

Residential cooking, lighting and appliances

Lighting, cooking and appliances account for more than 40% of Japan's total residential energy consumption (EDMC, 2013). At present in Japan all lighting and most of the appliances are powered by electricity. This is not the same for cooking because there is a choice between gas and electricity. In 2010, only 26% domestic cooking was electrified, with the rest being gas-powered (both town gas and LPG) (EDMC, 2013).

For domestic cooking, lighting and appliances, the Low Carbon Navigator considers the following two factors:

Energy Service Demand per Household

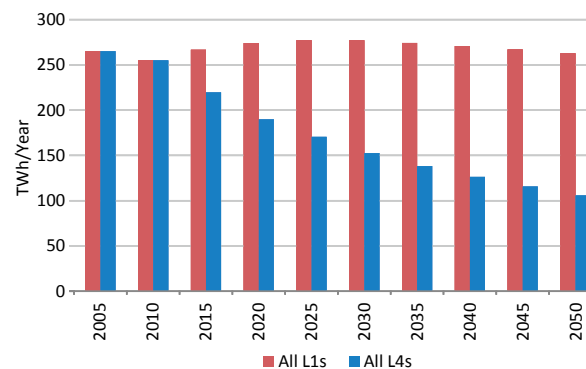
Level 1 assumes that in 2050, energy service demand per household for cooking, lighting and appliances increases by 20% compared to 2010 level. At **Level 2** the energy service demand increases but the increase rate is 10%. **Level 3** assumes that the energy service demand remains the same as 2010 level. At **Level 4**, the energy service demand decreases by 20% in 2050 compared to 2010 levels.

Energy Efficiency of Appliances

Level 1 assumes that energy efficiency of appliances does not change much over time until 2050. Under **Level 2**, there will be only a moderate increase in the efficiency for cooking appliances. Other power appliances are assumed to experience a significant

increase. However, a massive increase in efficiency is anticipated for lighting appliances. The relative value of lighting appliances energy efficiency increases from 79% in 2010 to 233% in 2050. **Levels 3 and 4** are assumed to be the same as **level 2**.

Figure 1 Residential lighting, cooking and other appliances energy demand under all L1s and all L4s scenarios



Note: Society scenario is set at R&D under both all L1s and all L4s scenarios.

Source: Authors.