Customer-Led Network Revolution

Initial Time of Use Tariff Trial Analysis

Document No: **CLNR-L015**

Authors: **British Gas**

Issue Date: **30th April 2013**

Customer-Led Network Revolution

Contents

Document Purpose

The purpose of the Customer-Led Network Revolution (CLNR) project is to generate five specific Learning Outcomes.

Learning Outcome 2 is to determine the extent to which customers are flexible in their load and generation, and the cost of that flexibility?

This document describes the preliminary analysis undertaken by British Gas on a sample of 112 time of use (ToU) tariff customers.

It must be noted that this report is based on interim findings and further analysis will be required over the remainder of the CLNR project, to learn more about customer behaviour and consumption patterns "before" and "after" the introduction of the time of use tariff.

The full report on the time of use trials will be published as part of the CLNR project closedown report.

Executive Summary

The purpose of the Customer-Led Network Revolution project is to generate five specific Learning Outcomes.

- **Learning Outcome 1**: understanding of current, emerging and possible future customer (load and generation) characteristics.

- **Learning Outcome 2:** to what extent are customers flexible in their load and generation, and what is the cost of this flexibility?

- **Learning Outcome 3:** to what extent is the network flexible and what is the cost of this flexibility?

- **Learning Outcome 4:** what is the optimum solution to resolve network constraints driven by the transition to a low carbon economy? And;

- **Learning Outcome 5:** what are the most effective means to deliver optimal solutions between customer, supplier and distributor?

To achieve each Learning Outcome a series of trials has been designed, each of which examines a discrete combination of customer propositions and network technologies.

This report relates to **Learning Outcome 2** and covers preliminary results comparing average half hourly consumption for 112 MPANS, with 320 days' worth of consumption data "before" and "after" the introduction the time of use tariff (ToU).

The preliminary analysis indicated that the average half-hourly consumption reduced by 14% during the peak period 16:00-20:00hrs, suggesting behavioural change in consumption.

1. Overview

This document is an interim report covering Learning Outcome 2 (LO2), customer flexibility.

The report presents an initial view of time of use (ToU) customers who appear to have changed their behaviour to benefit from the tariff pricing structure, with their average hour hourly peak consumption falling by 14.3% compared to the previous year. This suggests a behavioural change in consumption.

The data covers a period from April 2012 to November 2012, compared with the same period in 2011.

Weekday Average HH Consumption
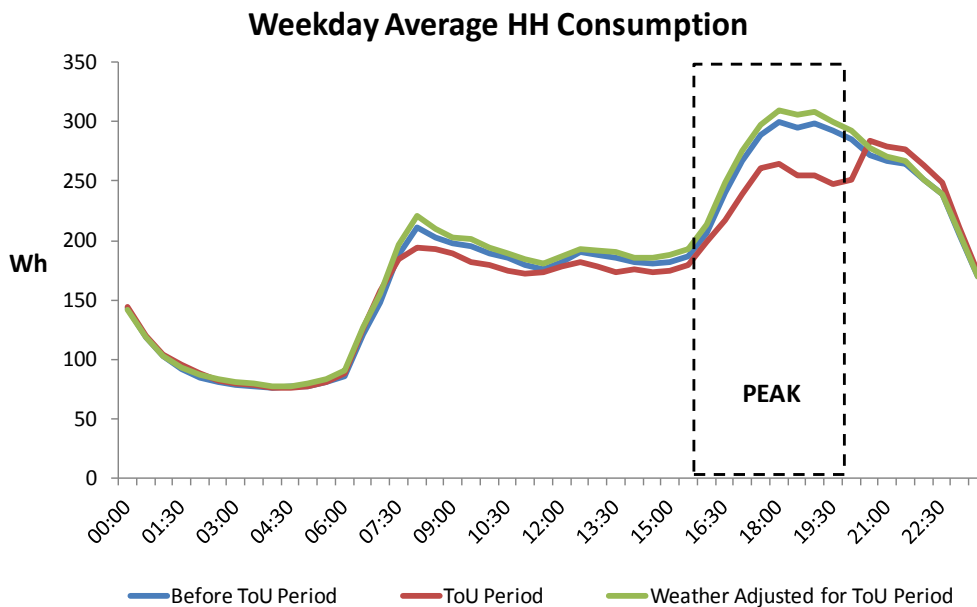
The half hourly consumption for the ToU customers was compared for their active time of use period, with the equivalent period for the previous year.

The average HH consumption decreased overall, despite a slight drop in temperature, suggesting behavioural change in consumption.

The greatest reduction in consumption was in the peak pricing period, where the average half hourly consumption fell by 14.3%. While the daily consumption decreased by 6.8% and the off peak consumption decreased by 0.1%.

LCNF Consumption Shift (%)

% Shift in Average Weekday HH Consumption for the ToU Period compared to the previous year
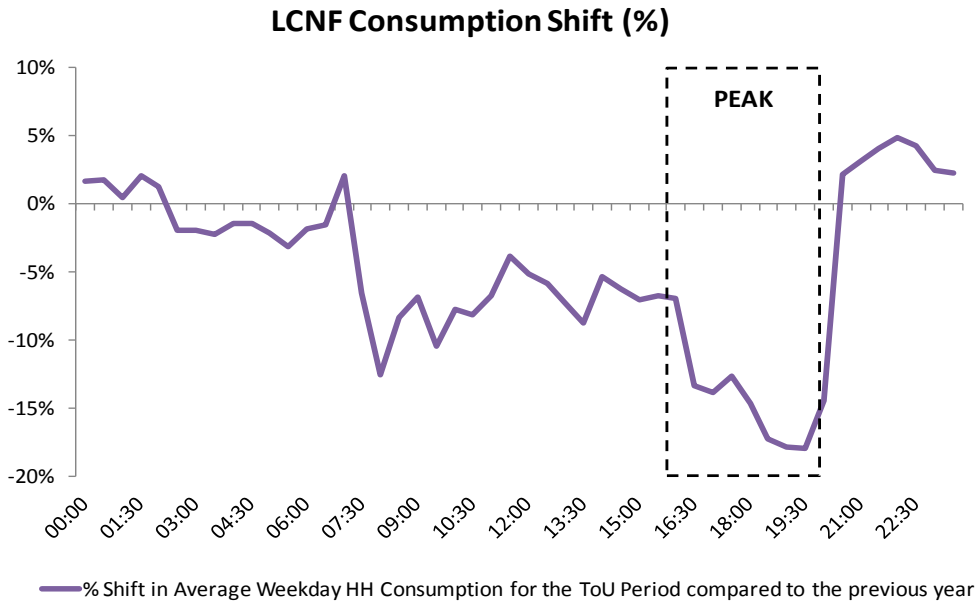
The net effect on the proportion of consumption in each period was a -7.8% drop in the peak consumption and a 2.5% increase in the off-peak consumption, suggesting customers have actively shifted their consumption to benefit from the ToU pricing structure.

	Peak	Daily	Off Peak
Before ToU % Distribution of Load	17.4%	26.5%	56.0%
ToU % Distribution of Load	16.1%	26.5%	57.4%
% Difference in Consumption	7.8%	-0.1%	2.5%

The report provides interim evidence to suggest that customers are open to changing their energy consumption behaviour, however further analysis will be required over the remainder of the CLNR project trials, to learn more about customer behaviour and consumption patterns "before" and "after" the introduction of the time of use tariff.