MPCA: WATER AND AIR QUALITY

General Considerations

- Biogas is produced from a wide array of different technologies – each application and technology has its own benefits and risks.
- Feedstocks used to produce biogas are also very diverse. Applications for managing manure and bio-solids are more established than efforts to capture gas from food waste and other types of organics.
- Well run facilities can have environmental benefits by reducing air and water pollution, but there are several important considerations that may positively or negatively impact the environment including:
    - Ensuring appropriate capacity: important not to build facilities that incentivize creating more waste instead of reduction or preferable management methods.
    - Ensuring solids and liquids derived from the process are managed to create valuable products whenever possible and managed appropriately when of lower value.
    - Facilities comply with appropriate regulations for air emissions, storm water management and solid waste management.

Air Quality Considerations

- When compared to displaced coal combustion for energy, biogas combustion emissions compare favorably.
- Biogas facility air emissions are primarily from engine/flare biogas combustion.
    - In circumstances without on-site biogas combustion, facility emissions may be minimal.
- Total facility emissions determine which air programs apply to a specific facility. In addition, the following specific regulations can apply:
    - Federal emission limits (NOx, VOC, CO) apply for stationary engines burning biogas (40 CFR Part 60 Subpart JJJJ)
    - State emission limits (SO_2) apply to stationary engines (Minn. R. 7011.2300)
- Air quality concerns are primarily related to:
    - H_2S emissions
    - NOx issues from engines
- Facility proposals must include sufficient information to accurately quantify emissions as part of the preconstruction permit review. There is currently limited information on biogas combustion emission factors.

Next Steps

- The MPCA is committed to working with facility developers to ensure appropriate environmental considerations are incorporated into sitting, design and operating practices.
- The MPCA is also committed to further evaluating biogas generating technologies so we can ensure the state is positioned to have an informed discussion about how we develop and utilize biogas in Minnesota.

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