

Low Carbon Fuel Standard Guidance Workshop

Industrial Strategies Division
Transportation Fuels Branch

November 6, 2015
Sacramento, CA

California Environmental Protection Agency
 **Air Resources Board**

Overview

- Status of Existing Pathway Applications
- Pathway Classifications Scheme
 - Tier 1 Pathway
 - Tier 2 Pathway
- Re-certification of Legacy Pathways
- New Pathway Application Process
- Materials Available and Feedback Deadline

Status of Existing Pathway Applications

- Working to certify the existing pathway applications before the end of the year
- Last date to post for public comments anticipated to be December 15, 2015
- All applications not certified will have to be re-submit a new pathway application using CA-GREET 2.0

Critical Dates for Re-certification and New Applications

- **September 25, 2015**
Board approved re-adoption of the LCFS regulation
- **January 1, 2016**
Re-adopted LCFS regulation goes into effect
- **January 31, 2016**
Deadline for submitting request to ARB for re-certification of legacy pathways and new pathways to ensure certification by December 31, 2016
- **December 31, 2016**
All Pathways certified under the 2009 LCFS regulation to sunset

Pathway Classification Scheme

Tier 1 vs. Tier 2 Pathways

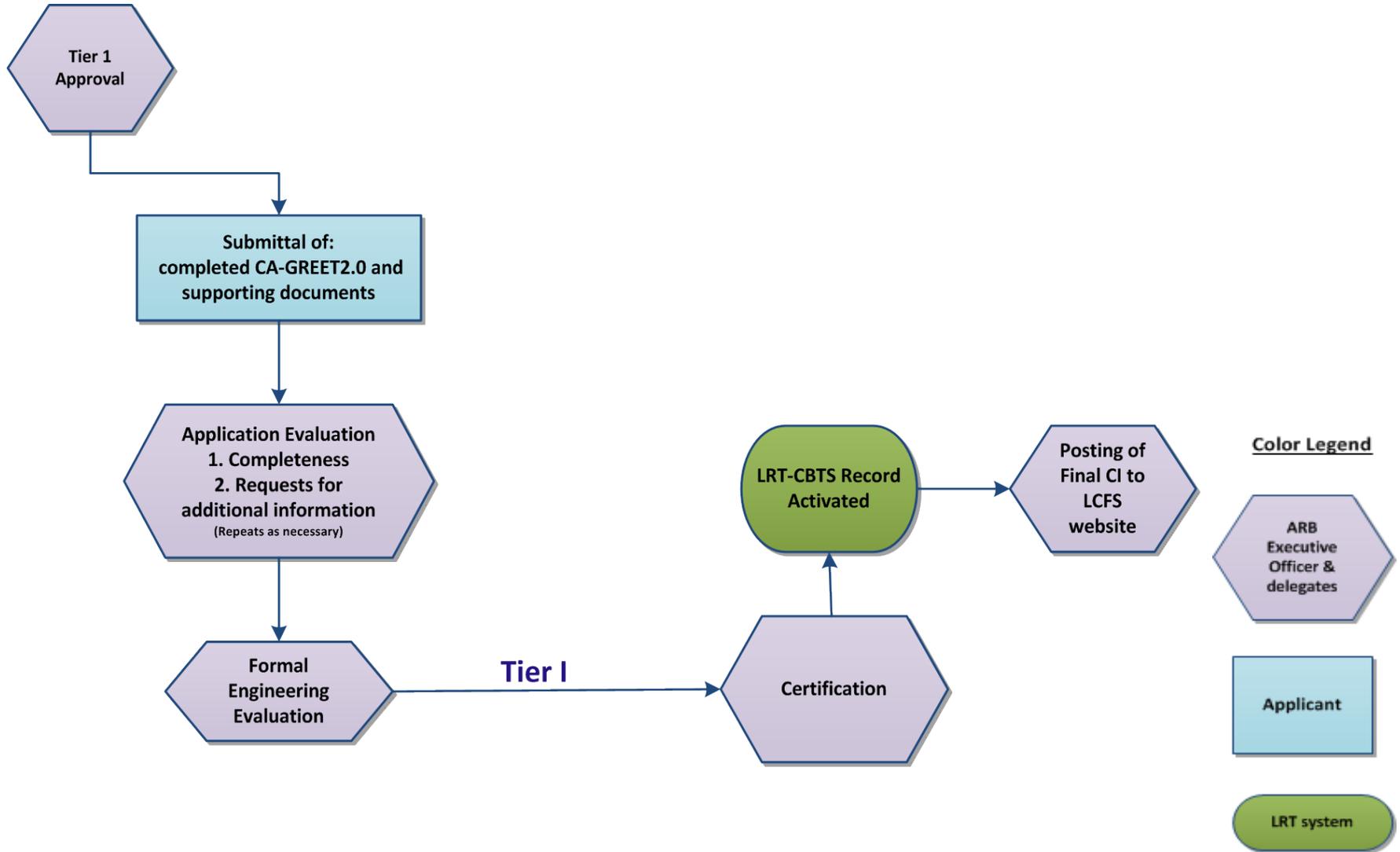
- **Tier 1 Pathway:**

Conventionally produced, *first-generation* fuels such as ethanol (starch- and sugar-based), biodiesel, renewable diesel, biomethane from landfill gas and natural gas

- **Tier 2 Pathway:**

Next-generation fuels such as cellulosic alcohols, hydrogen, drop-in fuels, or conventional, first-generation fuels using innovative processes

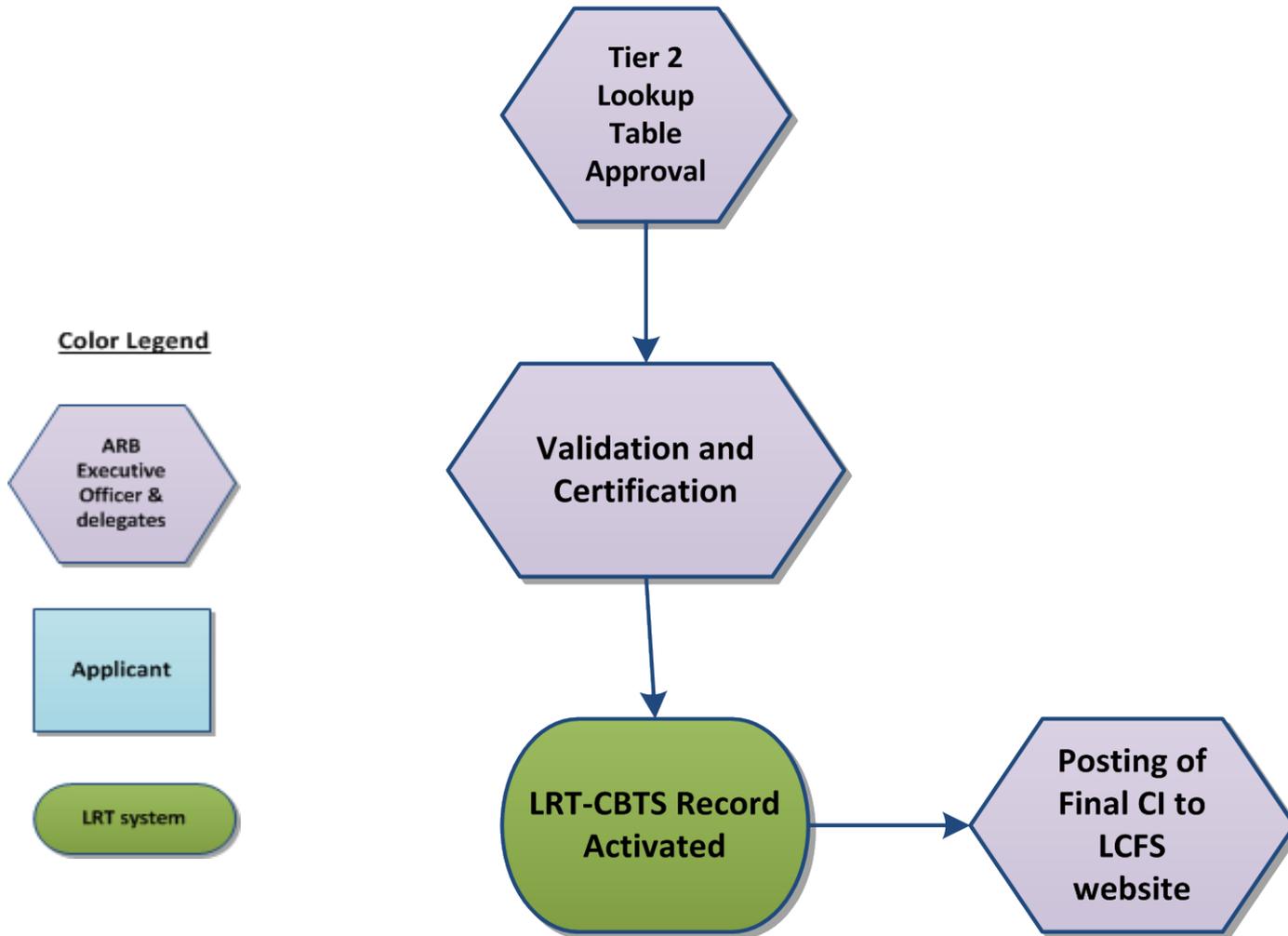
Tier 1 Pathway Process



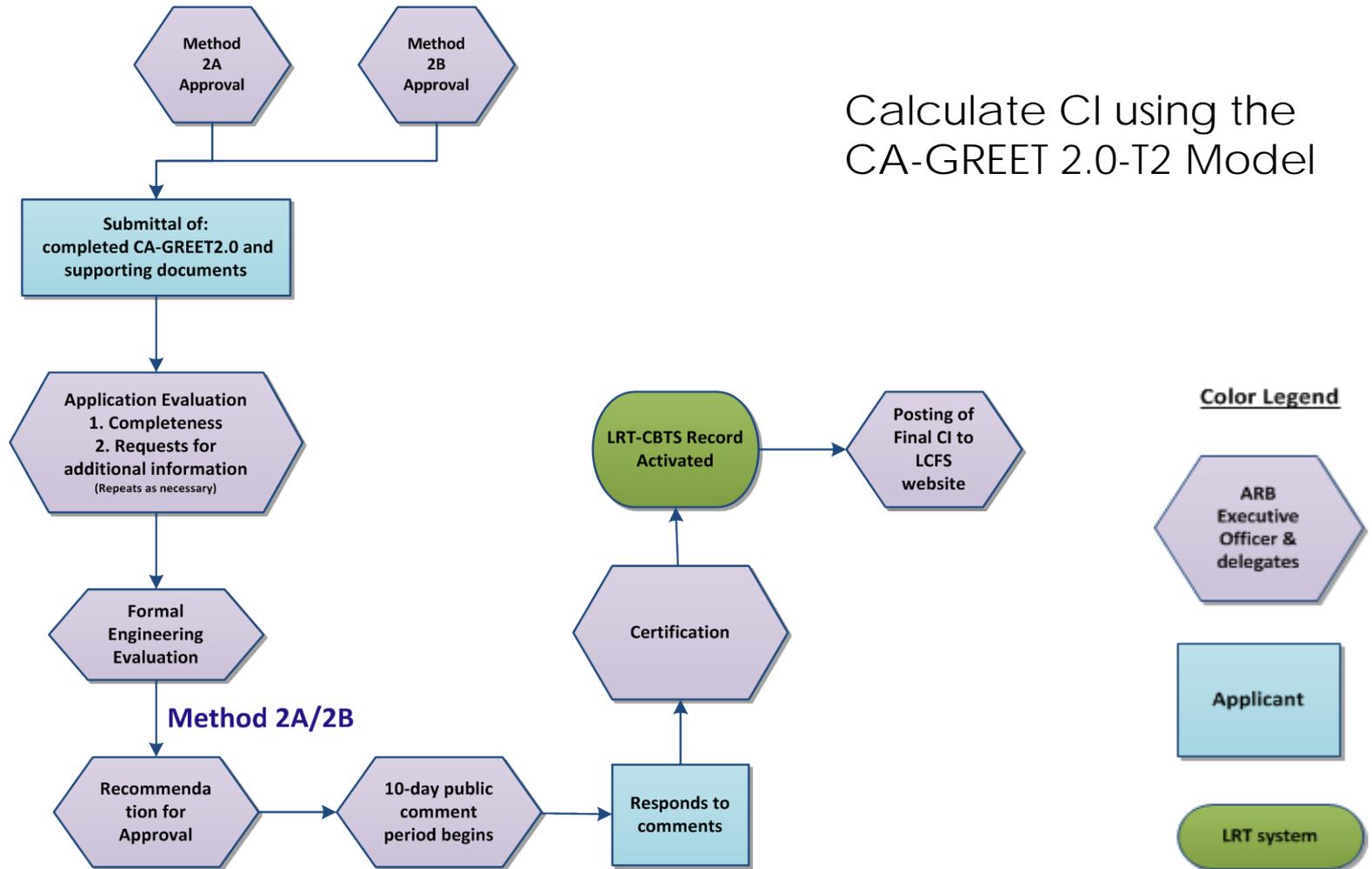
Tier 2 Pathway Classification

- **Method 1 (Lookup Table):**
 - Fuels as specified in Table 6 of the regulation
- **Method 2:**
 - Method 2A: based on certified pathways or on Method 1 above, subject to substantiality requirements
 - Method 2B: New fuels or innovative methods, where no reference pathway exists

Tier 2 Lookup Table Process



Tier 2 Method 2 Process

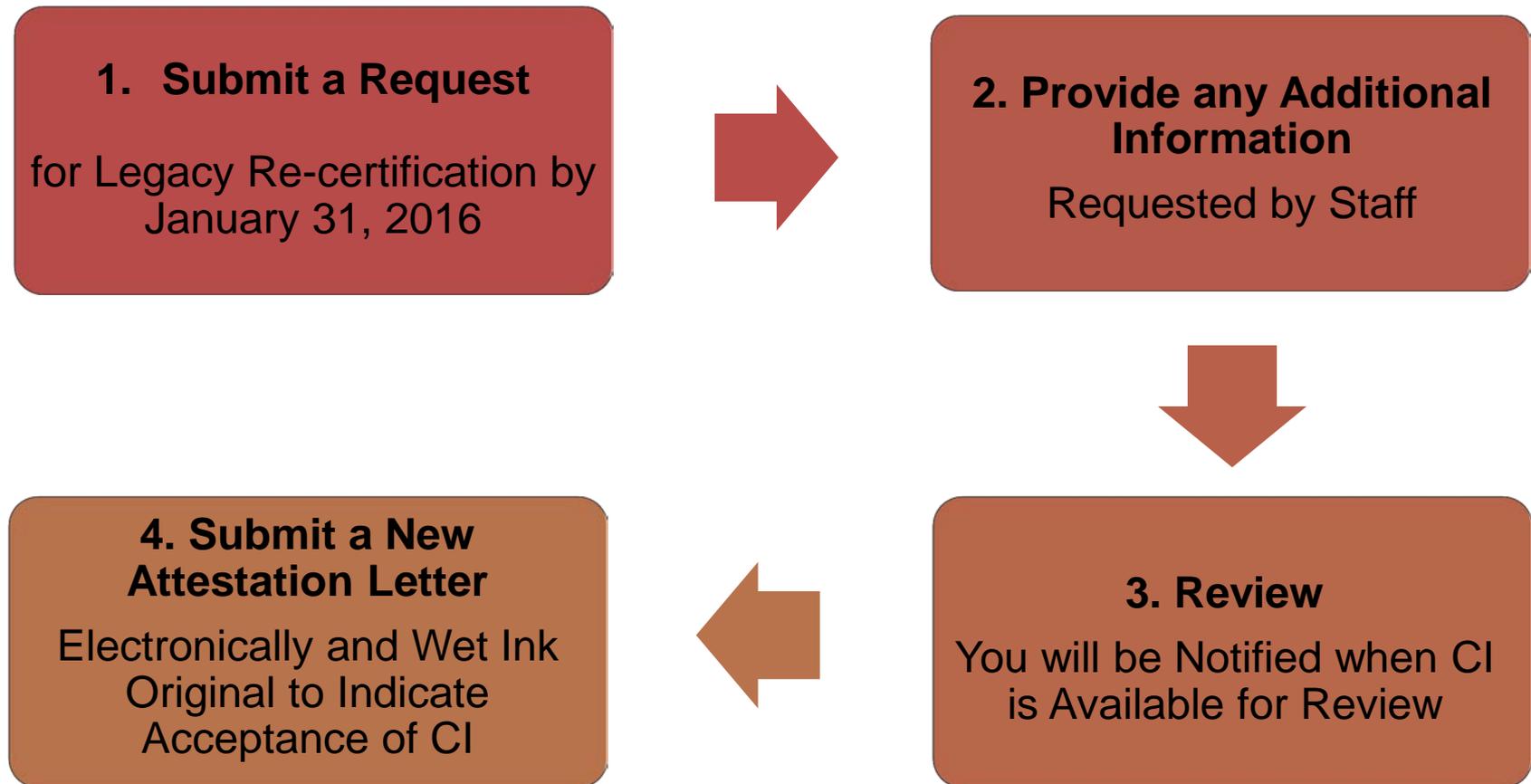


Re-certification and New Pathway Application Process

Total Existing Pathways

Pathway by Feedstock & Fuel	Tier 1	Tier 2
Corn Ethanol	85	31
Sugarcane-based Ethanol	50	16
Sorghum & Mixed Feedstock Ethanol	15	15
Cellulosic Ethanol	0	4
Biodiesel / Renewable Diesel	87	0
CNG / LNG	64	0
Hydrogen		1
TOTAL	301	67

Legacy Pathway Re-certification Process



Anticipated Pathway Release Dates

Fuels	Anticipated Re-cert or deemed complete date	CI Effective Date
Ethanol	March 31, 2016	1 st quarter 2016
BD/RD	June 30, 2016	2 nd quarter 2016
NG/LNG/L-CNG	September 30, 2016	3 rd quarter 2016
Others	September 30, 2016	3 rd quarter 2016

Provisional Pathways

- Applicable to new and innovative fuel producers with less than two years in full commercial production
- May petition the Executive Officer for provisional pathway certification by submitting operating data for at least one calendar quarter
- Staff proposes to expedite provisional pathway certification
- Provisional pathways may be certified prior to the batch release for the fuel in question

Temporary Pathways

- Applicable to an entity who desires to supply fuel to CA but does not have information to request a certified CI for that fuel
- It is also applicable to facilities that are in start-up mode and expect to apply for a provisional pathway CI in the near-term
- May petition the Executive Officer for temporary pathway certifications
 - Such requests will be considered only after the batch for the fuel in question has been released
- Applicants can use their FPC for only two quarters to earn credits

Materials Available and Feedback Deadline

- Guidance Documents
<http://www.arb.ca.gov/fuels/lcfs/fuelpathways/fuelpathways.htm>
- Frequently-Asked Questions (FAQs)
<http://www.arb.ca.gov/fuels/lcfs/fuelpathways/fuelpathways.htm>
- CA-GREET 2.0 Model
<http://www.arb.ca.gov/fuels/lcfs/ca-greet/ca-greet.htm>
- Comments requested by November 13, 2015

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Complete Pathway Process Diagram

