

PRELIMINARY REPORT:  
2020 TAX PREFERENCE PERFORMANCE  
REVIEWS

**Anaerobic Digesters**

LEGISLATIVE AUDITOR'S CONCLUSION:

Dairies, wastewater treatment plants, and others have used the preference to build and operate anaerobic digesters. It is too soon to know if it will encourage more production of renewable natural gas.

*Updated July 24, 2020*

**Sales and use tax exemption for anaerobic digesters**

Entities are exempt from paying sales and use tax on materials, equipment, and labor used to build, repair, and operate anaerobic digesters (ADs). They also are exempt from paying sales and use tax on qualifying equipment and services used to produce marketable coproducts from the digesters.

ADs use organic materials to produce heat, electricity, fuel, and other coproducts.

The preference took effect July 13, 2001. It is scheduled to expire January 1, 2029.

**Dairies and others have used the preference to build and operate ADs. It is too soon to know if it will encourage more renewable natural gas production.**

The Legislature enacted this preference in 2001 to help entities develop and operate ADs that treat dairy manure on dairy farms. The preference was later extended to digesters that use non-dairy livestock manure.

In 2018, the Legislature again expanded the preference to apply to ADs using any kind of organic material, including food waste and wastewater. This expansion also covered equipment and services used to produce marketable coproducts from the digesters.

|  |
|--|
| <p><b>Estimated Biennial Beneficiary Savings</b><br/>\$778,000</p>                                     |
| <p><b>Tax Type</b><br/>Sales and use tax<br/>RCWs 82.08.900,<br/>82.12.900<br/>Applicable Statutes</p> |

| 2018 Stated Objective  | Results  |
|--|--|
| <p>Stimulate investment in the production of renewable natural gas for heat, electricity, and transportation fuel.</p> | <p><b>Unclear.</b> The preference has been used by dairies, wastewater treatment plants, and others to develop and operate anaerobic digesters.</p> <p>Currently, two facilities are producing pipeline-ready RNG and a third is preparing to do so. However, these facilities began RNG production activities before the Legislature expanded the preference in 2018. It is too soon to know whether the 2018 change will encourage additional production of renewable natural gas and other marketable coproducts.</p> |

## Recommendation

Legislative Auditor's Recommendation: Continue and monitor future use

**The Legislature should continue the preference and monitor its future use.**

The preference has been used by dairies, wastewater treatment plants, and others to build and operate ADs. It is too soon to determine if legislative action in 2018 and 2019 will encourage additional investment in anaerobic digesters or renewable natural gas production.

The Legislature should continue the preference at this time and review use of the preference closer to its January 1, 2029, expiration date to determine if use has increased.

You can find additional information in Recommendations.

## Commissioners' Recommendation

Available on [Citizen Commission website](#) October 2020.

## REVIEW DETAILS

### 1. Tax exemption to establish and operate ADs

#### Sales and use tax exemption for building, repairing, and operating anaerobic digesters and producing marketable coproducts

An anaerobic digester (AD) is a closed, oxygen-free container that works to break down organic materials. As the materials decompose, biogas<sup>1</sup> is released, which can be used to generate heat, electricity, and renewable fuels.

#### Preference is for materials and services used to build and operate anaerobic digesters

The following purchases are exempt from sales and use tax:

- Equipment used in ADs, and services to install, construct, repair, clean, alter, or improve ADs.
- Items that become an ingredient or component of an AD, such as piping, concrete, fans, and generators, and services to install, construct, repair, clean, alter, or improve those items.
- Equipment used to process biogas<sup>2</sup> or digestate<sup>3</sup> that result from anaerobic digestion, and services to install, construct, repair, clean, alter, or improve the equipment.

---

<sup>1</sup>A blend of gases produced from anaerobic digestion, including primarily methane and carbon dioxide.

<sup>2</sup>A blend of gases produced from anaerobic digestion, including primarily methane and carbon dioxide.

<sup>3</sup>A wet, nutrient rich mixture that is produced from anaerobic digestion.

## **Preference initially focused on ADs that treat dairy manure**

The Legislature enacted this preference in 2001 to encourage entities to develop and operate ADs that treat dairy manure. The preference was extended in 2006 to include digesters that use non-dairy livestock manure.

## **2018 legislation expanded preference and specified the intent to promote the production of renewable natural gas and marketable coproducts**

The Legislature stated its intent to stimulate investment in the production of renewable natural gas (RNG) for heat, electricity, and transportation fuel, as well as other usable coproducts.

The existing anaerobic digester preference was expanded to apply to:

- Digesters that use any type of organic material, not just livestock manure. This includes ADs at wastewater treatment plants, food waste recycling centers, and other facilities that use organic materials to generate RNG.
- Equipment used to process biogas into RNG and other marketable coproducts, such as fertilizer and compost.

The legislation directed JLARC staff to determine the preference's effectiveness by evaluating the number of public and private anaerobic digesters producing renewable natural gas in Washington, and the extent to which they use the preference.

The same legislation also included a separate sales and use tax exemption for equipment and services used at landfills to process biogas and a separate six-year property tax and leasehold excise tax exemption for properties where ADs are located.

## **Preference is set to expire January 1, 2029**

The preference took effect June 13, 2001, and is scheduled to expire January 1, 2029.

## **JLARC staff are also reviewing a livestock nutrient management tax exemption in 2020**

The Legislature enacted a sales and use tax exemption for livestock nutrient management equipment in the same 2001 legislation that established the anaerobic digester preference. JLARC staff are reviewing that preference in a separate 2020 report.

## 2. ADs break down organic material

### Anaerobic digestion is a natural process where microorganisms break down organic matter into energy, fuel, and other usable products

Anaerobic digesters (ADs) use bacteria in a closed, oxygen-free container to break down various organic materials, like manure, food scraps, fats, greases, sewage, or wastewater. As the materials decompose, the process produces biogas<sup>4</sup> and other coproducts.

### Anaerobic digestion produces biogas and other usable products

The process of breaking down organic materials in an oxygen-free environment takes about three weeks. When the decomposition is complete, the result is a blend of gases, known as biogas, and a nutrient-rich mixture called digestate.

- **Biogas** is a blend of gases that is 40% to 70% methane, as well as carbon dioxide and other gases. Biogas can be burned to generate heat and electricity. When it is further refined or "scrubbed" to remove carbon dioxide and other gases, it creates a gas known as biomethane or **renewable natural gas (RNG)**.

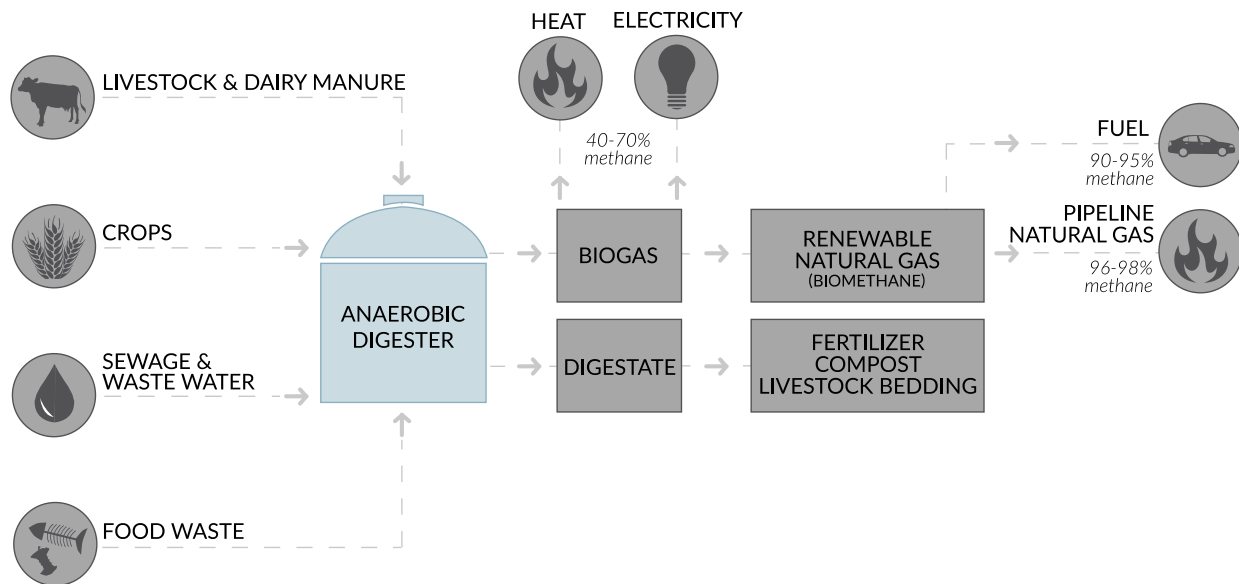
RNG is usually 96% to 98% methane, the same methane composition as refined fossil natural gas that is extracted from reserves in the earth and can be inserted into gas pipelines. RNG with slightly less methane content (90% to 95%) can be used as transportation fuel.

- **Digestate** is the non-gaseous material left after anaerobic digestion occurs. Digestate is a wet, nutrient-rich mixture that is usually separated into solids and liquids. It can be used to make marketable products like compost, fertilizer, and animal bedding.

---

<sup>4</sup>A blend of gases produced from anaerobic digestion, including methane and carbon dioxide.

## Exhibit 2.1: Anaerobic digesters use organic material to create heat, electricity, fuel, and other coproducts



Source: JLARC staff analysis of Department of Commerce and U.S. Energy Information Administration information.

### 3. Preference helps reduce costs for ADs

The preference is one of several state and federal incentives that helps to reduce the cost to build and operate anaerobic digesters

The Legislature initially enacted this preference to encourage dairies to build anaerobic digesters (ADs) that treat dairy manure. In addition, the state and federal governments provided several other incentives to encourage building ADs, and utilities and other entities purchased AD coproducts from the dairies.

#### There were no dairy anaerobic digesters in Washington prior to the 2001 preference

The Legislature enacted the preference in 2001 to help dairies treat the manure generated by their operations. At the time, there were no dairy anaerobic digesters in Washington.

#### By 2012, eight dairy-based digesters were built with the help of multiple incentives and earned income

The Department of Commerce estimated the costs for these original projects ranged between \$1.2 million to \$4.5 million per project.

Dairies were eligible for multiple state and federal incentives between 2001 and 2012:

- **Federal income tax credits.** A dairy could choose to receive either a **production** or an **investment tax credit**. Production credits lasted for 10 years and were based on the amount of kilowatt hours generated and sold by the facility. Investment credits provided a 30% credit on the costs of constructing an AD.
- State and federal **grant programs**.
- Limited property and leasehold excise **tax exemptions** and this sales and use tax exemption.

## Dairies earned income from utilities, businesses, and other entities between 2001 and 2012:

- **Contracts with electric utilities to purchase electricity produced by the ADs.** Utilities actively sought contracts with dairies after voters passed Washington's Energy Independence Act (I-937) in 2006. The Act required utilities to meet targets for using renewable energy sources, such as solar, wind, and anaerobic digesters. Targets for renewable energy sources went from 3% in 2012 to 9% in 2015 and to 15% in 2020. The contracts between utilities and ADs lasted between 5 and 20 years.
- **Income earned from selling AD coproducts**, such as compost, fertilizer, and animal bedding.
- **Payments known as "tipping fees" received from other businesses.** Instead of dumping organic feedstock like chicken fat and other waste at a landfill, businesses would pay dairies to take and use their organic materials in their anaerobic digesters. Mixing extra feedstock with dairy manure helps to improve the biogas yield in the AD.

Appendix A shows that livestock and dairy-based ADs are located in almost every state in the U.S.

## One new dairy AD was developed between 2012 and 2018

One new dairy-based AD began operating during this time period. It does not have a power purchase contract<sup>5</sup> with a utility, but does supply electricity into the energy grid. Uncertainty with utility prices and changes to other incentives may have discouraged dairies from establishing new ADs between 2012 and 2018:

- Utilities met their renewable energy targets (mostly from solar and wind energy) and some contracts with dairies expired. When utilities renegotiated contracts, they began offering lower prices for AD-generated electricity than were offered previously. Industry sources report that some dairies shut down their ADs due to the drop in income from sales to utilities.
- Federal production and investment tax credits lapsed several times before Congress extended them retroactively. Also, the production credit for anaerobic digesters was 50% less than what was provided for other renewable energy sources, such as solar or wind.

---

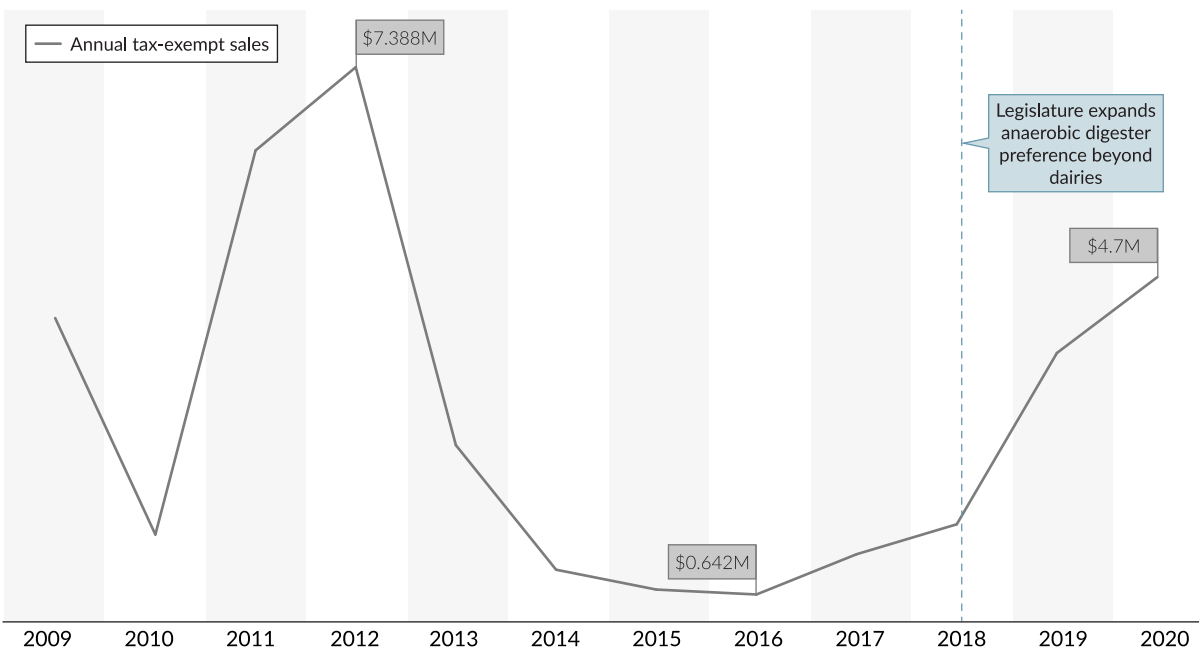
<sup>5</sup>Contract between a utility and a dairy that pays for AD-generated electricity put into the energy grid.

- State property and leasehold excise tax exemptions for ADs expired.
- Some existing AD facilities were starting to require renovations and replacements. Roofs collapsed on two dairy digesters.

## The 2018 Legislature expanded the preference to promote renewable natural gas production

In 2018, the Legislature expanded the preference to apply to ADs using any kind of organic material. The stated goal was to produce renewable fuels and other usable coproducts. After the change, Department of Revenue data shows an increase in use of the preference.

### Exhibit 3.1: Annual sales of tax-exempt equipment and services for ADs have increased and declined over time



Source: JLARC staff analysis of Department of Revenue tax return deduction detail, fiscal years 2009 - December 2019.

## 4. Three ADs in WA currently produce renewable natural gas

### Two wastewater treatment plants and one dairy digester now produce pipeline-ready renewable natural gas

In 2018, the Legislature directed JLARC staff to determine the number of public and private anaerobic digesters producing renewable natural gas (RNG) in Washington, and the extent to which they use this preference.

## As of March 2020, JLARC staff identified two facilities that produce pipeline-quality renewable natural gas and one that is preparing to do so

JLARC staff identified three facilities generating pipeline-quality RNG as of March 2020. Under current law, all three facilities qualify for the sales and use tax preference. However, data on use by specific entities is not disclosable.

1. **King County South Wastewater Treatment Plant (WWTP) in Renton:** Staff in King County report that this plant has produced pipeline natural gas for 32 years.



2. **Tacoma Central WWTP in Tacoma:** Staff in Tacoma note that the plant currently produces RNG that does not meet pipeline grade specifications. In early 2020, Tacoma Central finalized a contract to sell their RNG to Puget Sound Energy. Two steps remain: the plant needs to install equipment to ensure the RNG meets pipeline grade specifications, and a connection must be built between the WWTP and the main natural gas pipeline. The estimated completion for these is June 2021.



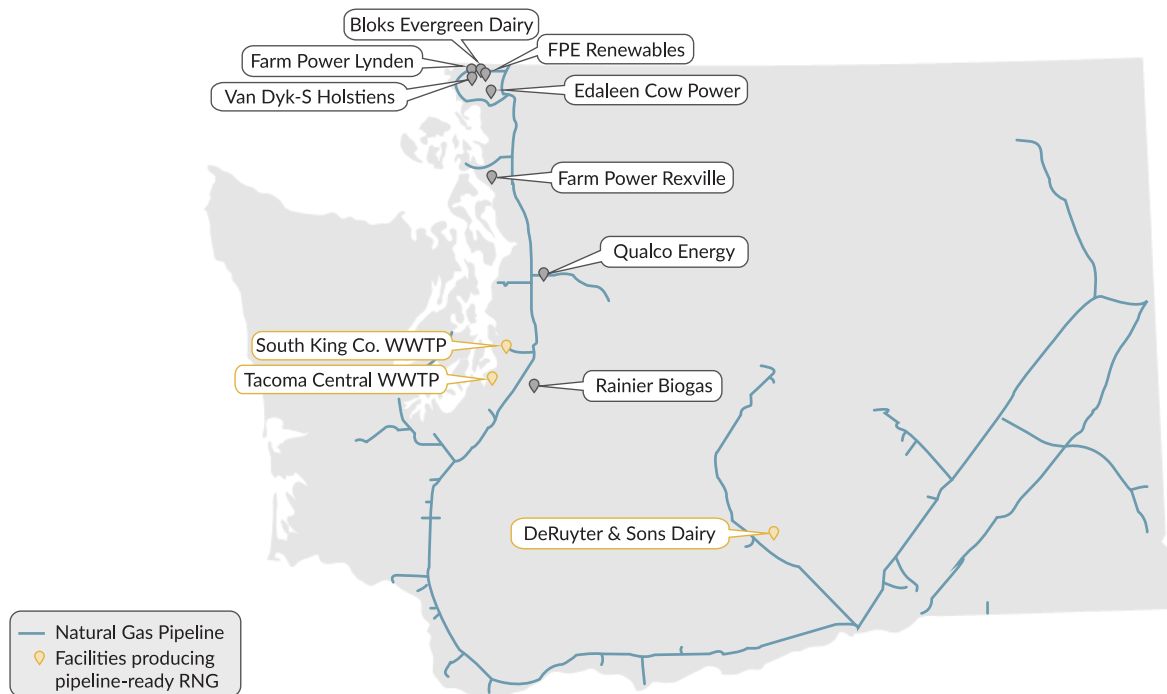
3. **George DeRuyter and Sons Dairy AD in Granger:** This privately financed venture was in development for nearly eight years. An existing dairy AD that was not operating due to a collapsed roof and an expired electricity purchase contract was retrofitted in order to produce pipeline-quality biogas. DeRuyter began trucking RNG in December 2019 from its production facility to a nearby national pipeline connection. According to project officials, they plan to build a connecting pipeline, but they have been delayed due to construction cost increases. Industry sources note that other dairy ADs are monitoring the project to see if it eventually is profitable.



These three facilities are within close proximity to the natural gas pipeline. Washington's other dairy ADs do not currently produce RNG, but do produce heat and electricity that they use for their own operations and many also provide electricity to the energy grid. Additionally, WWTPs may produce biogas but not process it into RNG.



## Exhibit 4.1: Washington's dairy-based ADs and WWTPs are located close to the national gas pipeline



Source: JLARC staff analysis of Washington State Department of Agriculture data on dairy AD locations; King County and City of Tacoma staff interviews. Pipeline detail provided by Washington Utilities and Transportation Commission staff.

### Cost estimates vary for building or retrofitting an AD that can produce RNG

A 2018 Department of Commerce report identifies three potential estimates for the costs of constructing an AD that produces RNG. The estimates are \$7.5 million, \$18 million, and \$25 million, including costs for connecting and injecting RNG into a pipeline. Costs vary depending on many factors, including the number of milk cows (volume) at the location, distance to the natural gas pipeline grid, and equipment needed to condition the raw biogas to meet natural gas quality standards. The report estimates that annual operating costs are between \$325,000 and \$2.2 million a year.

Estimates to retrofit existing ADs for RNG production range from \$4.1 million to \$5.4 million for capital costs and \$230,000 to more than \$1 million for annual operating costs.

### Some costs may be offset by income earned from sales of RNG

Federal and state renewable energy credit programs can provide ADs with several sources of income. These are specific to ADs producing RNG:

- **Federal renewable identification number credits (RINS)** used to comply with the federal Renewable Fuel Standard program. The federal standards require a certain volume of renewable fuel to replace or reduce the quantity of petroleum-based transportation fuel, heating oil, or jet fuel sold in the US. ADs that produce RNG can potentially sell the RINS

they earn to other fuel producers that are not yet meeting their renewable energy requirements.

- **Low-carbon fuel standard credits (LCFS) paid by California and Oregon.** Fuel producers in these two states must meet annual targets for reducing greenhouse gas emissions from transportation. RNG producers in Washington can earn credits by selling their RNG into the regional pipeline grid. RNG from dairy ADs can earn more credits because their RNG production also reduces the amount of methane released into the atmosphere.

## 5. Estimated beneficiary savings: \$778,000 for 2021-23 biennium

### Estimated beneficiary savings are based on DOR tax return detail from sellers

JLARC staff analyzed Department of Revenue tax return data from sellers of equipment and services that are used to build and operate anaerobic digesters. Fiscal year 2020 is an estimate based on use of the preference between July through December 2019. The estimated biennial savings for 2021-23 biennium is \$778,000.

#### Exhibit 5.1: Estimated direct beneficiary savings

| Biennium                      | Fiscal Year         | Estimated Qualifying Sales | Estimated Total Beneficiary Savings |
|-------------------------------|---------------------|----------------------------|-------------------------------------|
| 2017-19<br>7/1/17-6/30/19     | 2018                | \$1,540,000                | \$127,000                           |
|                               | 2019                | \$3,732,000                | \$308,000                           |
| 2019-2021<br>7/1/19 - 6/30/21 | 2020                | \$4,700,000                | \$389,000                           |
|                               | 2021                | \$4,700,000                | \$389,000                           |
| 2021-23<br>7/1/21-6/30/23     | 2022                | \$4,700,000                | \$389,000                           |
|                               | 2023                | \$4,700,000                | \$389,000                           |
|                               | 2021-23<br>Biennium | \$9,400,000                | \$778,000                           |

Source: JLARC staff analysis of Department of Revenue tax return deduction detail July 2018 through December 2020. No future growth is estimated due to the volatility of documented past use and unpredictable future development.

## 6. Preference one of many factors impacting AD project viability

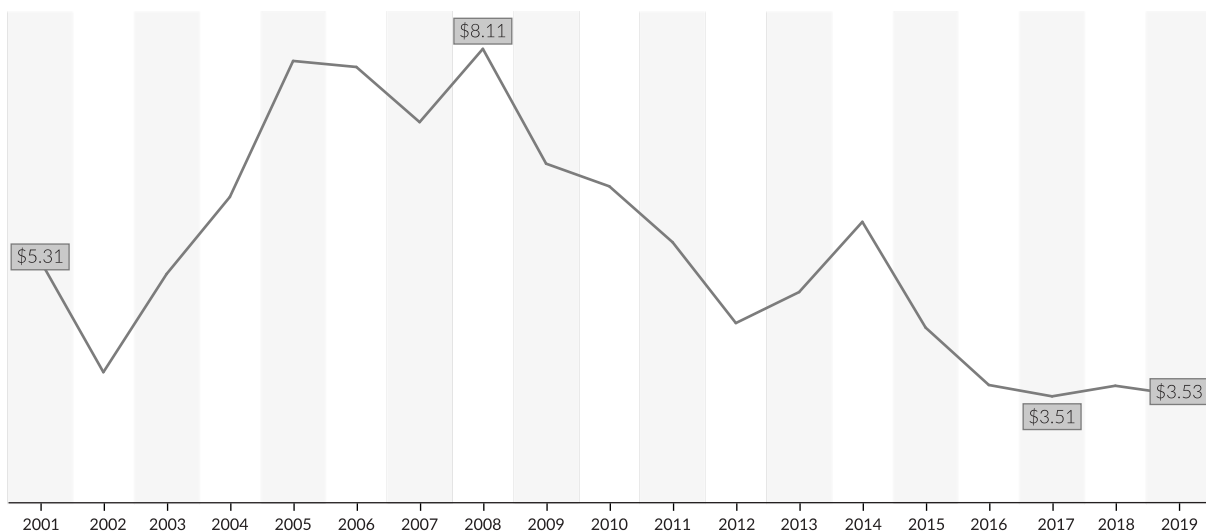
## Market, regulatory, and other factors can impact viability of an AD project

There are many different factors that impact the feasibility of building anaerobic digesters (ADs) that produce renewable natural gas (RNG).

### Fossil natural gas prices can be lower than renewable natural gas production costs

Fossil natural gas has been less expensive to produce and purchase than RNG.

#### Exhibit 6.1: Recent fossil natural gas prices have averaged below \$4.00 per MMBTU since 2016



Source: JLARC staff analysis of Energy Information Administration, CitiGate annual average fossil natural gas prices.

Estimated costs for renewable natural gas vary widely. Various studies have estimated the cost per MMBTU<sup>6</sup> between \$3 and \$30.

### Stakeholders have noted other factors that can impact viability of projects to produce RNG

Other barriers may impede the development of additional ADs and RNG production in Washington:

- Federal policies and regulations.
- Uncertainty of transportation market.
- Construction and operating costs.
- Minimum volume requirements.
- Access to pipeline infrastructure.

<sup>6</sup> One million British Thermal Units (BTUs). BTUs are a measure of energy content in fuel.

- Inconsistent utility pipeline quality standards for RNG.

## Unclear what impact the state's 2019 clean energy legislation may have on demand for anaerobic digesters

In 2019, the Legislature passed the Clean Energy Transformation Act (SB 5116) to support the transition to a clean energy economy. The legislation established a statewide policy for electric utility sales to Washington customers: electricity must be carbon neutral<sup>7</sup> by 2030 and 100% carbon free<sup>8</sup> by January 1, 2045.

Also in 2019, the Legislature passed HB 1257, requiring Washington's four regulated natural gas utilities to offer RNG purchase options.

In the 2000s, electric utility power purchase contracts helped to offset costs to build and operate dairy ADs. However, as the initial contracts expired, the prices offered by utilities in recent years are at lower levels.

At the time this report was prepared, it is unclear what, if any, impact the clean energy goals will have on electric utilities' interest in AD-generated electricity.

## 7. Applicable statutes

### RCWs 82.08.900, 82.12.900

#### Exemptions - Anaerobic digesters.

#### RCW 82.08.900

(1) The tax levied by RCW 82.08.020 does not apply to sales to an eligible person:

(a) In respect to equipment necessary to process biogas from a landfill into marketable coproducts, including but not limited to biogas conditioning, compression, and electrical generation equipment, or to services rendered in respect to installing, constructing, repairing, cleaning, altering, or improving equipment necessary to process biogas from a landfill into marketable coproducts; and

(b) Establishing or operating an anaerobic digester or to services rendered in respect to installing, constructing, repairing, cleaning, altering, or improving an anaerobic digester, or to sales of tangible personal property that becomes an ingredient or component of the anaerobic digester.

(2) A person claiming an exemption under this section must keep records necessary for the department to verify eligibility under this section. Sellers may make tax exempt sales under this section only if the buyer provides the seller with an exemption certificate in a form and manner prescribed by the department. The seller must retain a copy of the certificate for the seller's files.

(3) The definitions in this subsection apply to this section and RCW 82.12.900 unless the context clearly requires otherwise:

---

<sup>7</sup>Removing as much carbon dioxide from the atmosphere as is going in.

<sup>8</sup>No carbon dioxide emissions released into the atmosphere.

(a) "Anaerobic digester" means a facility that processes organic material into biogas and digestate using microorganisms in a decomposition process within a closed, oxygen-free container as well as the equipment necessary to process biogas or digestate produced by an anaerobic digester into marketable coproducts, including but not limited to biogas conditioning, compression, nutrient recovery, and electrical generation equipment.

(b) "Eligible person" means any person establishing or operating an anaerobic digester or landfill or processing biogas from an anaerobic digester or landfill into marketable coproducts.

[ 2018 c 164 § 4; 2015 c 86 § 202; 2006 c 151 § 4; 2001 2nd sp.s. c 18 § 4.]

## NOTES:

**Tax preference performance statement—2018 c 164:** "This section is the tax preference performance statement for the tax preferences contained in sections [3,] 4, 6, 8, and 9, chapter 164, Laws of 2018. The performance statement is only intended to be used for subsequent evaluation of the tax preferences. It is not intended to create a private right of action by any party or to be used to determine eligibility for preferential tax treatment.

(1) The legislature categorizes the tax preferences as ones intended to induce certain designated behavior by taxpayers, as indicated in RCW 82.32.808(2)(a).

(2) It is the legislature's specific public policy objective to increase the production of renewable natural gas in Washington state. It is the legislature's intent to reinstate and expand tax incentives for certain landfills and anaerobic digesters in order to stimulate investment in biogas capture and conditioning, compression, nutrient recovery, and use of renewable natural gas for heating, electricity generation, and transportation fuel.

(3) To measure the effectiveness of the tax preferences in sections [3,] 4, 6, 8, and 9, chapter 164, Laws of 2018 in achieving the public policy objectives described in subsection (2) of this section, the joint legislative audit and review committee must evaluate the number of public and private landfills and anaerobic digesters producing renewable natural gas in the state and the extent to which they are utilizing these incentives.

(4) In order to obtain the data necessary to perform the review in subsection (3) of this section, the department of revenue must provide data needed for the joint legislative audit and review committee analysis. In addition to the data source described under this subsection, the joint legislative audit and review committee may use any other data it deems necessary." [ 2018 c 164 § 1.]

**Effective date—2018 c 164:** "This act takes effect July 1, 2018." [ 2018 c 164 § 10.]

**Effective date—Conservation commission—Report to legislature—2006 c 151:** See notes following RCW 82.08.890.

**Intent—Effective date—2001 2nd sp.s. c 18:** See notes following RCW 82.08.890.

## Exemptions - Anaerobic digesters.

### RCW 82.12.900

The provisions of this chapter do not apply with respect to:

- (1) Equipment necessary to process biogas from a landfill into marketable coproducts, including but not limited to biogas conditioning, compression, and electrical generation equipment, or to services rendered in respect to installing, constructing, repairing, cleaning, altering, or improving equipment necessary to process biogas from a landfill into marketable coproducts; and
- (2) The use of anaerobic digesters, tangible personal property that becomes an ingredient or component of anaerobic digesters, or the use of services rendered in respect to installing, repairing, cleaning, altering, or improving eligible tangible personal property by an eligible person establishing or operating an anaerobic digester, as defined in RCW 82.08.900.

[ 2018 c 164 § 6; 2006 c 151 § 5; 2003 c 5 § 16; 2001 2nd sp.s. c 18 § 5.]

### NOTES:

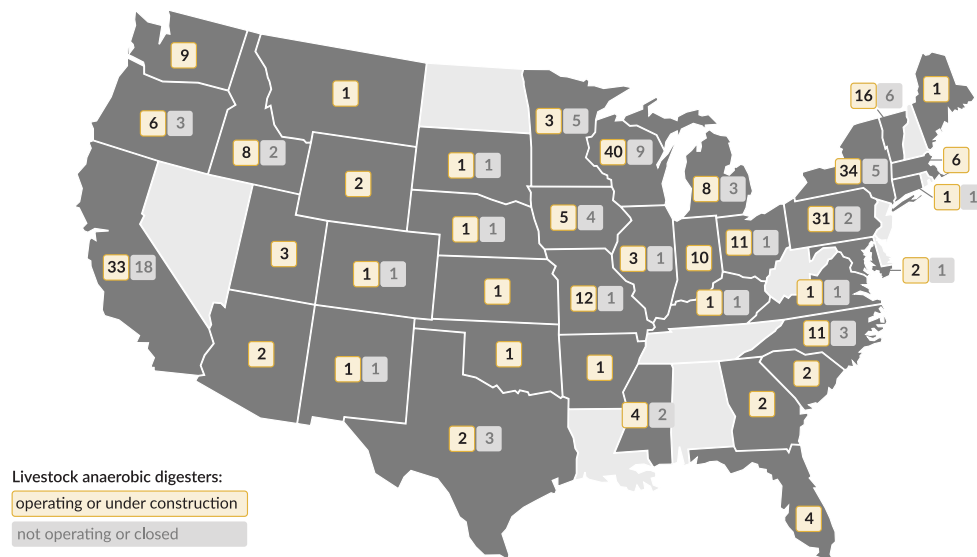
**Tax preference performance statement—Effective date—2018 c 164:** See notes following RCW 82.08.890.

## Appendix A: ADs located throughout U.S.

### Livestock and dairy-based anaerobic digesters are located in nearly every state

Anaerobic digesters (ADs) that use dairy or livestock manure as a primary feedstock are located throughout the U.S.

#### Exhibit A1: Federal data shows concentrations of ADs in California, Wisconsin, New York, and Pennsylvania



Source: JLARC staff analysis of U.S. Environmental Protection Agency AGSTART data, as of January 2019.

## RECOMMENDATIONS & RESPONSES

### Legislative Auditor's Recommendation

#### Legislative Auditor recommends continuing the preference and monitoring future use

The Legislature should continue the preference and monitor its future use.

Preference has been used by dairies, wastewater treatment plants, and others to build and operate anaerobic digesters. It is too soon to determine if legislative action in 2018 and 2019 will encourage additional investment in anaerobic digesters or renewable natural gas production.

The Legislature should continue the preference at this time and review use of the preference closer to its January 1, 2029, expiration date to determine if use has increased.

**Legislation Required:** No

**Fiscal Impact:** Unknown

### Letter from Commission Chair

Available on [Citizen Commission website](#) October 2020.

### Commissioners' Recommendation

Available on [Citizen Commission website](#) October 2020.

### Agency Response

If applicable, available on [Citizen Commission website](#) October 2020.

# MORE ABOUT THIS REVIEW

## Study Questions



### PROPOSED STUDY QUESTIONS Anaerobic Digesters

State of Washington Joint Legislative Audit and Review Committee

December 2019

#### JLARC to review a sales and use tax exemption for establishing and operating anaerobic digesters



**Anaerobic digestion** is a process where bacteria is used to break down organic matter, such as manure or food waste, in an oxygen-free setting.

This digestion process generates biogas and other usable byproducts. The biogas can be used to produce electricity, heat, and, if further processed and refined, transportation fuel, such as renewable natural gas. The other byproducts include animal bedding and compost.

The 2006 Legislature directed JLARC staff to conduct performance audits of tax preferences. This preference is included in the 10-year review schedule set by the Citizen Commission for Performance Measurement of Tax Preferences.

The Legislature established a sales and use tax exemption in 2001 for dairy farmers who build or purchase equipment used to operate an anaerobic digester. In 2006, the preference was extended to non-dairy animal feeding operations.

#### The 2018 Legislature stated its intent to increase production of biogas that yields renewable natural gas

In 2018, the Legislature passed broader legislation designed to stimulate investment in renewable resources, including renewable natural gas for heating, electricity, and transportation fuel. The legislation expanded the original 2001 preference to digesters that use other organic materials, such as food waste or wastewater, to produce biogas and additional marketable products. The preference is set to expire January 1, 2029.

The 2018 legislation directed JLARC staff to evaluate the number of anaerobic digesters that produce renewable natural gas in Washington, and the extent to which owners of digesters are using the preference. The review will address the following questions:

| Stated objective  | Study question  |
|---|---|
| Stimulate investment in capturing biogas, recovering nutrients, and generating renewable natural gas for heat, electricity, and transportation. | <ol style="list-style-type: none"> <li>1) To what extent has the preference stimulated investment in anaerobic digesters, and in particular, those that produce renewable natural gas?</li> <li>2) What are other barriers and incentives to using anaerobic digesters to produce renewable natural gas? Does the preference address these barriers and how does it compare to other available incentives?</li> </ol> |

JLARC staff are also reviewing a sales and use tax exemption for equipment used in livestock nutrient management in 2020.

#### JOINT LEGISLATIVE AUDIT & REVIEW COMMITTEE

106 11<sup>th</sup> Ave SW, Olympia, WA 98501 | Email: JLARC@leg.wa.gov | Website: www.jlarc.leg.wa.gov  
Twitter: @WALegAuditor | Phone: (360) 786-5171 | Fax: (360) 786-5180



### Study Timeframe

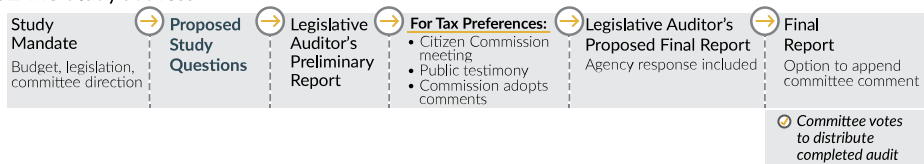
Preliminary Report: July 2020

Proposed Final Report: December 2020

### Study Team

|                     |                  |                |  |
|---------------------|------------------|----------------|--|
| Team Lead           | Dana Lynn        | (360) 786-5177 | <a href="mailto:dana.lynn@leg.wa.gov">dana.lynn@leg.wa.gov</a>               |
| Research Analyst    | Eric Whitaker    | (360) 786-5618 | <a href="mailto:eric.whitaker@leg.wa.gov">eric.whitaker@leg.wa.gov</a>       |
| Project Coordinator | Eric Thomas      | (360) 786-5182 | <a href="mailto:eric.thomas@leg.wa.gov">eric.thomas@leg.wa.gov</a>           |
| Legislative Auditor | Keenan Konopaski | (360) 786-5187 | <a href="mailto:keenan.konopaski@leg.wa.gov">keenan.konopaski@leg.wa.gov</a> |

### JLARC Study Process



**Washington Joint Legislative Audit and Review Committee**

106 11th Avenue SW, Suite 2500  
 PO Box 40910  
 Olympia, WA 98504-0910

Phone: 360-786-5171  
 Email: [JLARC@leg.wa.gov](mailto:JLARC@leg.wa.gov)

