



Real-Time Settlement Review Issue Paper/Straw Proposal

Stakeholder Meeting
August 24, 2020

Public

Agenda

Time	Topic	Presenter
10:00 – 10:10 AM	Welcome and Introductions	Kristina Osborne
10:10 – 10:20 AM	Proposal Overview	James Friedrich
10:20 – 10:50 AM	Real-Time Settlement Metrics	James Lynn
10:50 – 11:50 AM	Proposed Changes	James Friedrich
11:50 AM – 12:00 PM	Next Steps	Kristina Osborne

CAISO development process for RTSR

PROPOSAL DEVELOPMENT

Issue paper

↳ Straw proposal

Draft proposal

Draft business requirement specification

Draft tariff

Final proposal



Stakeholder input

DECISION

ISO Board

EIM Governing Body

Tariff filing

FERC

IMPLEMENTATION

Business practice manual revisions
Market simulation

Go Live

This represents the typical process, and often stages of the process run in parallel.

We are here

Wheeling –
Spring 2021

UFE – Fall 2021

RTSR policy development schedule

Item	Date*
Post Issue Paper/Straw Proposal	August 17, 2020
Stakeholder Conference Call	August 24, 2020
Stakeholder Comments Due	September 7, 2020
Post Draft Final Proposal and Draft Tariff Language	October 1, 2020
Stakeholder Conference Call	October 8, 2020
Stakeholder Comments Due	October 22, 2020
EIM Governing Body	November 4, 2020
ISO Board of Governors	November 18-19, 2020

**Dates are tentative and subject to change*

Real-Time Settlement Review

PROPOSAL OVERVIEW

Initiative Scope

- During the Real-Time Market Neutrality Settlement initiative, CAISO committed to conduct a comprehensive review of the real-time settlement charge codes associated with cost shifting between BAAs
- This initiative has two purposes
 1. Provide insight into some of the RT settlement metrics the CAISO uses
 2. Propose two changes to CAISO settlement calculations
- CAISO is open to addressing other issues identified either internally or by stakeholders if they adhere to scope and timeline
- Issues not considered in this initiative can be addressed in separate initiatives or added to the CAISO's policy initiatives roadmap

Summary of Proposals

- Asymmetrical settlement for wheeling through EIM BAAs
 - Issue: CAISO has identified an asymmetrical settlement for energy wheeling through EIM area when one of the EIM BAAs has a power balance constraint violation
 - Proposal: (1) Remove election for EIM entities to settle base ETSR schedule deviations bilaterally (2) Require EIM entities to settle base ETSR schedule deviations at SP-Tie prices
- Unaccounted For Energy (UFE) Settlement
 - Proposal: Allow EIM entities who must derive their load through generation and intertie meters to choose not to have CAISO calculate their UFE settlement

Real-Time Settlement Review

REAL-TIME SETTLEMENT METRICS

RT Settlement Metrics

- CAISO uses metrics as part of its process to monitor settlement charge code results to ensure quality and transparent market settlements
- Metrics help identify inappropriate cost shift between BAAs
 - Helped identify asymmetrical settlement addressed in this stakeholder initiative
- When anomalies reveal a systemic problem, the CAISO will address it through appropriate process
- CAISO is committed to monitoring and reviewing these metrics on an ongoing basis and plans to present issues as they arise through various forum

Metric 1: Imbalance Energy and Financial Value Settlement

- Compares imbalance energy settlement against the ETSR financial value settlement

Imbalance Energy	Financial Value
FMM Instructed Imbalance Energy	FMM ETSR Financial Value Settlement
Real Time Instructed Imbalance Energy Settlement	RTD ETSR Financial Value Settlement
Real Time Uninstructed Imbalance Energy Settlement	GHG ETSR Financial Value Settlement
Real Time Unaccounted for Energy Settlement	
Greenhouse Gas Emission Cost Revenue	
Real Time Convergence Energy Settlement	

- Provides insight into cost drivers of real-time neutrality

Metric 2: Real-Time Congestion Comparison

- Compares each BAA's marginal cost of congestion to the real-time congestion allocation
- Two purposes
 - Identifies intervals with significant congestion cost
 - Helps ensure congestion costs are allocated to the correct entity

Metric 3: Real-Time Offset Comparison

- Compares the settlement of real-time offsets across the all BAAs and EIM Area
- Identifies which components of LMP is driving neutrality imbalances for each BAA as well as EIM Area
- Evaluates effectiveness of changes made in Real-Time Market Neutrality initiative
 - As the past Trade Date are resettled, the new settlement results are compared against the expectations

QUESTIONS?

Real-Time Settlement Review

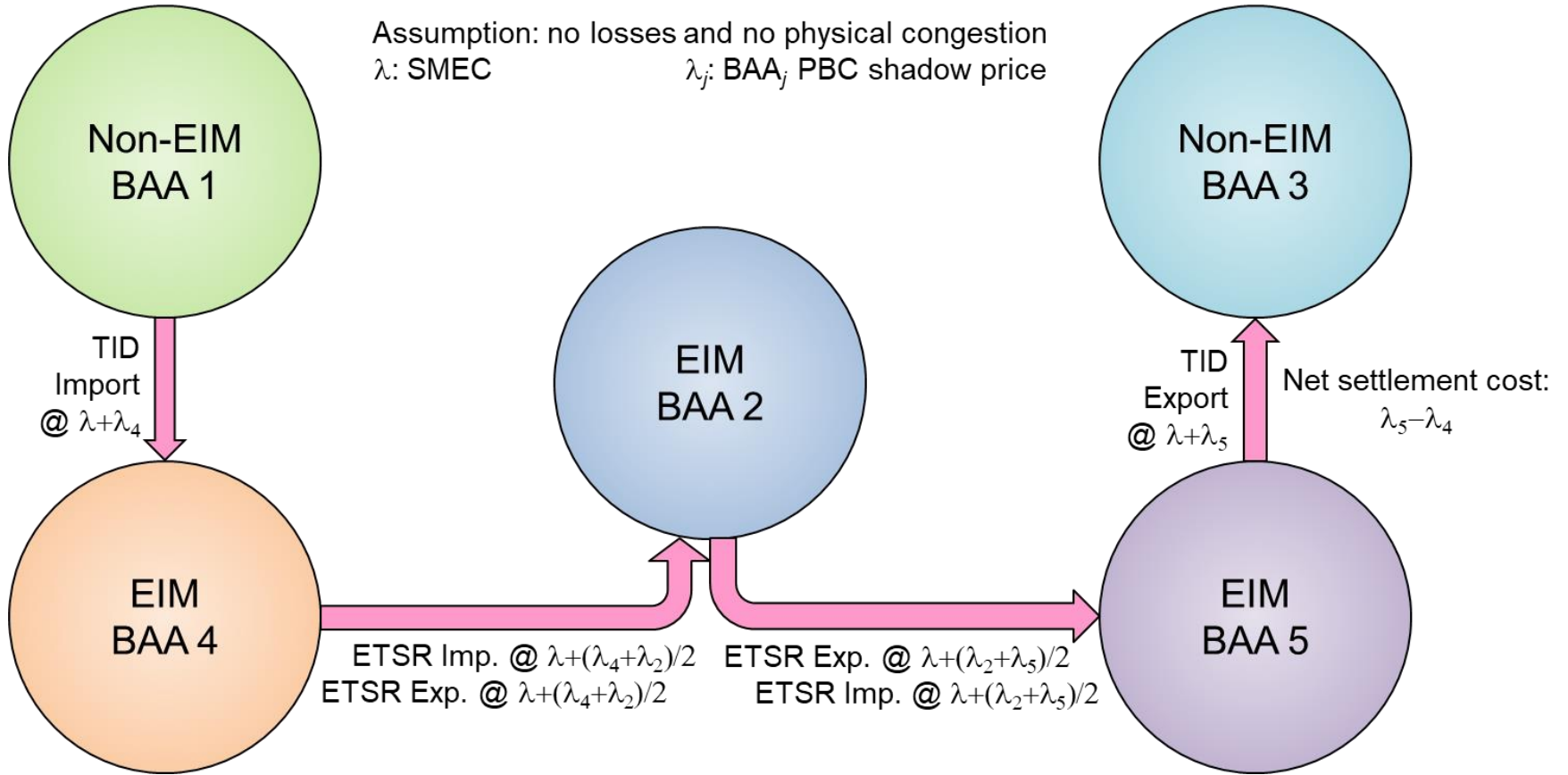
PROPOSED CHANGES

Asymmetrical Wheeling Settlement

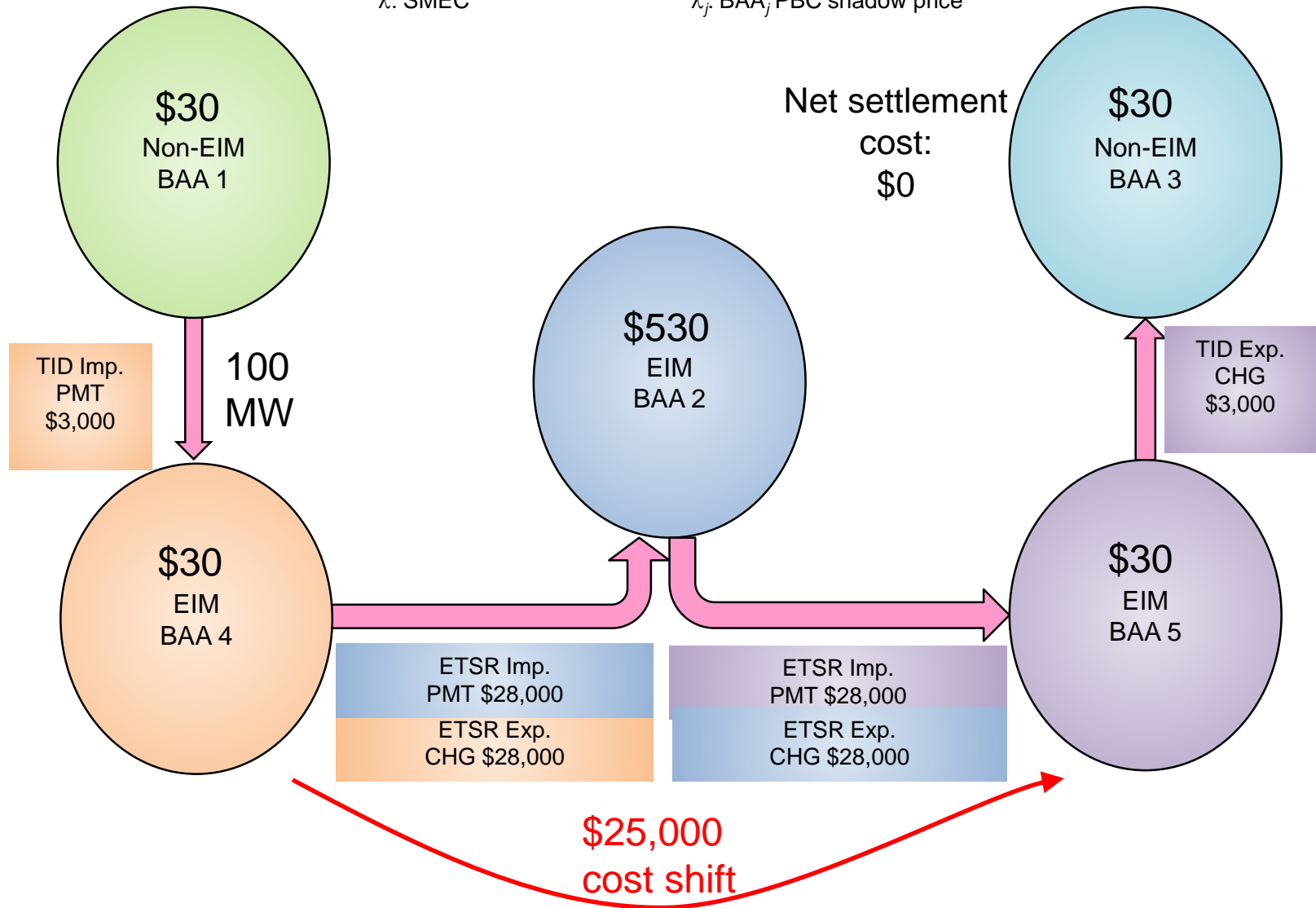
- CAISO has identified a potential settlement issue when energy wheels through multiple EIM areas and there is a power balance constraint in one of the EIM BAAs
- Can result in cost shifting both between EIM entities and in/out of EIM area
- Cost shifting exacerbated when EIM entities choose not to settle base ETSR schedule deviations

Proposal

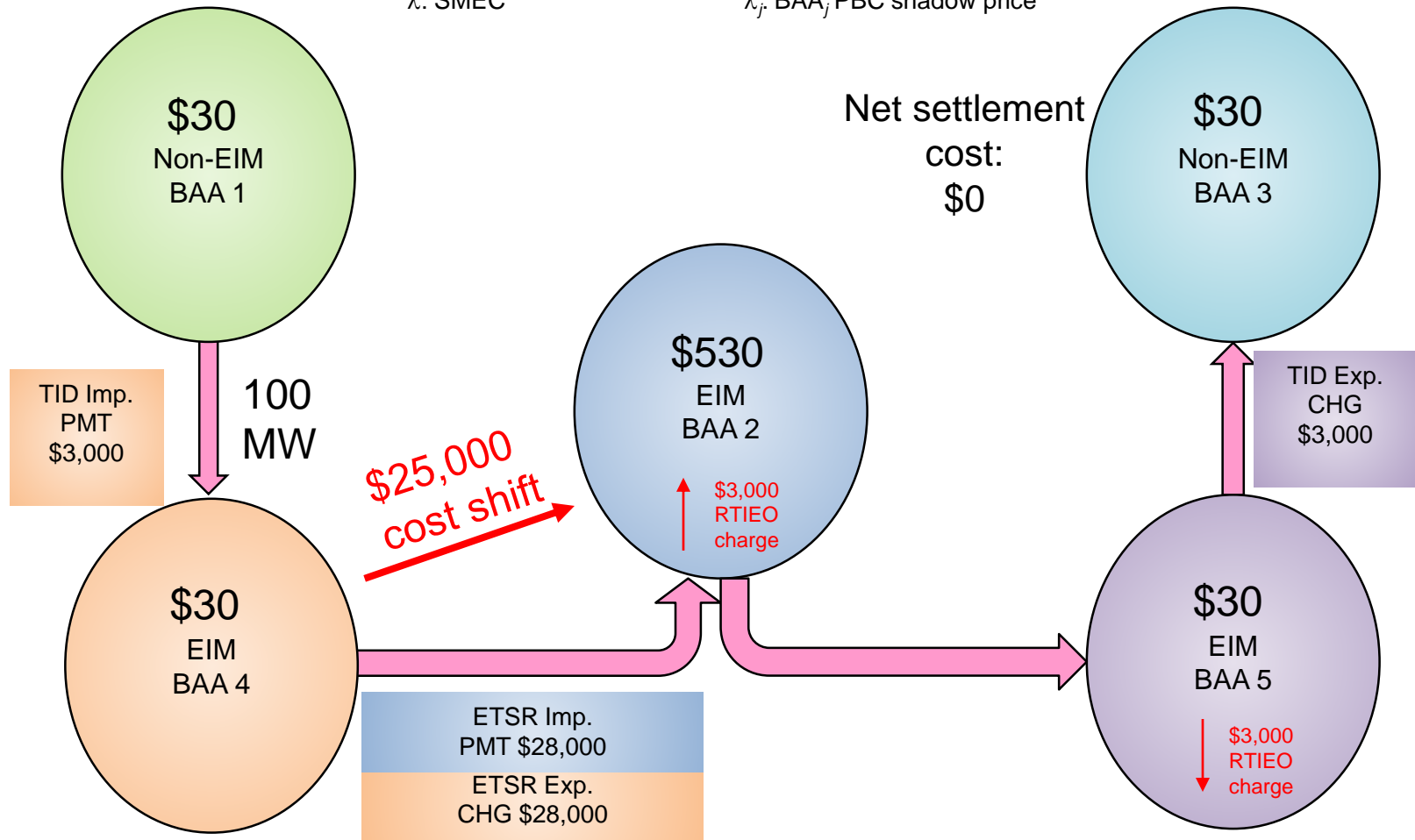
- Base ETSR is a bilateral energy transaction that is flowing energy across a transfer location and is not optimized by the market
- Deviations occur when base ETSR schedules change between base schedule submission and FMM/RTD based upon pre-hour tag submission
- Currently two settlement options
 - Settle through market → settling at market-determined prices
 - Settle bilaterally → settling outside ISO market at an agreed-upon price
- Proposal makes two changes:
 1. Eliminate the option for EIM entities not to settle Base ETSRs schedule deviations
 2. Base ETSR schedule deviations must be settled through the CAISO market at SP-Tie prices. This is the same price that schedule deviations would settle at the intertie if the BAA at the other end were a non-EIM BAA

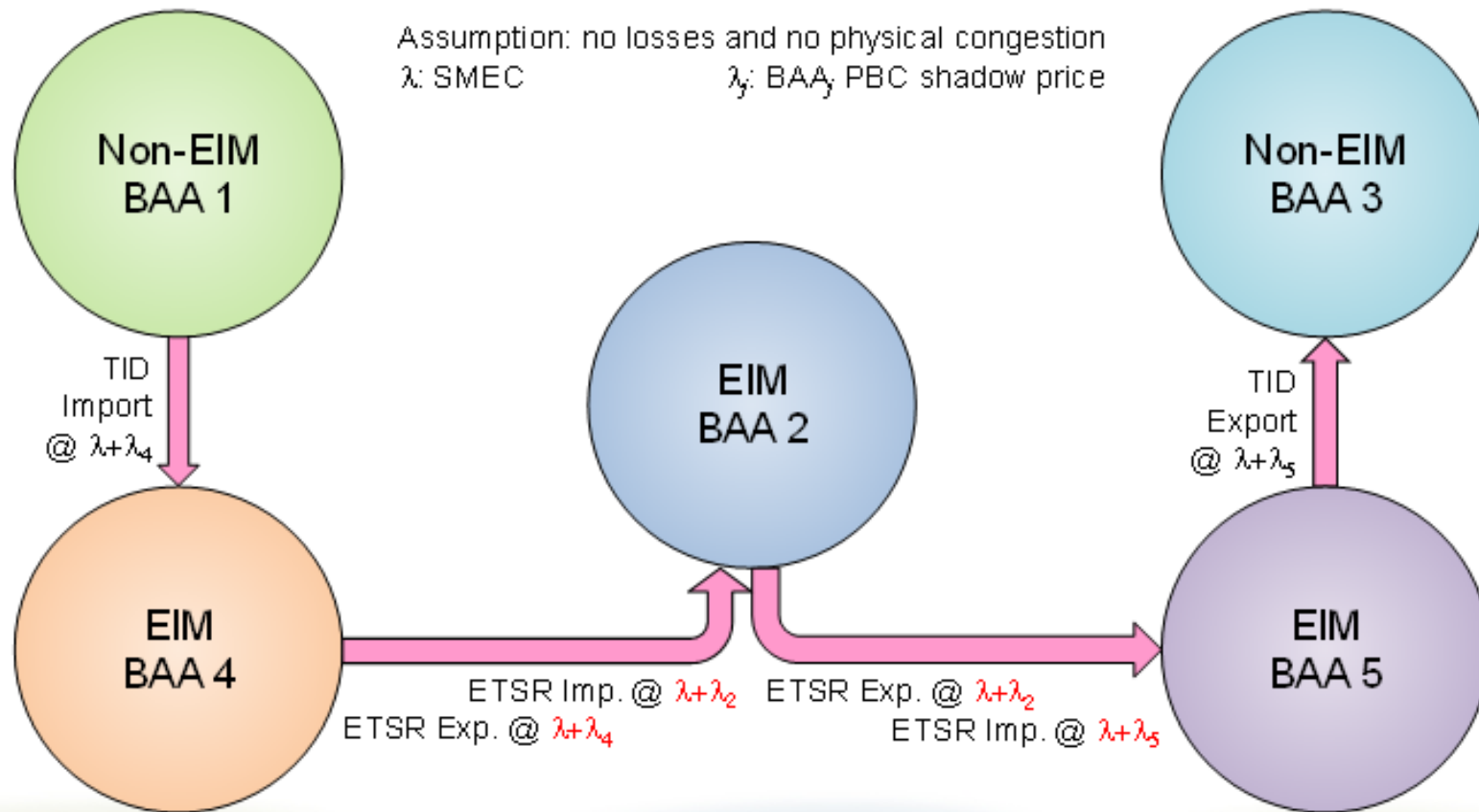


Assumption: 100 MW flow, no losses and no physical congestion
 λ : SMEC λ_j : BAA_j, PBC shadow price

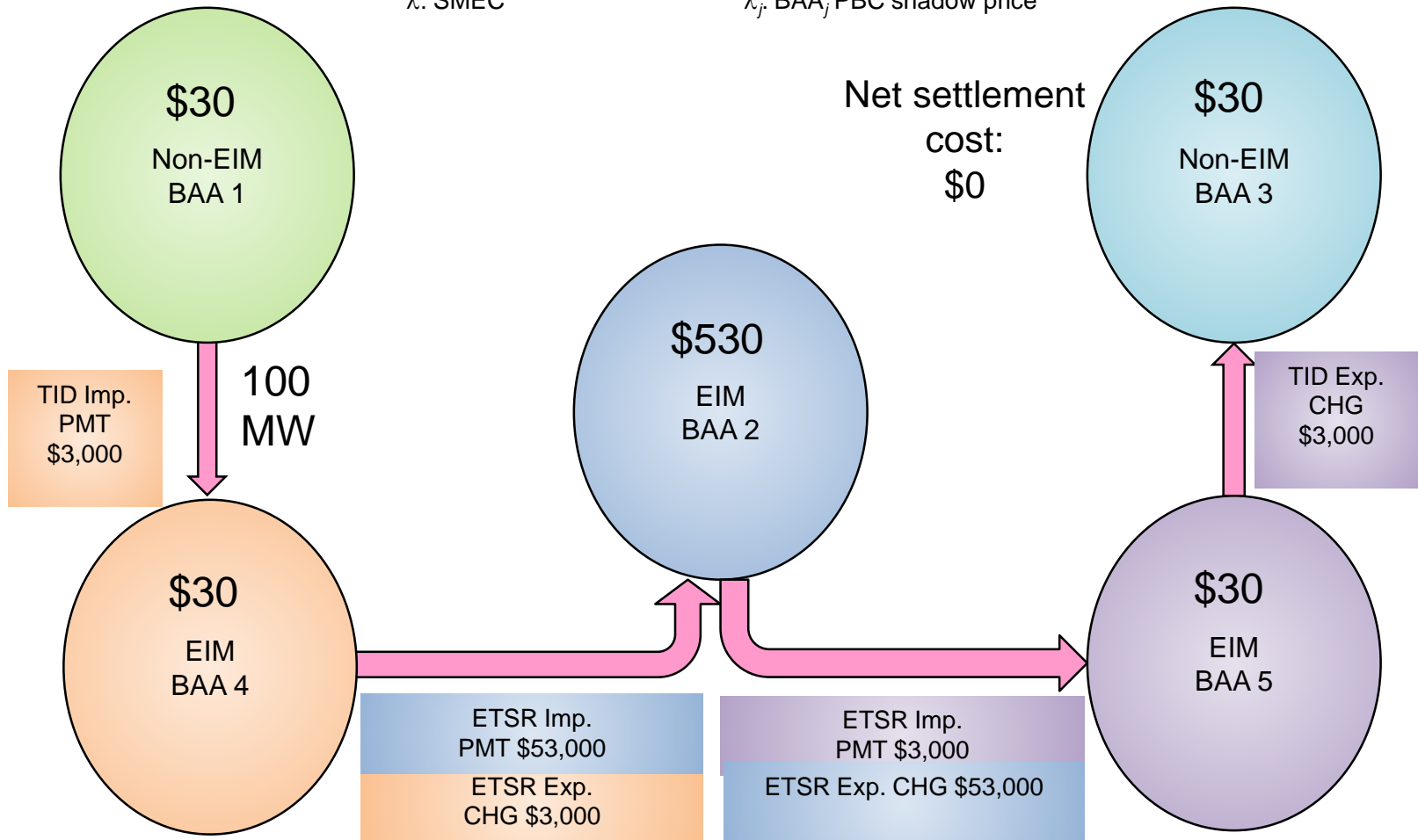


Assumption: 100 MW flow, no losses and no physical congestion
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Assumption: 100 MW flow, no losses and no physical congestion
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QUESTIONS?

Unaccounted for Energy Settlement

- Two approaches to calculate load:
 - “Load aggregation” approach
 - “Load derivation” approach
- CAISO proposes to allow EIM entities using a load derivation approach to choose whether to settle unaccounted for energy

Optional Settlement of UFE

- **Elect to settle Unaccounted for Energy**
 - UFE settlement will remain unchanged from its current status
 - CAISO will apply the OATT loss factor when calculating hourly load base schedule and EIM entity will apply same OATT loss factor in load derivation approach calculation.
 - CAISO will calculate UFE settlement quantity as the product of the RTM hourly LAP price and the sum of the generation + imports less the sum of exports + metered load + RTM losses
- **Elect not to settle Unaccounted for Energy**
 - EIM entity will account for base schedule losses outside of the ISO market
 - EIM entity and CAISO settlements will assume OATT loss factor of zero
 - CAISO will not incorporate losses when calculating the hourly load base schedule and EIM entity will not incorporate losses in the load derivation meter calculation.
 - CAISO will then exclude the EIM BAA from calculation of UFE amount.

QUESTIONS?

Real-Time Settlement Review

NEXT STEPS

EIM Governing Body classification

- The CAISO proposes the EIM Governing Body have **primary authority** in the approval of the Real-Time Settlement Review initiative
- Stakeholders are encouraged to submit responses to the EIM classification in written comments

Next steps

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→ Comments due - Issue Paper/Straw Proposal	September 4, 2020
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Important–Please review new process for submitting comments

- Provide comments using the new stakeholder commenting tool; the template is located on the initiative webpage at <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Real-time-settlement-review>
- First-time users must register using their email address in order to submit comments on initiatives
- To register and see all open comments, go to the Stakeholder Initiatives landing page (click on the “commenting tool” icon): <https://stakeholdercenter.caiso.com/StakeholderInitiatives>.