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## Step 3: Analysis

If you provided "Production and Energy Use" data, the table "Summary of Your Current Operation" is a comparison of your dryer to typical efficiencies recorded in university studies of grain dryers. The efficiency of grain dryers is reported as Btu per pound of water evaporated from the grain. The estimated baseline energy use and cost to dry the grain in an average year is listed in the lower part of the first table along with the total energy use in British Thermal Units (Btu's) and the estimated carbon dioxide (CO<sub>2</sub>) emissions from combusting fuels to produce electricity and heat for drying.

The second table, "Energy and Cost Comparison Summary", summarizes the energy and cost savings of all dryer types known to be commercially available in North America. If the value in this table is positive, then using that dryer type with **all** energy efficiency options would be expected to result in lower energy costs. If the value is negative, then the dryer type is expected to use more energy than the dryer you've selected. [Click here](#) for a bar graph that illustrates a general comparison of all the dryer types without optional heat recovery or energy saving cooling processes.

Click on the dryer type in the summary table to display a detailed summary for each dryer. Each summary includes estimated differences in fuel consumption and the cost savings from the dryer options such as in-bin cooling, dryeration, heat recovery and stirring devices, if applicable. At the bottom of the table is the expected increase or decrease in carbon dioxide emissions, the principle greenhouse gas causing global warming.

<b>Summary of Your Current Operation</b>	Your dryer is less efficient than a typical dryer of the same type	
<b>Dryer type Selected</b>	<a href="#">Continuous Flow In-Bin Dryer</a>	
<b>Estimated efficiency of your dryer</b>	3,838	Btu/#H2O
<b>Typical efficiency for dryer type selected</b>	2,000	Btu/#H2O
<b>Energy Type</b>		
<b>Energy Use Based on Drying</b>	80,000	bushels of corn
<b>Water Removed</b>	222,400	pounds
<b>Propane</b>	9,142	Gallons
<b>Electricity</b>	5,002	kWh
<b>Average Annual Drying Cost</b>	\$29,398	\$
<b>Total Energy Use</b>	853,567,240	Btu
<b>Greenhouse Gas Emissions</b>	124,059	lbs. / yr.

### Energy and Cost Comparison Summary

For each dryer listed below, the savings indicated is for the dryer type configured with best possible energy efficiency measures.

Click on Dryer Name (below **Dryer Type**) for more detailed analysis.

Dryer Type	Potential Cost Savings	Potential Energy Savings (Btu)
<a href="#">Natural-Air Bin Dryer with stirring device</a>	\$20,014	586,687,240
<a href="#">Low-Temperature Bin Dryer with stirring device</a>	\$19,076	559,999,240
<a href="#">High Temperature Batch Bin Dryer with stirring device</a>	\$15,438	448,243,240
<a href="#">Roof Batch Dryer with aeration</a>	\$12,163	353,167,240
<a href="#">Continuous Cross-Flow Dryer with dryeration (full heat mode)</a>	\$13,312	386,527,240
<a href="#">Cross-Flow Batch Dryer with dryeration</a>	\$14,385	417,663,240
<a href="#">Mix-flow dryer with dryeration (full heat mode)</a>	\$17,621	511,627,240
<a href="#">Continuous-Flow In-Bin Dryer with dryeration</a>	\$17,018	494,123,964
<a href="#">Combination High/Low Temperature Drying</a>	\$20,161	586,687,240

[How can a dryer use more energy but save money?](#)

[What does a negative number mean?](#)

<a href="#">Natural-Air Bin Dryer</a>		
<b>Annual Energy Cost Savings</b>		
Propane	9,142	Gallons
Electricity	-92,742	kWh
Energy Savings - Dryer Only	519,967,240	Btu
Percentage of Energy Savings	61%	%
Annual Potential Cost Savings	\$17,668	\$
<b>Optional Equipment/Process</b>		
<a href="#">With Stirring Device</a>	66,720,000	Btu
Cost Savings for Optional Equipment/Process	\$2,346	\$
<b>Energy Savings</b>		
Max. Total Energy Savings	586,687,240	Btu
Percentage of Energy Savings	69%	%

<b>Total Estimated Cost Savings</b>	\$20,014	\$
<b><u>Greenhouse Gas Emissions Reduction</u></b>		
<b>Carbon Dioxide - Dryer Only</b>	-36,762	lbs.
<b>Carbon Dioxide w/Energy Saving Options</b>	-4,598	lbs.
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<b><u>Low-Temperature Bin Dryer</u></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	9,142	Gallons
<b>Electricity</b>	-102,516	kWh
<b>Energy Savings - Dryer Only</b>	486,607,240	Btu
<b>Percentage of Energy Savings</b>	57%	%
<b>Annual Potential Cost Savings</b>	\$16,495	\$
<b>Optional Equipment/Process</b>		
<b><u>With Stirring Device</u></b>	73,392,000	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$2,580	\$
<b>Energy Savings</b>		
<b>Max. Total Energy Savings</b>	559,999,240	Btu
<b>Percentage of Energy Savings</b>	66%	%
<b>Total Estimated Cost Savings</b>	\$19,076	\$
<b><u>Greenhouse Gas Emissions Reduction</u></b>		
<b>Carbon Dioxide - Dryer Only</b>	-52,844	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	-17,463	lbs.
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<b><u>High Temperature Batch Bin Dryer</u></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	3,354	Gallons
<b>Electricity</b>	1,835	kWh
<b>Energy Savings - Dryer Only</b>	313,135,240	Btu
<b>Percentage of Energy Savings</b>	37%	%
<b>Annual Potential Cost Savings</b>	\$10,785	\$
<b>Optional Equipment/Process</b>		
<b><u>With Stirring Device (Bin Dryer)</u></b>	135,108,000	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$4,653	\$
<b>Energy Savings</b>		
<b>Max Estimated Energy Savings</b>	448,243,240	Btu
<b>Max Percentage of Energy Savings</b>	53%	%

<b>Total Estimated Cost Savings</b>	\$15,438	\$
<b><u>Greenhouse Gas Emissions Reduction</u></b>		
<b>Carbon Dioxide - Dryer Only</b>	45,512	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	65,149	lbs.
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<b><u>Combination High/Low Temperature Drying</u></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	6,954	Gallons
<b>Electricity</b>	-14,547	kWh
<b>Energy Savings - Dryer Only</b>	586,687,240	Btu
<b>Percentage of Energy Savings</b>	69%	%
<b>Annual Potential Cost Savings</b>	\$20,161	\$
<b><u>Greenhouse Gas Emissions Reduction</u></b>		
<b>Carbon Dioxide - Dryer Only</b>	64,179	lbs.
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<b><u>Roof Batch Dryer</u></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	3,783	Gallons
<b>Electricity</b>	2,070	kWh
<b>Energy Savings - Dryer Only</b>	353,167,240	Btu
<b>Percentage of Energy Savings</b>	41%	%
<b>Annual Potential Cost Savings</b>	\$12,163	\$
<b><u>Greenhouse Gas Emissions Reduction</u></b>		
<b>Carbon Dioxide - Dryer Only</b>	51,330	lbs.
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<b><u>Continuous Cross-Flow Dryer</u></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	2,472	Gallons
<b>Electricity</b>	1,353	kWh
<b>Energy Savings - Dryer Only</b>	230,847,240	Btu
<b>Percentage of Energy Savings</b>	27%	%
<b>Annual Potential Cost Savings</b>	\$7,951	\$
<b>Optional Equipment/Process</b>		
<b><u>With In-bin cooling (Full heat dryer)</u></b>	93,408,000	Btu
<b><u>With Dyeration (Full heat dryer)</u></b>	155,680,000	Btu

<a href="#">With Heat Recovery (Heat/Cool dryer)</a>	93,408,000	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$5,362	\$
<b>Energy Savings</b>		
<b>Total Energy Saved</b>	386,527,240	Btu
<b>Percentage of Energy Savings</b>	45%	%
<b>Total Estimated Cost Savings</b>	\$13,312	\$
<a href="#">Greenhouse Gas Emissions Reduction</a>		
<b>Carbon Dioxide - Dryer Only</b>	33,552	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	56,179	lbs.
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<a href="#">Cross-Flow Batch Dryer</a>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	3,306	Gallons
<b>Electricity</b>	1,809	kWh
<b>Energy Savings - Dryer Only</b>	308,687,240	Btu
<b>Percentage of Energy Savings</b>	36%	%
<b>Annual Potential Cost Savings</b>	\$10,631	\$
<b>Optional Equipment/Process</b>		
<a href="#">With In-bin cooling (Full heat dryer)</a>	54,488,000	Btu
<a href="#">With Dryeration (Full heat dryer)</a>	108,976,000	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$3,753	\$
<b>Energy Savings</b>		
<b>Total Energy Saved</b>	417,663,240	Btu
<b>Percentage of Energy Savings</b>	49%	%
<b>Total Estimated Cost Savings</b>	\$14,385	\$
<a href="#">Greenhouse Gas Emissions Reduction</a>		
<b>Carbon Dioxide - Dryer Only</b>	44,865	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	60,704	lbs.
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<a href="#">Mixed-flow dryer</a>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	4,259	Gallons
<b>Electricity</b>	2,330	kWh
<b>Energy Savings - Dryer Only</b>	397,647,240	Btu
<b>Percentage of Energy Savings</b>	47%	%
<b>Annual Potential Cost Savings</b>	\$13,695	\$

<b>Optional Equipment/Process</b>		
<a href="#">With In-bin cooling (Full heat dryer)</a>	68,388,000	Btu
<a href="#">With Dryeration (Full heat dryer)</a>	113,980,000	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$3,926	\$
<b>Energy Savings</b>		
<b>Total Energy Saved</b>	511,627,240	Btu
<b>Percentage of Energy Savings</b>	60%	%
<b>Total Estimated Cost Savings</b>	\$17,621	\$
<b>Greenhouse Gas Emissions Reduction</b>		
<b>Carbon Dioxide - Dryer Only</b>	57,795	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	74,361	lbs.
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<b><a href="#">Continuous-Flow In-Bin Dryer</a></b>		
<b>Annual Energy Cost Savings</b>		
<b>Propane</b>	4,378	Gallons
<b>Electricity</b>	2,395	kWh
<b>Energy Savings - Dryer Only</b>	408,767,240	Btu
<b>Percentage of Energy Savings</b>	48%	%
<b>Annual Potential Cost Savings</b>	\$14,078	\$
<b>Optional Equipment/Process</b>		
<a href="#">With Dryeration (Full heat dryer)</a>	85,356,724	Btu
<b>Cost Savings for Optional Equipment/Process</b>	\$2,940	\$
<b>Energy Savings</b>		
<b>Total Energy Saved</b>	494,123,964	Btu
<b>Percentage of Energy Savings</b>	58%	%
<b>Total Estimated Cost Savings</b>	\$17,018	\$
<b>Greenhouse Gas Emissions Reduction</b>		
<b>Carbon Dioxide - Dryer Only</b>	59,411	lbs.
<b>Carbon Dioxide - Dryer w/Energy Saving Options</b>	71,817	lbs.
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