Beneficial Use Technology Assessment

RULE 1118.1 WORKING GROUP #5

APRIL 23, 2020

BACKGROUND

- South Coast AQMD Governing Board adopted Rule 1118.1 – Control of Emission for Non-Refinery Flares in January 2019
  - Applies to flares at Landfills, Wastewater Treatment Plants, and Oil Production sites
  - Requires each flare to maintain usage below an annual capacity threshold
  - To reduce flare usage, facilities are required to either use the gas beneficially or replace the flare with a low-NOx unit
- Governing Board directed staff to conduct a technology assessment on the beneficial use of flare gas
- Four Working Group meetings held since August 2019
- South Coast AQMD staff planned to request a transfer of funds during the April Governing Board Meeting but had to delay because the May 2020 Administrative Meeting was canceled due to the impacts of COVID-19

Impacts of COVID-19

- South Coast Air Quality Management District (South Coast AQMD) staff recognizes the challenges businesses and other stakeholders are experiencing with COVID-19
- Consistent with Governor Newsom's Executive Order N-29-20 (March 18, 2020), the working group meeting will only be conducted via video conferencing (Zoom) and by telephone
- South Coast AQMD staff reached out to Rule 1118.1 stakeholders to ensure they remained committed and had the resources to continue the technology assessment

Technical Assessment

- Staff is considering to proceed with the Technical Assessment using South Coast AQMD resources instead of a third party contractor
- Purpose, goals, and content will be the same as outlined in the Request for Proposal language and recently distributed project description
- Staff will continue to rely on expertise and guidance from the Working Group members
- If necessary, staff will request an extension beyond the January 2021 deadline to complete the Technology Assessment

Purpose of Technology Assessment

- Technology assessment will serve as an informative guide for facilities complying with Rule 1118.1 capacity threshold limits by increasing beneficial use of flare gas
- Document can provide guidance for those seeking alternative methods to flaring the gas
- Staff proposes to focus the Technical Assessment on three types of site (actual or representative):
  - A large private landfill
  - Two oil production sites (one remote and one urban)
- For the Wastewater Treatment Plants, staff will rely on the comprehensive studies conducted by that industry

Technical Assessment

Conduct a wholistic cost and NOx emission impact assessment

Identify the most beneficial alternative uses for flare gas:

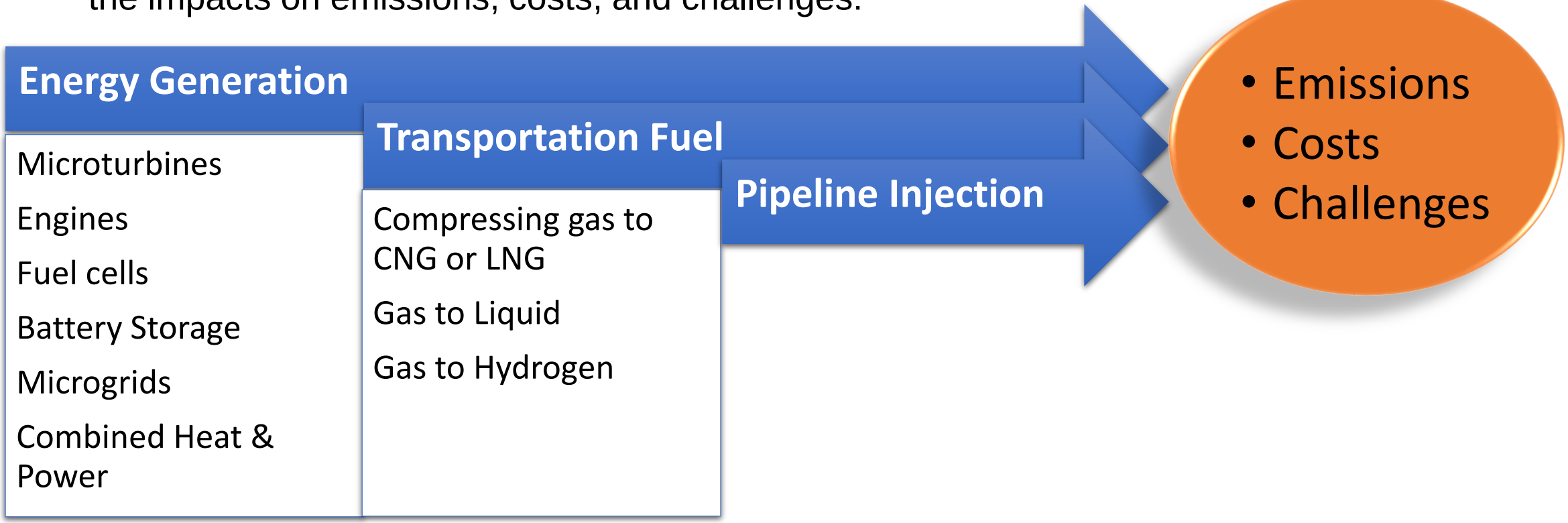
- Promotes energy production
- Generate transportation fuels
- Inject gas into pipeline

Identify most cost-effective/lowest emitting technologies applicable to the type of flare gas generated

- Consideration existing site-specific conditions
- Gas quality and quantity
- Energy needs of the site

Technology Assessment

- Focus on three primary potential alternatives to gas flaring and the impacts on emissions, costs, and challenges:



Incentives

Assessment will include a discussion of existing incentives to encourage beneficial use

- CARB's Low Carbon Fuel Standard for Renewable Natural Gas (RNG)
- U.S. EPA Renewable Gas Standard/Renewable Identification Numbers (RINs)
- Gas Company tariffs
- Greenhouse Gas (GHG) Incentives
  - Assembly Bill 32
  - Senate Bill 100
  - Executive Order B-55-18
  - World Bank
- Rebates
- Partnerships
- Energy/Fuel Incentives

Industries Included in Technical Assessment

Rely on existing studies

- Wastewater Treatment Plants

Perform Technical Assessment

- Large Private Landfill
- Urban Oil Production Site
- Remote Oil Production Site

WASTE WATER DIGESTER GAS STUDIES

- Staff will rely on previous studies of beneficial use of digester gas conducted by the Wastewater Treatment Plants
  - Lifecycle costs are provided for each alternative
  - Greenhouse gas emissions are calculated – but not NOx emissions - from biogas production and use
  - Advantages and disadvantages are provided for each alternative
- Technology Assessment will provide a summary of the studies and NOx emission calculations

Large Private Landfill

- Volume and gas quality
  - Highest volume of gas - considerable opportunity for beneficial use
  - Gas clean-up required due to siloxane concentrations
  - Quality of gas at closed landfills declines overtime
- Energy requirements
  - Not energy intense operations
  - Energy can be produced for neighboring communities
- Transportation fuel
  - Numerous vehicles enter landfills
- Pipeline injection
  - Cost-effectiveness will depend on location of pipeline
- Incentives
  - Landfill gas qualifies as renewable natural gas

Oil Production Sites

- Volume and quality
  - Small sites produce a low volume of gas
  - High gas quality - considerable opportunity since minimal cost for clean-up
- Energy requirements
  - Small sites not energy intense
  - Energy can be produced for neighboring communities
  - CPUC has limits on the amount of energy that can be sold on the grid
- Transportation fuel
  - Remote setting has potential to compress gas and truck off site
  - Urban setting has potential for fueling station near site
- Pipeline injection
  - Cost-effectiveness will depend on location of pipeline
- Incentives
  - Produced gas is not considered renewable natural gas

Next Steps

Finalize the draft Project Description document to guide the Technology Assessment

Determine the sites that will be evaluated (actual or representative)

Set up virtual site visits if an actual site is selected

Start Wastewater Treatment assessment based on the provided studies

Continue Working Group Meetings

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