
BANKING METRICS: UPDATE ON METHODS UNDER CONSIDERATION

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IEMAC Webinar | September 5, 2019

1. 3-YEAR COMPLIANCE PERIOD METRICS

THIRD COMPLIANCE PERIOD REPORTING

ARB Resolution 18-51:

BE IT FURTHER RESOLVED that the Board directs the Executive Officer to quantify and report to the Board, by no later than December 31, 2021, the volume of unused allowances from 2013 through 2020, including volumes held in private accounts, and the potential for unused allowances to hinder the ability of the program to help achieve the SB 32 target. The Executive Officer shall hold a public workshop in 2019 to discuss potential methodologies to evaluate this topic.

SECOND COMPLIANCE PERIOD (2015-17)

9.

Type	Issuing Jurisdiction			Total
	California	Québec	Ontario	
Allowances vintage 2013				1,408,541
Allowances Vintage 2014				4,901,858
Allowances Vintage 2015				10,592,014
Allowances Vintage 2016				53,291,321
Allowances Vintage 2017				107,635,826
Non-vintage Québec Early Action Allowances		19,221		19,221
Non-vintage Reserve Allowances				38,317
Subtotal, allowances				177,887,098
Offset credits	40,538,499	77,534		40,616,033
Total Compliance Instruments				218,503,131

Source: ARB & CalEPA (2019), based on 2018 Q4 CIR (ARB 2019a)

THIRD COMPLIANCE PERIOD (2018-20)

Compliance Instrument Report

	2021 Q3	Special CIR	2021 Q4	2022 Q1
Date of measurement	Early Oct. 2021	Nov. / Dec. 2022	Early Jan. 2022	Early Apr. 2022
Before or after Nov. compliance event?	Before	After	After	After
Before or after Nov. Q4 auction?	Before	After	After	After
Adjustment needed?	Yes, for compliance event and auction	No	No	No
Can metric be reported by end of Dec. 2021?	Yes	No	No	No

3-YEAR BANKING METRICS: POSSIBLE RECOMMENDATIONS

ARB has several viable options for reporting banking metrics at the end of each 3-year compliance period, including one it has already used.

Relative to the commitment made in Resolution 18-51, however, a minor delay of several weeks is needed to accommodate the approach taken for the Second Compliance Period for use in the Third Compliance Period.

- ARB should specify the method it intends to use for the Third Compliance Period (2018-20) well in advance of reporting results.
- The approach used for the Second Compliance Period (2015-17) should be maintained for the Third Compliance Period (2018-20).

2. ANNUAL METRICS

THREE KINDS OF ACCOUNTS

Private accounts

- General
- Compliance
- Limited Use Holding Account (CA)

Government holding accounts

- Auction + Issuance + Allocation

Government reserve accounts

- Reserve

PRINCIPLES FOR ANNUAL METRICS: POSSIBLE RECOMMENDATION

- Measure all fungible compliance instruments
(both offsets and allowances, issued from all eligible jurisdictions)
- Measure all covered emissions on a consistent timeframe
(from all active WCI jurisdictions)
- Subtract all associated compliance submissions, such that only those compliance obligations that have been incurred but are still outstanding remain
- Focus on private holdings, but separately report government holding and reserve accounts if feasible

ANNUAL METRICS: PRIVATE ACCOUNTS (WCI-WIDE)

$$\text{Annual Private Bank}_t = A_{P,t} + O_{P,t} - \left(\sum_{i=2013}^t C_i - \sum_{i=2013}^t S_i \right)$$

Where:

$A_{P,t}$ = Allowances in private accounts at the end of year t
(Only counting vintage $\leq t$ and non-vintage allowances)

$O_{P,t}$ = Offsets in private accounts at the end of year t

C_i = Compliance obligations in year i

S_i = Compliance surrenders in year i

ANNUAL METRICS: GOVERNMENT HOLDING ACCOUNTS (WCI-WIDE)

$$\text{Government Holding Accounts}_t = A_{H,t} + O_{H,t}$$

Where:

$A_{H,t}$ = Allowances in government holding accounts at the end of year t
(Only counting vintage $\leq t$ and non-vintage allowances)

$O_{H,t}$ = Offsets in government holding accounts at the end of year t

ANNUAL METRICS: GOVERNMENT RESERVE ACCOUNTS (WCI-WIDE)

Government Reserve Accounts _{t} = $A_{R,t}$

Where:

$A_{R,t}$ = Allowances in government reserve accounts at the end of year t
Only counting vintage $\leq t$ and non-vintage allowances

OTHER BANKING METRICS

European Union Emissions Trading System

- Total number of allowances in circulation (TNAC) metric
- Annual metric based on allowances, offsets, and emissions
- Used as rule-based triggering mechanism for Market Stability Reserve

Regional Greenhouse Gas Initiative

- Private bank metric
- Compliance period metric based on allowances, emissions
- Used as rule-based triggering mechanism for the First and Second Interim Adjustments for Banked Allowances (*i.e.*, to parametrize cap-adjustments)

EU ETS TNAC METRIC

Topic	TNAC Component	Equivalent
Supply	(a) Banked allowances from previous phase	$A_{p,t}$ <i>Note: TNAC uses all vintages, not just current vintages</i>
	(b) Total free allocations, current phase	
	(c) Total allowance auctions, current phase	
	(d) Special allowances, current phase	
	(e) Total offsets, current phase	
Demand	(a) Verified emissions	$O_{p,t}$ $\sum_{i=2013}^t C_i - \sum_{i=2013}^t S_i$
	(b) Cancelled allowances	
Reserve	Market Stability Reserve	Separate metrics for Government holding and reserve accounts

Source: European Commission (2019)

DATA SOURCES AND AVAILABILITY

Topic	Data Source	Parameter	Updates
Supply	Compliance Instrument Report (ARB 2019a)	$A_{P,t}$ and $O_{P,t}$	January
Demand	Verified emissions (ARB 2018a, MELCC 2018)	C_i	November
Compliance	Compliance submissions (ARB 2019b, MELCC 2019)	S_i	December (Previous year)

POSSIBLE FEASIBILITY FINDINGS

Objective annual banking metrics can be constructed from existing public data to measure the total number of compliance instruments held in excess of outstanding emission obligations through the end of a calendar year.

Existing public reporting allows metrics to be estimated by November of the following year, when emissions data become available for the previous year—for example, a 2018 banking metric can be calculated without making any projections or assumptions in November 2019.

QUESTIONS? COMMENTS?

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REFERENCES

ARB (2018a), MRR data,

<https://ww2.arb.ca.gov/mrr-data>

ARB (2018b), Resolution 18-51,

<https://www.arb.ca.gov/regact/2018/capandtrade18/reso1851.pdf>

ARB (2019a), Compliance Instrument Report,

<https://www.arb.ca.gov/cc/capandtrade/complianceinstrumentreport.xlsx>

ARB (2019b), Compliance Reports 2013–2017,

<https://www.arb.ca.gov/cc/capandtrade/capandtrade.htm>

ARB & CalEPA (2019), Letter from Sec. Blumenfeld and Chair Nichols to Sen. Ben Allen et al., April 22, 2019.

Inman et al. (2018), Tracking Banking in the Western Climate Initiative Cap-and-Trade Program. Near Zero Research Note, <http://www.nearzero.org/wp/reports/>

European Commission (2019), Publication of the number of allowances in circulation in 2018,

https://ec.europa.eu/clima/policies/ets/reform_en#tab-0-1

MELCC (2018), Verified and declared Emissions,

<http://www.environnement.gouv.qc.ca/changements/carbone/ventes-encheres/liste-etablissements-visesRSPEDe-en.xlsx>

MELCC (2019), Compliance Period Reports,

<http://www.environnement.gouv.qc.ca/changements/carbone/documentation-en.htm>

RGGI (2014), Second Control Period Interim Adjustment for Banked Allowances Announcement (March 17, 2014),

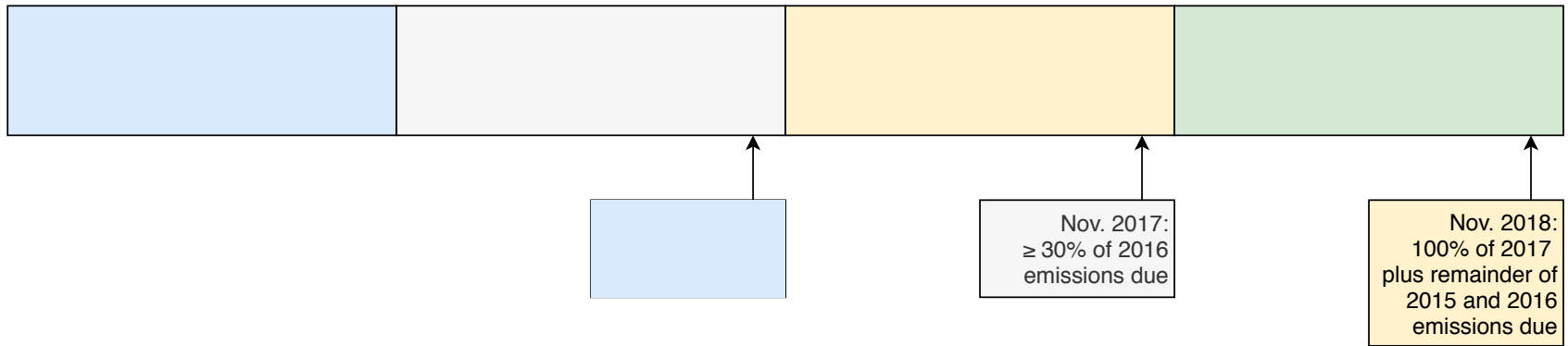
<https://www.rggi.org/program-overview-and-design/elements>

COMPLIANCE INSTRUMENT REPORTS

Vintage	Entity Accounts			Jurisdictional Accounts						All Accts. [10] Total
	[1] General	[2] Compliance	[3] Limited Use Holding Account (CA)	[4] Voluntary Renewable Elec.(CA)	[5] Auction + Issuance + Allocation	[6] Retirement	[7] Invalidation	[8] Reserve	[9] Env't Integrity	
[11] 2013										
[12] 2014										
[13–27] (2015–2029)										
[28] 2030										
[29] Non-Vintage Early Action (QC)										
[30] Non-Vintage Reserves										
[31] Allowance subtotal										
[32] US Forest (CA)										
[33] Urban Forest (CA)										
[34] ODS (CA)										
[35] Livestock (CA)										
[36] Mine CH4 (CA)										
[37] Rice (CA)										
[38] ODS (QC)										
[39] Landfill (QC)										
[40] Offsets subtotal										
[41] Total										

COMPLIANCE EVENTS

California



Québec

