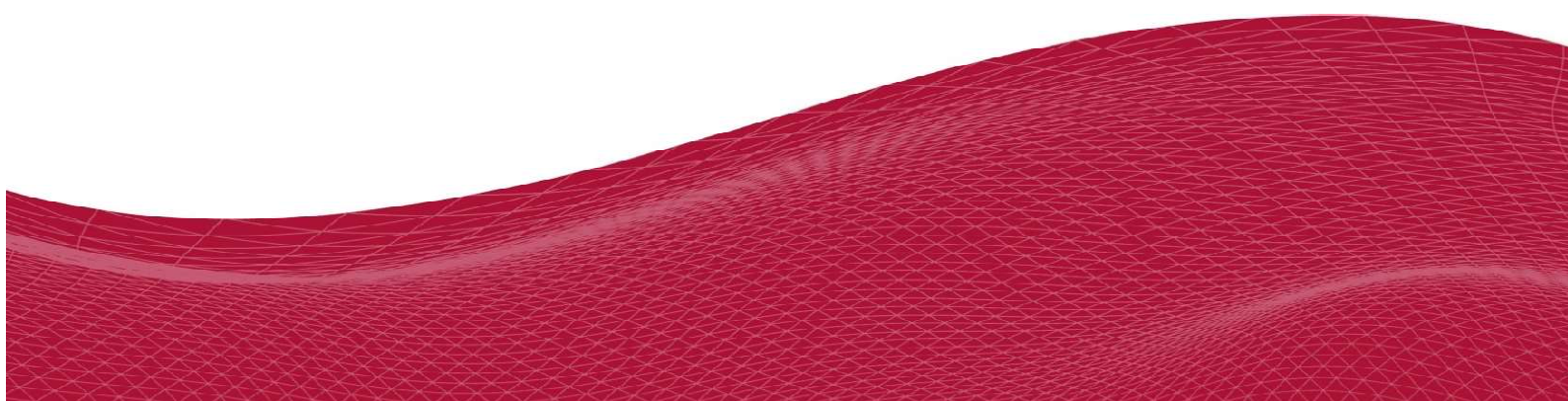




Baselining methodology – domestic EV chargers

February 2023

Version 1.0



CONTENTS

Introduction	3
1. Day Types	3
2. Underlying Domestic Usage Load Profile.....	4
3. EV Charger Load Profile	5
4. Baseline	6

INTRODUCTION

The baseline represents the expected normal demand (or generation) at a given site within each half-hour. For domestic EV Chargers the baseline to be used is a nomination baseline. Northern Powergrid have calculated a default baseline for use for all domestic sites providing flexibility by turndown from EV Chargers.

For a domestic property it is expected that there will be underlying demand for everyday household activities which will continue regardless of any flexibility provision, and that any flexibility will be provided by the turndown of EV Chargers within the property only.

As such we have calculated an underlying domestic usage profile and a domestic EV Charger usage profile separately and then combined the two to give an overall baseline for these properties. The proposed turndown for each property will be up to but not exceeding the EV Charger usage in each half hour.

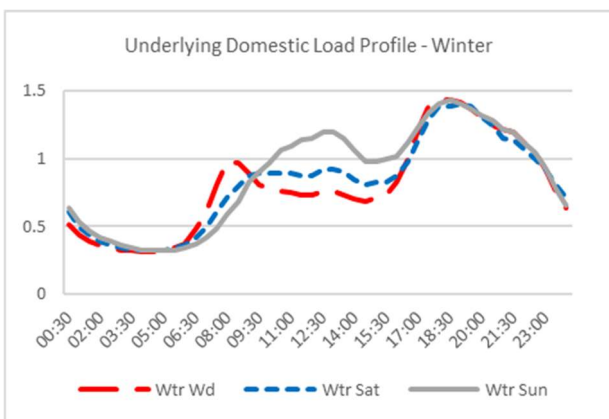
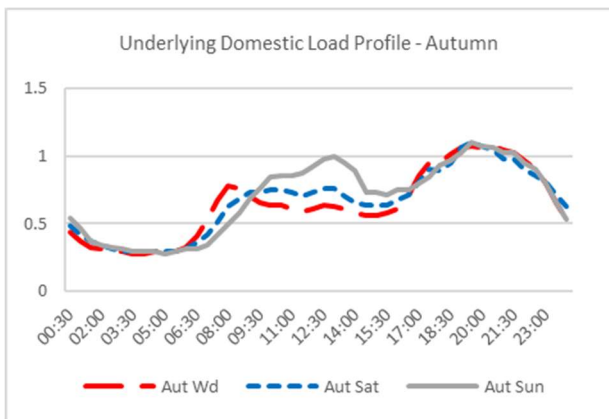
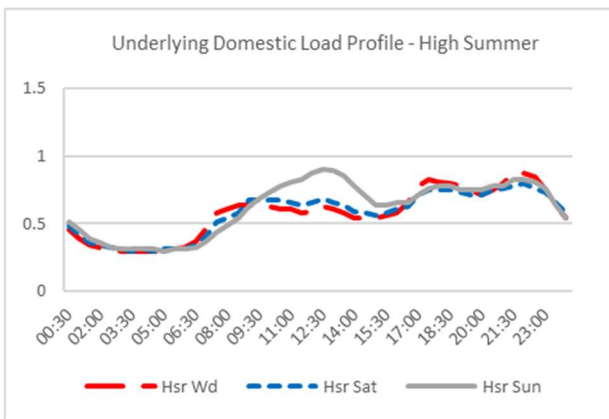
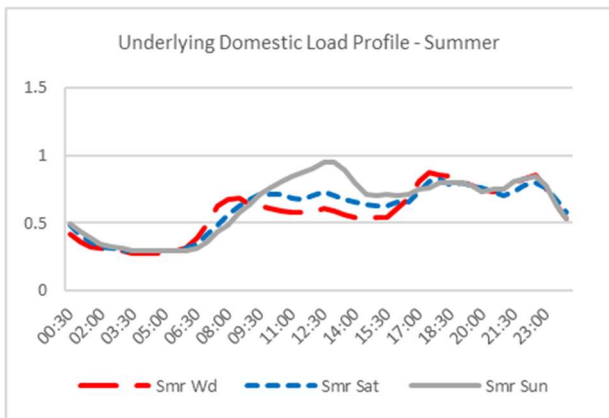
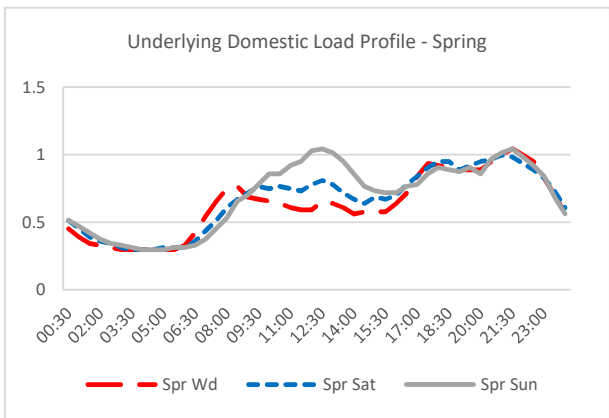
1. DAY TYPES

The baseline has been calculated for 15 different day/season combinations, using the seasons and days as defined by Elexon and detailed in Market Domain Data (MDD). These are:

- Day types
 - **Weekday** (Monday to Friday);
 - **Saturday**; and
 - **Sunday**.
- Seasons
 - **Spring**: defined as the period from the day of clock change from GMT to BST in March, up to and including the Friday preceding the start of the summer period;
 - **Summer**: defined as the ten-week period, preceding High Summer, starting on the sixteenth Saturday before the August bank Holiday;
 - **High Summer**: defined as the period of six weeks and two days from the sixth Saturday before August Bank Holiday up to and including the Sunday following August Bank Holiday;
 - **Autumn**: defined as the period from the Monday following the August Bank Holiday, up to and including the day preceding the clock change from BST to GMT in October; and
 - **Winter**: defined as the period from the day of clock change from British Summer Time (BST) to Greenwich Mean Time (GMT) in October, up to and including the day preceding the clock change from GMT to BST in March.

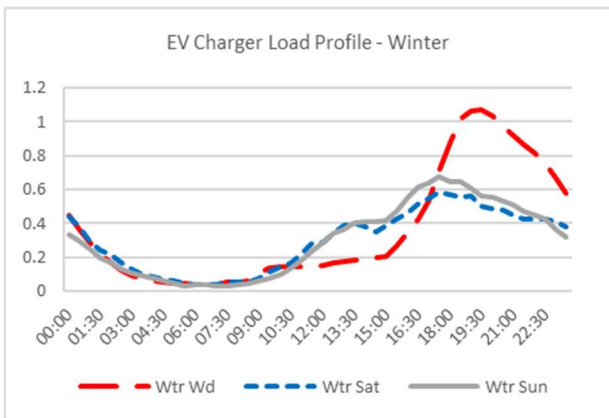
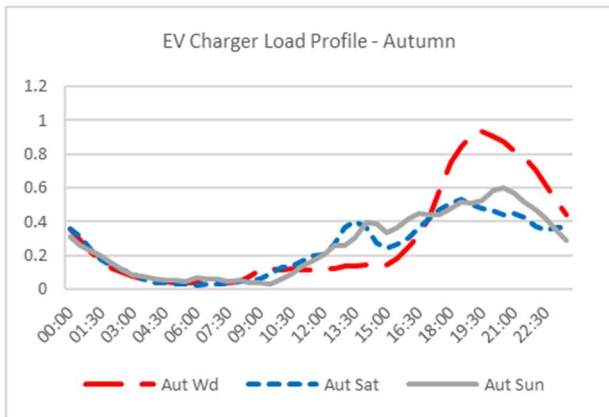
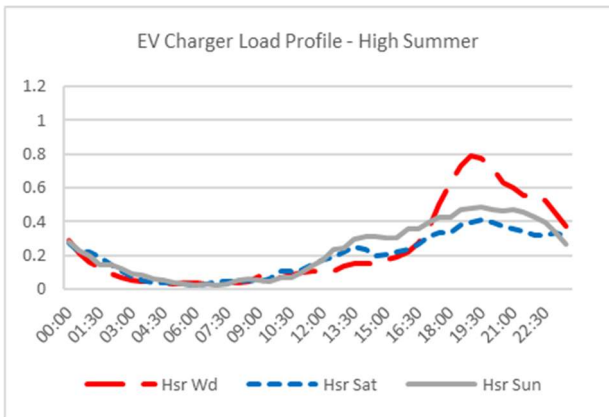
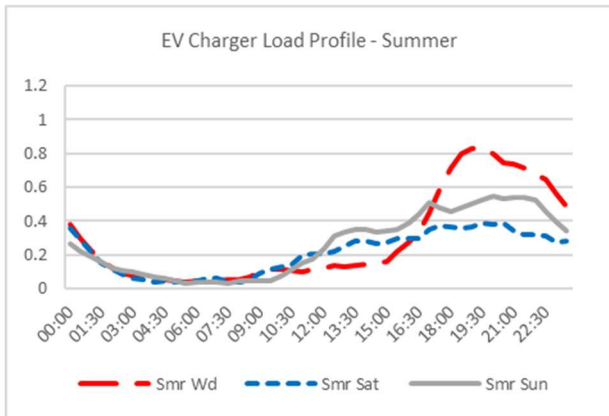
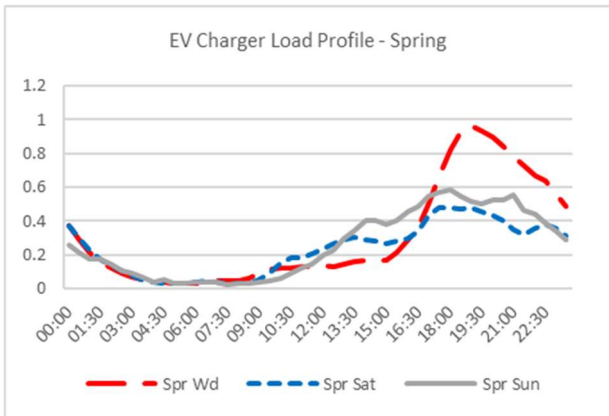
2. UNDERLYING DOMESTIC USAGE LOAD PROFILE

The average half-hourly profile (in kW) for a domestic customer has been calculated from the Elexon Profile Class 1 load profile data, and then scaled so that the peak corresponds to the peak expected for a Profile Class 1 customer within the Northern Powergrid region.



3. EV CHARGER LOAD PROFILE

The average half-hourly profile (in kW) for an EV charger has been calculated using data from a charging profile developed based on data from WPD’s Electric Nation project ([The Project | Electric Nation : Electric Nation](#))



4. BASELINE

The baseline in each half-hour is the sum of the underlying domestic load and the EV charger load. An example can be seen in the chart below.

The maximum turn down for flexibility is the EV charger load.

The turndown will be measured as the difference between the actual load and the total baseline in each half-hour.

