

Data Standards Body

Technical Working Group

Decision 195 - Candidate Usage End Points

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Context

Usage data is one of the data sets designated to AEMO as the secondary data holder for the energy sector under the Consumer Data Rights (CDR). This data set contains electricity usage (metering) information relating to a given connection point within the authenticated consumer context.

The candidate Usage data payloads and URI endpoints are being determined under Decision Proposal 195.

The decision describes the endpoints for Usage data that the retailers will expose to ADRs along with the detailed payloads.

Decision To Be Made

Define the form of the API end points and payloads for Usage data that retailers will expose to ADRs so that they can fulfil consumer data requests for Usage data.

Feedback Provided

The original proposal and the associated feedback can be found at:

<https://github.com/ConsumerDataStandardsAustralia/standards/issues/195>

This proposal sought to finalise the Usage Data payload and URIs. It was prepared with aid from AEMO and feedback collected from previous public consultations.

The following is a summary of the feedback provided in response to this consultation:

- A discussion paper was prepared and shared by Energy Australia. It outlined options for sharing consumer's historical usage data for requests with duration that spanned across multiple retailers. It included the following four options:
 - Option 1 – ADR requests multiple retailers to retrieve complete requested historical data set
 - Option 2 – AEMO identifies data holders (retailers) for complete requested historical data set and redirects consumer authentication/authorisation to each of them

- Option 3 – AEMO identifies data holders (retailers) for complete requested historical data set and acquires data
- Option 4 – Limit historical usage data to current retailer only

Overall feedback indicated option 4 (to limit usage data to the current retailer relationship) as the most preferred. The DSB agreed to proceed with this option based on current information noting that the options could be re-assessed in the future in response to change in circumstances (for e.g. evolution of MSATS) and that the DSB would provide as much support as possible to help adopt MSATS change that would result in better outcome for consumers. If MSATS changed to allow for AEMO to have certainty of NMI ownership then option 3 would likely be better for consumers. To accommodate this option 4 will be adopted but the endpoints and payloads in this decision have been designed to cater for option 3 if and when it becomes viable with minimal changes.

- Requests for clarification and amendments of various attributes within the payload. This feedback was responded to in the consultation and applicable amendments have been accommodated as much as possible.
- Requests to update the usage data payload to incorporate changes arising from inclusion of Commercial and Industrial (C&I) consumers in scope. The changes have been accommodated as much as possible.

Decision For Approval

This decision will be incorporated in the standards but will not be binding.

Version 1 of retailers exposed endpoints for accessing Usage data payload to ADRs will be defined as per the following sections

Electricity Usage End Points Summary

A summary of the electricity usage end points:

- GET /energy/electricity/servicepoints/{ servicePointId }/usage
- GET /energy/electricity/servicepoints/usage
- POST /energy/electricity/servicepoints/usage

Common Object Types

These structures are used multiple times in the usage payloads and are therefore documented separately.

Meter Read Common Type

Field	Type	Mandatory	Description
{			
servicePointId	String	Mandatory	Tokenised ID of the service point to be used for referring to the service point in the CDR API suite. To be created in accordance with CDR ID permanence requirements
registerId	String	Optional	Register ID of the meter register where the meter reads are obtained
registerSuffix	String	Mandatory	Register suffix of the meter register where the meter reads are obtained
meterID	String	Optional	Meter id/serial number as it appears in customer's bill. ID permanence rules do not apply.
controlledLoad	Boolean	Optional	Indicates whether the energy recorded by this register is created under a Controlled Load regime. ControlledLoad field will have "No" if register does not relate to a Controlled Load, "Yes" if register relates to a Controlled Load If absent the status is unknown.
readStartDate	DateString	Mandatory	Date time when the meter reads start
readEndDate	DateString	Optional	Date time when the meter reads end. If absent then assumed to be equal to readStartDate. In this case the entry represents data for a single date specified by readStartDate
unitOfMeasure	String	Optional	Unit of measure of the meter reads. Refer to Appendix B of MDFP Specification NEM12 NEM13 v2.1 list of possible values
readUType	Enum	Mandatory	Specify the type of the meter read data. Must be one of: <ul style="list-style-type: none"> basicRead intervalRead
basicRead	Object	Conditional	Mandatory if readUType is set to basicRead
}			

Field	Type	Mandatory	Description
quality	Enum	Optional	The quality of the read taken. Must be one of: <ul style="list-style-type: none"> ACTUAL SUBSTITUTE FINAL_SUBSTITUTE If absent then assumed to be ACTUAL
value	Number	Mandatory	Meter read value. If positive then it means consumption, if negative it means export
}			
intervalRead	Object	Conditional	Mandatory if readUType is set to intervalRead
{			
readIntervalLength	PostiveInteger	Mandatory	Read interval length in minutes
aggregateValue	Number	Mandatory	The aggregate sum of the interval read values. If positive then it means net consumption, if negative it means net export
intervalReads	Array of Objects	Mandatory	Array of reads with each element indicating the read for the interval specified by readIntervalLength beginning at midnight of readStartDate (for example 00:00 to 00:30 would be the first reading in a 30 minute Interval)
[[
quality	Enum	Optional	The quality of the read taken. Must be one of: <ul style="list-style-type: none"> ACTUAL SUBSTITUTE FINAL_SUBSTITUTE If absent then assumed to be ACTUAL
value	Number	Mandatory	Interval value. If positive then it means consumption, if negative it means export
}}			
}			
}			

Service Point Specific Usage Data

High Level Information

Title	Obtain a list of electricity usage data from a particular service point
HTTP Method	GET
URI	/energy/electricity/servicepoints/{servicePointId}/usage
Security Scope	energy:electricity.usage:read
Pagination	Supported
Path Parameters	servicePointId ID of the specific service point requested. This is a tokenised ID previous obtained from the Standing Data Service Point List Data end point. Note that it is not a nationalMeteringId.
Query Parameters	oldest-date Constrain the usage request to readings with effective date at or after this date. If absent defaults to newest-date minus 24 months. Format is aligned to DateString common type newest-date Constrain the usage request to readings with effective date at or before this date. If absent defaults to current date. Format is aligned to DateString common type page Page of results to request (standard pagination) page-size Page size to request. Default is 25 (standard pagination)

Request Payload

Not applicable

Response Payloads

HTTP Response Code: 200 OK

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
reads	Array of Meter Read objects	Mandatory	Array of meter reads using the structure defined in the Meter Read common type
}			
links	Object	Mandatory	

Field	Type	Mandatory	Description
{			
self	URIStrIng	Mandatory	Fully qualified link to this API call
first	URI	Conditional	URI to the first page of this set. Mandatory if this response is not the first page
prev	URI	Conditional	URI to the previous page of this set. Mandatory if this response is not the first page
next	URI	Conditional	URI to the next page of this set. Mandatory if this response is not the last page
last	URI	Conditional	URI to the last page of this set. Mandatory if this response is not the last page
}			
meta	Object	Mandatory	
{			
totalRecords	PositiveInteger	Mandatory	The total number of records in the full set
totalPages	PositiveInteger	Mandatory	The total number of pages in the full set
}			

Bulk Usage Data

High Level Information

Title	Obtain a usage data for all service points associated with the consumer
HTTP Method	GET
URI	/energy/electricity/servicepoints/usage
Security Scope	energy:electricity.usage:read
Pagination	Supported
Path Parameters	None
Query Parameters	<p>oldest-date Constrain the usage request to readings with effective date at or after this date. If absent defaults to newest-date minus 24 months. Format is aligned to DateString common type</p> <p>newest-date Constrain the usage request to readings with effective date at or before this date. If absent defaults to current date. Format is aligned to DateString common type</p> <p>page Page of results to request (standard pagination)</p> <p>page-size Page size to request. Default is 25 (standard pagination)</p>

Request Payload

Not applicable

Response Payloads

HTTP Response Code: 200 OK

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
reads	Array of Meter Read objects	Mandatory	Array of meter reads using the structure defined in the Meter Read common type
}			
links	Object	Mandatory	
{			

Field	Type	Mandatory	Description
self	URIStrIng	Mandatory	Fully qualified link to this API call
first	URI	Conditional	URI to the first page of this set. Mandatory if this response is not the first page
prev	URI	Conditional	URI to the previous page of this set. Mandatory if this response is not the first page
next	URI	Conditional	URI to the next page of this set. Mandatory if this response is not the last page
last	URI	Conditional	URI to the last page of this set. Mandatory if this response is not the last page
}			
meta	Object	Mandatory	
{			
totalRecords	PositiveInteger	Mandatory	The total number of records in the full set
totalPages	PositiveInteger	Mandatory	The total number of pages in the full set
}			

Usage Data for Specific Service Points

High Level Information

Title	Obtain the electricity usage data for a specific set of service points
HTTP Method	POST
URI	/energy/electricity/servicepoints/usage
Security Scope	energy:electricity.usage:read
Pagination	Supported
Path Parameters	None
Query Parameters	<p>oldest-date Constrain the usage request to readings with effective date at or after this date. If absent defaults to newest-date minus 24 months. Format is aligned to DateString common type</p> <p>newest-date Constrain the usage request to readings with effective date at or before this date. If absent defaults to current date. Format is aligned to DateString common type</p> <p>page Page of results to request (standard pagination)</p> <p>page-size Page size to request. Default is 25 (standard pagination)</p>

Request Payload

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
servicePointIds	Array[String]	Mandatory	Array of specific servicePointIds to obtain usage for.
}			
meta	Object	Mandatory	
{			
}			

Response Payloads

HTTP Response Code: 422 Unprocessable Entity

Returned, with standard error payload if any of the servicePointIds in the request are invalid or no longer associated with the current consent arrangement or consumer.

Specifics of the error payload may change in response to the existing error handling consultations that are underway. This error response will align to the error returned for an invalid accountId from the 'Get Balances For Specific Accounts' end point under Banking APIs in the CDR standards.

HTTP Response Code: 200 OK

Field	Type	Mandatory	Description
data	Object	Mandatory	
{			
reads	Array of Meter Read objects	Mandatory	Array of meter reads using the structure defined in the Meter Read common type
}			
links	Object	Mandatory	
{			
self	URIStrng	Mandatory	Fully qualified link to this API call
first	URI	Conditional	URI to the first page of this set. Mandatory if this response is not the first page
prev	URI	Conditional	URI to the previous page of this set. Mandatory if this response is not the first page
next	URI	Conditional	URI to the next page of this set. Mandatory if this response is not the last page
last	URI	Conditional	URI to the last page of this set. Mandatory if this response is not the last page
}			
meta	Object	Mandatory	
{			
totalRecords	PositiveInteger	Mandatory	The total number of records in the full set
totalPages	PositiveInteger	Mandatory	The total number of pages in the full set
}			