



Inland Empire Utilities Agency

A MUNICIPAL WATER DISTRICT

Inland Empire Utilities Agency

Fuel Cell Update

SCAQMD Biogas Technology Committee Meeting

May 28, 2014

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Inland Empire Utilities Agency

IEUA Fuel Cell

Technology

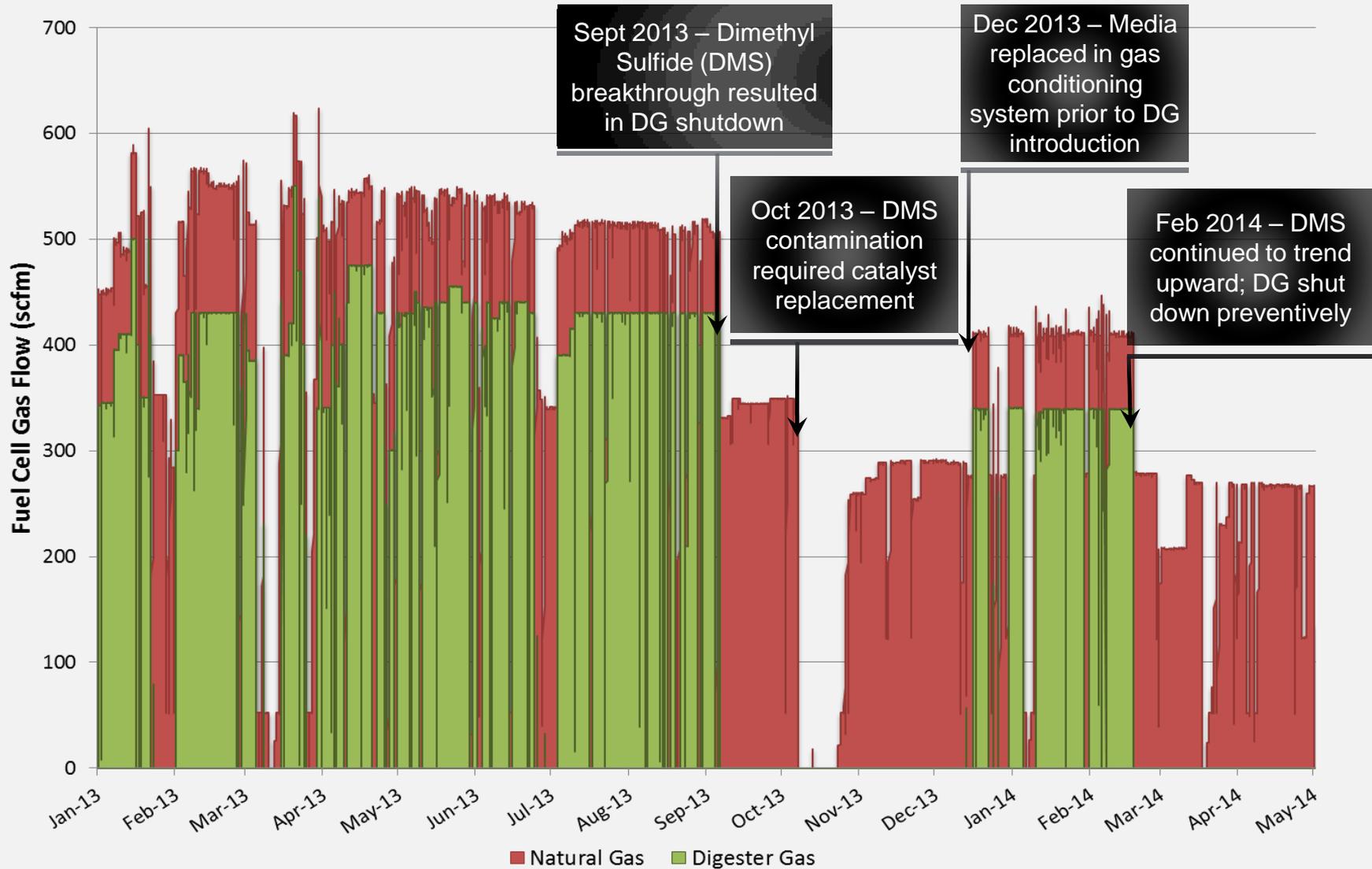
- On-Line 1/1/13
- Goal – 75/25 DG/NG blend
- 2.8 MW gross output
- 3-stage gas conditioning
- Manufactured by Fuel Cell Energy

Benefits

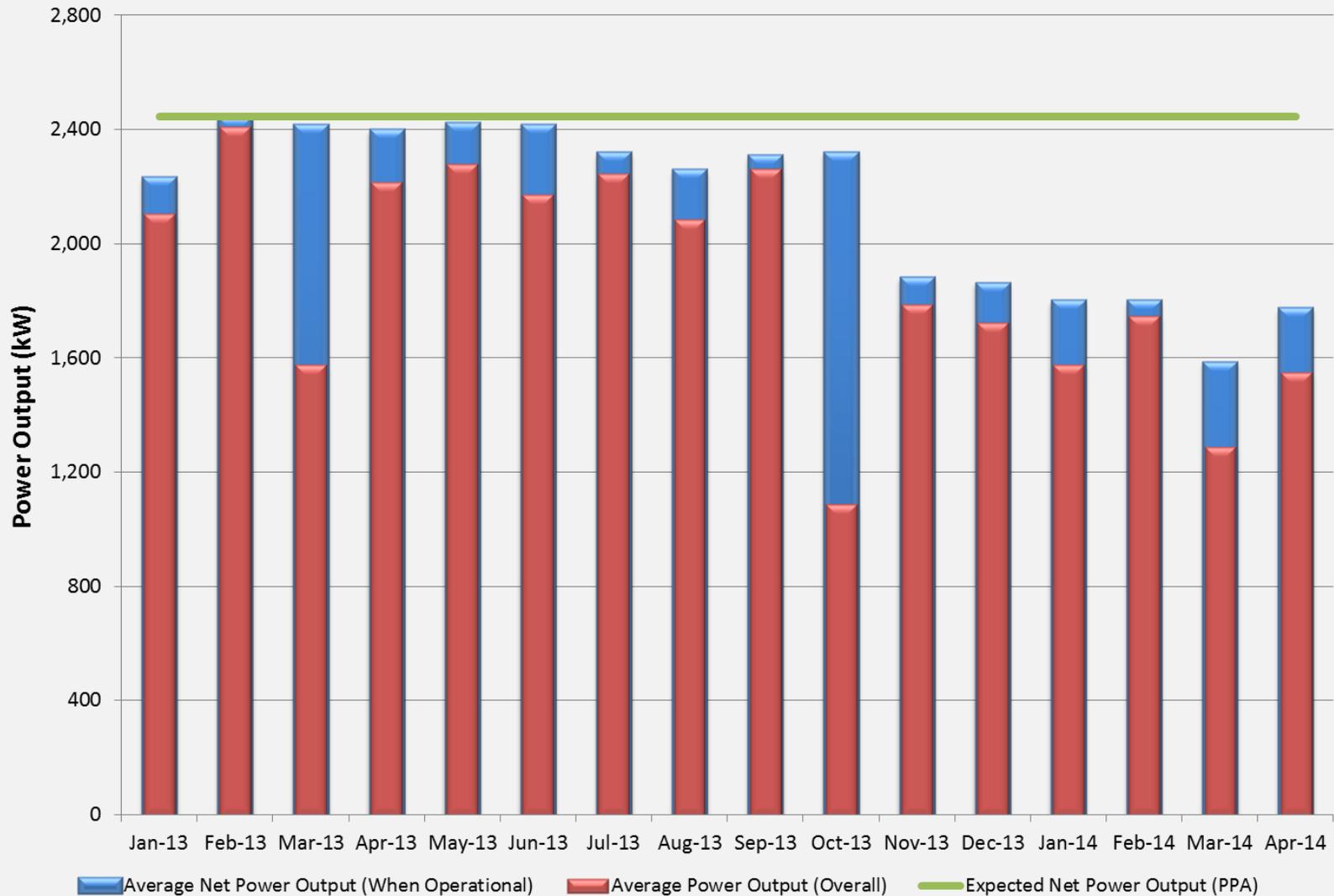
- Low emission alternative
- Heat Recovery
- PPA – No Capital Outlay
- \$0.129/kWh + 2.5%/yr



Fuel Cell Gas Flow



Average Fuel Cell Power Output



DMS Effect on Fuel Cell Operation

Pre-DMS Breakthrough

87% Uptime

76% DG Blend

97% of Expected Generation

Post-DMS Breakthrough

86% Uptime

22% DG Blend

75% of Expected Generation



Fuel Cell Update Summary

- **DMS breakthrough increased downtime and reduced power generation**
 - Cause of higher DMS levels in DG unknown
 - Fuel cell currently operating on 100% NG
 - DG being sent to boilers and flare
- **Additional DMS removal required**
- **IEUA's Power Cost**
 - Fuel Cell (includes NG) ~\$0.146/kWh
 - SCE ~\$0.125/kWh