Settlements & Billing

Configuration Guide: Day Ahead Greenhouse Gas Offset

**CC 8315**

Version 5.0

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# Purpose of Document

The purpose of this document is to capture the requirements and design specification for a Charge Code in one document.

# Introduction

## Background

The CAISO calculates and accounts for GHG settlements in respective GHG Regulation Area and resources dispatched from non-GHG regulation areas to serve load in GHG Regulation Areas.

Day Ahead GHG Settlement includes:

Day Ahead Greenhouse Gas Emission Cost Revenue (CC 8310)

To the extent that the sum of the Settlement Amounts for DA GHG does not equal zero within the EDAM footprint, there will be charges assessed or payments made in Day Ahead Greenhouse Gas Offset ( CC 8315) for the resulting differences to the GHG Regulation Area or non-GHG Regulation Area’s metered demand.

## Description

The calculation of Day Ahead Greenhouse Gas Offset includes the settlement of Day Ahead Greenhouse Gas Compensation. To the extent that the sum of the Settlement Amounts for EDAM Greenhouse Gas Compensation does not equal zero, the CAISO will assess Charges or make Payments in Day Ahead Greenhouse Gas Offset (CC 8315) for the resulting differences to the EDAM Entity Scheduling Coordinator for the GHG Regulation Area or non-GHG Regulation Area.

# Charge Code Requirements

## Business Rules

| Bus Req ID | Business Rule |
| --- | --- |
|  | This Charge Code shall be calculated and output on an hourly Settlement Interval basis. |
|  | **DAM GHG Offset**  Marginal GHG Offset for each GHG regulation area is the sum of the product of; Day Ahead Energy schedule, Convergence Bid award, Marginal Greenhouse Gas Attribution and GHG payment for that GHG regulation area and the applicable Marginal GHG Cost. |
|  | Calculation of DAM GHG Offset excludes NPM resources. |
|  | The term net export is from the perspective of the EDAM Entity Area to the GHG Regulation Area (fact) |
|  | The allocation of the Day Ahead Greenhouse Gas Offset shall be to the Greenhouse Gas regulation area’s metered demand. |
|  | For adjustments to the Charge Code that cannot be accomplished by correction of upstream data inputs, recalculation or operator override, Pass Through Bill Charge logic will be applied. |

## Predecessor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 8310 Day Ahead Green House Gas Emission Cost Revenue |

## Successor Charge Codes

| Charge Code/ Pre-calc Name |
| --- |
| CC 8404 Day Ahead Energy and Marginal Loss Offset |
|  |

## Inputs - External Systems

|  |  |  |
| --- | --- | --- |
| Row # | Variable Name | Description |
| 1 | PTBDayAheadGHGOffsetAdjustmentAmt BQ’G’’Jmd | PTB Charge Adjustment for this charge code. |
| 2 | EDAMDAMGHGMarginalPrc BrtQ’G’’mdh | The DAM GHG shadow price component in the (LMPs) of GHG Regulation Area by resource by hour. |
| 3 | BAResourceEDAMGHGQty BrtQ’F’S’G’’mdh | Net export (MW) to the GHG Regulation Area for each EDAM resource for GHG payment. |
| 4 | BADAMBAAGHGRegAreaFlag BQ’G’’md | Flag that identifies relationship between BAA and GHG Regulation Area in Day Ahead. |
| 5 | BAHourlyDAVirtualAwardNodalQuantity BQ’AA’Qpay’mdh | The input provides the DA Virtual Award cleared Energy quantity in association with Business Associate. (MW) |

## Inputs - Predecessor Charge Codes or Pre-calculations

| Row # | Variable Name | Predecessor Charge Code/  Pre-calc Configuration |
| --- | --- | --- |
| 1 | SettlementIntervalResouceDayAheadEnergy *BrtuT’I’Q’M’F’S’mdhcif* | PC Real Time Energy Quantity |
| 2 | BABAAMeteredDemandQuantity BQ’mdh | PC MSS Netting |

## CAISO Formula

The daily uplift settlement of Day Ahead Greenhouse Gas Emission Cost Revenue for each resource is as follows:

### GHGAreaOffsetSettlementAmount BQ’G’’mdh =

### (BADAMGHGBAAMeteredDemandRatio BQ’G’’mdh) \* DAGHGAreaMarginalCostOffsetAmount G’’mdh

### BADAMGHGBAAMeteredDemandRatio BQ’G’’mdh =

BADAMGHGRegAreaMeteredDemandQuantity BQ’G’’mdh/ DAMGHGRegAreaMeteredDemandQuantity G’’mdh

### DAMGHGRegAreaMeteredDemandQuantity G’’mdh = Sum (B,Q’) BADAMGHGRegAreaMeteredDemandQuantity BQ’G’’mdh

### BADAMGHGRegAreaMeteredDemandQuantity BQ’G’’mdh =

INTDUPLICATE(BADAMBAAGHGRegAreaFlag BQ’G’’md)\* (BABAAMeteredDemandQuantity BQ’mdh)

### DAGHGAreaMarginalCostOffsetAmount G’’mdh =

Sum (B,Q’) BADAMGHGAreaMarginalPrice BQ’G’’mdh \* (BAHourlyBAADayAheadGHGEnergyQuantity BQ’G’’mdh + BADAVirtualAwardGHGRegAreaQuantity BQ’G’’mdh + BADAGHGAreaAttributionQuantity BQ’G’’mdh)

### BADAMGHGAreaMarginalPrice BQ’G’’mdh =

Average (r,t) EDAMDAMGHGMarginalPrc BrtQ’G’’mdh

Note: Default aggregation method is an average when summing attributes for a rate.

### BADAGHGAreaAttributionQuantity BQ’G’’mdh =

Sum (r,t,F’,S’) BAResourceEDAMGHGQty BrtQ’F’S’G’’mdh

**Convergence Bid Awards by GHG Regulation Area**

### BADAVirtualAwardGHGRegAreaQuantity BQ’G’’mdh =

### INTDUPLICATE(BADAMBAAGHGRegAreaFlag BQ’G’’md)\* BADAVirtualAwardQuantity Bmdh

Note: Should only calculate for GHG Regulation Areas

### BADAVirtualAwardQuantity Bmdh =

### Sum (Q’A,A’,Q,p,a,y’) BAHourlyDAVirtualAwardNodalQuantity BQ’AA’Qpay’mdh

**Day Ahead Energy Schedule by GHG Regulation Area**

### BAHourlyBAADayAheadGHGEnergyQuantity BQ’G’’mdh =

### INTDUPLICATE(BADAMBAAGHGRegAreaFlag BQ’G’’md)\* BAHourlyBAADayAheadEnergyQuantity BQ’mdh

Note: Should only calculate for GHG Regulation Areas

### BAHourlyBAADayAheadEnergyQuantity BQ’mdh =

### Sum (r,t,u,T’,I’,M’,F’,S’,cif) SettlementIntervalResouceDayAheadEnergy *BrtuT’I’Q’M’F’S’mdhcif*

Note: Does not include NPM Resources

### BAAGHGOffsetSettlementAmount Q’mdh =

Sum (B,G’’) GHGAreaOffsetSettlementAmount BQ’G’’mdh

## Outputs

| Row # | Name | Description |
| --- | --- | --- |
|  | In addition to any outputs listed below, all inputs shall be included as outputs. |  |
| 1 | GHGAreaOffsetSettlementAmount BQ’G’’mdh | The GHG offset settlement amount by BA, BAA and GHG Regulation Area. |
| 2 | BADAMGHGBAAMeteredDemandRatio BQ’G’’mdh | Ratio of Metered Demand by BA, BAA, and GHG Regulation Area. |
| 3 | DAMGHGRegAreaMeteredDemandQuantity G’’mdh | Metered Demand by GHG Regulation Area. |
| 4 | BADAMGHGRegAreaMeteredDemandQuantity BQ’G’’mdh | Metered Demand by BA, BAA, and GHG Regulation Area. |
| 5 | DAGHGAreaMarginalCostOffsetAmount G’’mdh | GHG Offset amount by GHG Regulation Area. |
| 6 | BADAMGHGAreaMarginalPrice BQ’G’’mdh | GHG Price by BA, BAA, and GHG Regulation Area. |
| 7 | BADAGHGAreaAttributionQuantity BQ’G’’mdh | GHG Attribution by BA, BAA, and GHG Regulation Area. |
| 8 | BADAVirtualAwardGHGRegAreaQuantity BQ’G’’mdh | Convergence Bid Virtual Awards by BA, BAA, and GHG Regulation Area. |
| 9 | BADAVirtualAwardQuantity Bmdh | Convergence Bid Virtual Awards by BA. |
| 10 | BAHourlyBAADayAheadGHGEnergyQuantity BQ’G’’mdh | Day Ahead Energy Schedule by BA, BAA, and GHG Regulation Area. |
| 11 | BAHourlyBAADayAheadEnergyQuantity BQ’mdh | Day Ahead Energy Schedule by BA and BAA. |
| 12 | BAAGHGOffsetSettlementAmount Q’mdh | GHG Offset by BAA |

# Charge Code Effective Dates

| Charge Code/  Pre-calc Name | Document Version | Effective Start Date | Effective End Date | Version Update Type |
| --- | --- | --- | --- | --- |
| CC 8315 – Day Ahead Greenhouse Gas Offset | 5.0 | 05/01/26 | Open | Configuration Impacted |