

# Roadmap for Home Network Market Formation, Diffusion and Expansion using ECHONET Lite

|  |  | FY2014   | FY2015  | FY2016  | FY2017   | FY2018   | FY2019  | FY2020  | FY2030                           |  |
|--|--|--|---|---|--|--|---|---|----------------------------------|--|
| Environment surrounding the ECHONET Consortium     | “Roadmap on Promotion of Housing and Living Styles toward a Low-Carbon Society” *1                                   | (Housing) ZEH (Net Zero Energy Houses) to be standard for new housing.   |   |   |  |  |   |   | ZEH as average for new housing   |  |
|  |  | (Buildings) ZEB (Net Zero Energy Buildings) achieved for new public buildings, etc.  |   |   |  |  |   |   | ZEB as average for new buildings |  |
|  |  | “Visualization” of living and usage modes promoted: - Promotion of “visualization” of indirect benefits including comfort, health and intellectual productivity resulting from energy saving<br>- Promotion of “visualization” of actual energy consumption volumes, etc. - Creation of annual energy consumption benchmarks, etc. |   |   |  |  |   |   |                                  |  |
|  | HEMS diffusion policy*2  | HEMS diffused to all households by 2030.   |   |   |  |  |   |   |                                  |  |
|  | Energy policy  | Smart meters introduced  | Smart meter B route service   | Complete deregulation of electric power retail  |  |  |   | Statutory separation of power generation & transmission /distribution and tariff regulation abolished |                                  |  |
| Number of smart electric energy meters installed*3 | 3,660,000 units  | 7,500,000 units  | 12,250,000 units  | 12,260,000 units  | 12,020,000 units   | 9,640,000 units  | 9,530,000 units                                     | 15,280,000  |                                  |  |
| Progress in social reform based on IT*5            | A society where data tied to individuals can be used   |  | Toward a data-driven society using CPS<br>A society in which interconnections between the real world and cyber states (Cyber Physical System) are established in all areas of society and generate major social value |   |  |  |   |   |                                  |  |
| ECHONET Consortium Master Schedule                 | Targeted vision  | Start year for diffusion and expansion of smart electric energy meters   | Home appliances and HEMS connected using ECHONET, home appliances controlled, B route used  | ECHONET used in shops, condominiums, small-medium buildings, etc., connected from cloud |  | ECHONET used in IoT/M2M  |   | Diffusion and expansion of ECHONET overseas   |                                  |  |
|  | Devices targeted as ECHONET Lite devices, and targeted shipments (domestic) (excluding smart electric energy meters) | Diffusion to 8 priority devices  |   |   | Diffusion to ordinary homes and meters (other than smart meters) |  | Expansion beyond home appliances and energy devices |   |                                  |  |
|  |  | 1,000,000 units  | 2,000,000 units   | 5,000,000 units   | 10,000,000 units   | 15,000,000 units   | 20,000,000 units/year                               |   |                                  |  |
|  | Targeted shipments of ECHONET Lite devices (overseas)  |  |   |   | 10,000 units   | 100,000 units  | 1,000,000 units                                     | 5,000,000 units   | 10,000,000 units/year            |  |
| Promotional activity                               | Domestic market promotion activity   | ECHONET Lite products introduced on the website, forums (twice yearly) and seminars (once yearly) held, promotions at exhibitions  |   |   |  |  |   |   |                                  |  |
|  |  | Technology seminars  | Training program for engineers created  |   | ECHONET Lite training program for engineers implemented          |  |   |   |                                  |  |
|  | Overseas market promotion activity   | Test bed established   | Test bed expanded   |   | Test bed expanded nationwide                                     |  |   |   |                                  |  |
|  |  | Test bed established (Malaysia)  | HEMS market survey in Asia  |   | Overseas HEMS market surveys (Europe/N.America + Asia)           |  |   | PR activity at overseas exhibitions   |                                  |  |
| Enhancement of the Specification                   | ECHONET Lite Specification   | 8 priority device apps I/F Specification   |   | Controller definitions clarified  |  | Expansion of Specification for IoT·M2M system studied  |   |   |                                  |  |
|  |  | Expansion of Detailed Requirements for ECHONET Device Objects (twice-yearly revision following proposal by members)  |   |   |  |  |   |   |                                  |  |
|  |  | Devices applicable to app communication I/F specifications and certification test specifications expanded  |   |   |  |  |   |   |                                  |  |
|  | International standardization activity in ISO/IEC  | International Standardization of ECHONET Lite  | Maintenance of ECHONET Lite Specification (ISO/IEC 14543-4-3) and Detailed Requirements for ECHONET Device Objects (IEC62394 Ed2.0)   |   |  |  |   |   |                                  |  |
| Links with other standardized specifications       | MOUs concluded with ZigBee, Wi-SUN   | Method of linkage with other communication specifications studied and standardized (linkage at new lower-layer communication media or app level)   |   |   |  |  |   |   |                                  |  |
|  |  | Joint promotion activity based on establishment of MOUs with international standardization bodies, ECHONET Lite permeated to various international standards through liaison agreements and observer participation   |   |   |  |  |   |   |                                  |  |
| Enhancement of the certification system            | Development of third-party certification scheme  | Start of SMA third-party certification (tentative)   | Start of 8 priority device third-party certification  |   |  |  |   |   |                                  |  |
|  |  | Tentative scheme for SMA certification system created  | 8 priority device third-party certification program created   | Accredited certification bodies, accredited testing bodies expanded                     |  | Certification range expanded (software, systems, servers), engineer accreditation system created and implemented |   |   |                                  |  |
|  | International expansion of third-party certification system  |  |   | Overseas expansion of third-party certification program studied                         | Expansion of third-party certification in Asia started           | Expansion to other countries   |   |   |                                  |  |

\*1 Source: Interim Report on Promotional Measures on “Housing and Living Styles toward a Low-Carbon Society”, July 2012, Ministry of Economy, Trade and Industry / Ministry of Land, Infrastructure, Transport and Tourism / Ministry of the Environment

\*2 Source: “Green Growth Strategy (Outline)”, November 2012, National Policy Unit

\*3 Source: “On Issues and Solutions Associated with the Installation of Smart Meters”, December 2014, Materials for the 15th Meeting of the Study Group on the Smart Meter System, Ministry of Economy, Trade and Industry

\*4: Number of new installations in 2021-2024 (excluding replacements due to expiry of test validity)

\*5 Source: “Interim Report – Changes in response to the arrival of a data-driven society using CPS – (Draft)”, April 2015, Information Economy Subcommittee / Commerce, Distribution and Information Committee / Industrial Structure Council