

## DOCKETED

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<b>Document Title:</b>	6.27.17 Email to Chair Weisenmiller from George Minter-re IEPR Follow Up on 5% Comment
<b>Description:</b>	6.27.17 Email to Chair Weisenmiller from George Minter-re: IEPR Follow Up on 5% Comment
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-----Original Message-----

From: Minter, George I [<mailto:GIMinter@semprautilities.com>]

Sent: Tuesday, June 27, 2017 3:03 PM

To: Weisenmiller, Robert@Energy; Scott, Janea@Energy; Corey, Richard@ARB; Cliff Rechtschaffen

Cc: Olson, Tim@Energy

Subject: IEPR Follow Up on 5% Comment.

Just thought I'd clarify Dr Brouwer's misquote on the 5% threshold. I stated that Amy Jaffe's supply study of existing waste streams at today's technology and price can get us 90 to 100 bcf of renewable gas -- that's equivalent to 5% of gas throughput. So it's a good starting point for any procurement mandate.

Other studies suggest we can get to 15 to 20% of throughput from existing waste streams with further technology development and cost reduction.

Additionally, the liquid biofuels pathway that was in the ARB Scoping Plan for biodiesel for heavy duty transportation relied on a different resource -- purpose grown crops. And the purpose grown crop pathway, if it becomes a biomethane instead of a biodiesel pathway because heavy duty transportation moves from diesel to natural gas to renewable gas, then this additional supply source provides another 15- 20% of throughput.

So our bio methane resources can get us to 30-40% renewable gas.

What gets us beyond the bio pathways will be Dr. Brouwer's P2G -- it will be green hydrogen production, developed mostly as a storage resource for grid protection from renewable over generation, that will provide the next big tranche of renewable gas.

The point is we'll need that in 20-30 years, so we need to start the R&D and commercialization now. So it needs be in the IEPR and part of our renewable gas planning.

Thanks for your consideration.

George Minter  
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