In the latest versions of these devices instead of a complete cut off, they offer the ability to throttle the consumption.

Demand Response
The ability to send signals via an in home display or another method to indicate to the occupant of the structure information about pricing, demand and other consumption related information in a consumer driven implementation and if a direct load control implementation the system has the ability to directly interact with loads at the customer location.

Home Area Network
The ability to work wired or wirelessly with devices in the structure and provide information to and from those devices to influence or control the consumption of gas, water and electricity. This capability will be more important if plug in hybrid cars come into the market.

Recipient of Benefit – The organization that benefits from a specific service in this table, the segment of the utility or the customer that benefits from the specific service listed in the table. Definitions are specific to the electric industry.

Distribution
The owner and operator of the low voltage network, traditionally a regulated function of a utility that provides the wired connection to the home.

Transmission Owner
The owner of the high voltage network, which is normally the connection from the central generation sources and the distribution network

ISO/RTO/TSO
The operator of the high voltage network or transmission system, depending on the model in a location they may actually own the transmission, but in this table the assumption is that they are not the transmission owner. If the situation is that the operator and the owner of the transmission grid is the same entity, then the transmission owner and this column should be collapsed into a single column.

Conventional Generation
The traditional coal, nuclear, large hydro generation that provides the majority of the energy in the electricity, in many markets around the world, there are both regulated (utility owned) generation and independent power producers using conventional generation. This column applies equally to both organizations – provided they have equal access to the data.

Renewable Generation
The growing segment of variable power provided by solar, wind and other renewable sources

Billing and Customer Service
The organization that provides the interface to the customer and collects the revenue from the customer – it may be part of an energy retailer or of distribution or an outside third party

Energy Retailer
The provider of energy in an unregulated market, typically they have customers in multiple distribution network territories and compete for customers with other energy retailers

Trading
The organization that trades wholesale energy in the market, both with physical and financial trades, traders can be associated with generators, retailers, traditional utilities, merchant banks, or other third parties.

Regulator
The entity that is responsible for establishing the rules for the operation of the industry and the tariffs based on the established legal framework

Government
The entity that makes the laws of the land that the regulator is constrained by

Residential Customer
The families and individuals that live in homes and apartments, includes all forms of permanent housing for people

Commercial Customer
Stores, office buildings, and colleges, hospitals and other services related structures, includes all non-industrial and non-residential consumption points on the grid for the purposes of this table (rather than create other columns for street lights, and other commercial uses of power).

Industrial Customer
These are the manufactures in the world. They are companies that mine, build, smelt, and otherwise transform raw materials into goods.

Environment
This is the earth and its biosphere.

Emergency Services
Police, fire departments and other first responders who deal with emergencies

Third Party Service Providers
Independent firms that offer a service that expands on or replaces the services of another entity listed above.

Impact – what overall beneficial impact does this service have on one of the two major themes that the commonly referred to in industry discussions

Energy Efficiency
Reducing the energy intensity of an activity or a structure, not just moving the consumption, but actual reduction in consumption –OR- leveling the usage out so that the end result reduces the cost and impact of the energy served –OR- matching load with variable generation to allow for the growth of renewable resources

Reliability
Improving the percentage of time that customers receive high quality power.

Utility – these should be self explanatory for the three networked utility delivery systems, gas, water and electricity. A note is that smart metering could also be applied to the sewage network and district heating.