

DOCKETED

Docket Number:	19-SB-100
Project Title:	SB 100 Joint Agency Report: Charting a path to a 100% Clean Energy Future
TN #:	235417
Document Title:	Prometheus Fuels Comments - Prometheus Fuels comments on SB100
Description:	N/A
Filer:	System
Organization:	Prometheus Fuels
Submitter Role:	Public
Submission Date:	10/23/2020 9:38:35 PM
Docketed Date:	10/26/2020

*Comment Received From: Prometheus Fuels
Submitted On: 10/23/2020
Docket Number: 19-SB-100*

Prometheus Fuels comments on SB100

Additional submitted attachment is included below.

PROMETHEUS

October 23, 2020

California Energy Commission
1516 Ninth Street
Sacramento, CA 95814
Docket No.: 19-SB-100
Submitted via email to: doCKET@energy.ca.gov

Subject: Prometheus Fuels Comments re SB 100 Joint Agency Report: Charting a Path to a 100% Clean Energy Future – Draft Results Workshop

Dear Commissioners and Board Members:

Prometheus Fuels appreciates the opportunity to comment on the Draft Results Workshop for Senate Bill 100 Joint Agency Report: Charting a Path to a 100% Clean Energy Future (the Report). Prometheus fully supports this important legislation and the urgency behind it. Prometheus also wants to thank each of the California Energy Commission (CEC), the California Public Utilities Commission (CPUC), and the California Air Resources Board (CARB) for their work in preparing the Report.

Prometheus removes carbon dioxide (CO₂) from the air and turns it into drop-in, zero net carbon CARB gasoline, diesel, jet fuel, and hydrogen. The only inputs to this process are air and electricity from solar and wind power, and the only outputs are fuel and oxygen. Every gallon of Prometheus fuel used on the road or in the air leaves a gallon of fossil fuel in the ground. Put another way, replacing all fuels that are now made from oil and gas with zero net carbon fuels made from renewable electricity can reduce global emissions by more than 10 gigatons of CO₂ per year, equivalent to approximately 25% of current annual global emissions.

Importantly, this reduction in emissions can happen quickly. No modifications are needed in any of the existing car, truck, and aircraft fleets, and no modifications are needed in any of the existing infrastructure used to fuel them. Replacing fossil fuels with zero net carbon fuels will give us time to expand electrification and hydrogen use in transportation, approaches that, by themselves, are not fast enough to keep global warming below 1.5° C.¹

Prometheus recognizes that under Senate Bill 100 (SB 100), California's renewable energy and zero-carbon resources would supply 100% of electric retail sales to end-use customers and 100% of electricity procured to serve state agencies by December 31, 2045. Prometheus fully supports this policy. As described below, we are committed to accelerating the global carbon-reduction effort by adding zero net carbon fuel to the suite of solutions. Making the existing fleet of liquid-fueled vehicles carbon neutral now will synergize with the electric-drive transformation that SB 100 seeks to achieve in the future.

¹ United Nations Environment Programme, *Emissions Gap Report 2019*, November 26, 2019.

Background

Prometheus was founded in December 2018 in California. Our process combines direct air capture and electrocatalysis with proprietary nano-filtering technology to produce zero net carbon fuels and other products. Our fuels are designed to be drop-in replacements for fossil fuels—chemically identical to petroleum-based fuels at the pump today. Since the only energy inputs to making our fuel are from renewable energy sources like wind and solar, our fuels do not contribute to global warming. Prometheus fuels are designed to have a carbon intensity of zero, in that zero CO₂ is added to the atmosphere by its use. Replacing all fossil fuels with zero net carbon fuels can reduce California’s CO₂ emissions by more than 40%.

Prometheus has found early support in its mission. We launched from the highly selective Y Combinator incubator in early 2019, receiving investments from high profile angel investors. This year, BMW invested in Prometheus, sharing our excitement for a zero-carbon transportation future. Our company and technology also have been featured in such publications as Science magazine,² Joule,³ and Motor Trend.⁴

Prometheus first introduced itself to CARB staff in Fall 2019, and provided an update to the CARB team on our progress just recently. We also participated in the CEC’s Integrated Energy Policy Report workshop on near-zero vehicles and low-carbon fuels in July. In addition, Prometheus is preparing its applications to CARB both for fuel certification and LCFS pathway approval. As we told the CEC in July, we anticipate filing those applications early in 2021, with a goal to offer our gasoline at \$3.50 per gallon by summer 2021 and our jet fuel the following year.

Discussion

Prometheus recognizes that California’s policy focus is on electrification. Governor Newsom’s September 23, 2020 executive order directs California to require that, by 2035, all new cars and passenger trucks sold in the state be zero-emission vehicles.⁵ Meanwhile, the Legislature’s SB 100 establishes a policy requiring renewable energy and zero-carbon resources supply 100% of electric retail sales to end-use customers by 2045.⁶ Prometheus agrees that electrification is critical to reducing carbon emissions and reversing the catastrophic impacts California already has suffered from global warming.

At the same time, between now and 2035 (and 2045), tens of millions of vehicles on the road will require liquid fuels. According to the U.S. Department of Transportation, passenger vehicles are lasting longer on the road today, edging up to 11.8 years in 2019.⁷ The economic

² Robert F. Service, *This former playwright aims to turn solar and wind power into gasoline*, July 3, 2019.

³ Rob McGinnis, *CO₂-to-Fuels Renewable Gasoline and Jet Fuel Can Soon Be Price Competitive with Fossil Fuels*, March 18, 2020.

⁴ Frank Marcus, *Recycling Combustion: Creating Fuel From Carbon Dioxide: Might we soon be able to buy gasoline made from CO₂?*, August 4, 2020.

⁵ Executive Order N-79-020.

⁶ <https://www.energy.ca.gov/sb100>.

⁷ <https://www.bts.gov/content/average-age-automobiles-and-trucks-operation-united-states>.

headwinds encountered in 2020 promise to extend vehicle lives even further as consumers postpone new vehicle purchases in the face of an uncertain economy.

To bridge the gap between the liquid present and the electric future, policymakers cannot lose sight of innovations that deliver immediate health and environmental benefits to the state and its residents. Prometheus's fuel provides that bridge. Our fuel will be cost-competitive with petroleum gasoline and jet fuel. Our fuel requires no modifications to existing engines and has no blend limits. Our fuel requires no new vehicle purchases. Thus, our fuel will be available to every community that utilizes transportation.

* * * *

Prometheus Fuels respectfully requests policymakers to consider that renewable fuels like ours do provide immediate, near- and, long-term carbon reductions. As such, when evaluated as a companion to electrification as contemplated in policies such as SB 100, our products can be part and parcel of the overall, shared mission to reduce climate change. We would welcome additional discussion with the team working on these important issues, and we thank you for your consideration.

Very truly yours,

Rob McGinnis, PhD
Founder, CEO
prometheusfuels.com