

JEOPARDY!

**Episode 56V E, June 23, 2024, Jeopardy RAWSEP, Bridges to clean energy, OK or not OK?:
1)Problems: Wood burning plus LPG Gas burning, 2)Problems: Wood burning plus (the
bridge) Natural Gas burning, 3)Problems: Industrial Wood burning plus Industrial Coal
Burning, 4)Solution: Heat Pumps without backup, 5)Less of a Problem: Least polluting Heat
Pump backup, 6)Solutions: individual actions plus Industry Change.
PLEASE CLICK TO START THE GAME!**

JEOPARDY!

JEOPARDY!

JEOPARDY!

JEOPARDY!

JEOPARDY!

JEOPARDY!

\$ 200

\$ 200

\$ 200

\$ 200

\$ 200

\$ 200

\$ 400

\$ 400

\$ 400

\$ 400

\$ 400

\$ 400

\$ 600

\$ 600

\$ 600

\$ 600

\$ 600

\$ 600

\$ 800

\$ 800

\$ 800

\$ 800

\$ 800

\$ 800

\$ 1000

\$ 1000

\$ 1000


\$ 1000

\$ 1000

\$ 1000



JEOPARDY!



**Category 1:
Problems: Wood
burning plus LPG
Gas burning,**

JEOPARDY!



**Category 2: Problems:
Wood burning plus
(the bridge) Natural
Gas burning,**

JEOPARDY!




Category 3:
Problems: Industrial
Wood burning plus
Industrial Coal
Burning,

JEOPARDY!



**Category 4:
Solution: Heat
Pumps without
backup,**

JEOPARDY!



**Category 5: Less of
a Problem: Least
polluting Heat
Pump backup,**

JEOPARDY!



**Category 6: Solutions:
individual actions plus
Industry Change,**



Category 1, \$200 Answer, Problems: Wood burning plus LPG Gas burning, Compared to diesel or petroleum, LPG emits lower levels of CO₂, CO, and particulates.

[Click here for the answer](#)



Solution:



Category 1, \$200 Question, Problems:
Wood burning plus LPG Gas burning,
Is Liquid Petroleum Gas cleaner burning
than diesel or petroleum?

\$ 200





Category 1, \$400 Answer, Problems: Wood burning plus LPG Gas burning, While still a fossil fuel, LPG burns more efficiently and produces fewer carbon emissions than wood, charcoal, or kerosene.

[Click here for the answer](#)



Solution:

Category 1, \$400 Question, Problems:

Wood burning plus LPG Gas burning,

Is Liquid Petroleum Gas cleaner

burning than wood, charcoal or

kerosene?

\$ 400





Category 1, \$600 Answer, Problems:
Wood burning plus LPG Gas burning,
Liquid Petroleum Gas is both easy to
store and transport.

[Click here for the answer](#)



Solution:



Category 1, \$600 Question, Problems:
Wood burning plus LPG Gas burning,
Is Liquid Petroleum Gas easy to store
and transport?

\$ 600





Category 1, \$800 Answer, Problems:
Wood burning plus LPG Gas burning,
Liquid Petroleum Gas is able to meet
Africa's clean cooking needs reliably
and at scale.

[Click here for the answer](#)



Solution:



Category 1, \$800 Question, Problems: Wood burning plus LPG Gas burning,
Does Liquid Petroleum Gas meet many of Africa's clean cooking needs reliably and at scale?

\$ 800



Category 1, \$1,000 Answer, Problems: Wood burning plus LPG Gas burning, LPG burning produces 3.2 times the energy as wood burning . (KJfKg is Kilojoule energy produced per Kilogram of Fuel Source)

[Click here for the answer](#)



Solution:

Category 1, \$1,000 Question, Problems:

Wood burning plus LPG Gas burning,

What does LPG efficiency is 55,000 KJfKg

versus Wood Burning efficiency 17,000

KJfKg mean?

\$ 1000



Category 2, \$200 Answer, Problems:
Wood burning plus (the bridge) Natural
Gas burning,
Wood burning emits 450 times the PM_{2.5}
as (the bridge) fossil fuel Natural Gas
burning.

[Click here for the answer](#)



Solution:

Category 2, \$200 Question, Problems: Wood burning plus (the bridge) Natural Gas burning,

Does wood burning emit more PM_{2.5} than the fossil fuel Natural Gas burning?



\$ 200





Category 2, \$400 Answer, Problems: Wood burning plus (the bridge) Natural Gas burning, If a back up to Heat Pumps is needed, the cleanest backup is probably a natural gas furnace.

[Click here for the answer](#)



Solution:

Category 2, \$400 Question, Problems: Wood burning plus (the bridge) Natural Gas burning,

Is natural gas burning the probable cleanest backup to Heat Pumps for home heating?

\$ 400





Category 2, \$600 Answer, Problems: Wood burning plus (the bridge) Natural Gas burning, A backup to Heat Pumps may not be needed, since Heat Pumps work to 40 degrees below zero.

[Click here for the answer](#)



Solution:



Category 2, \$600 Question, Problems: Wood burning plus (the bridge) Natural Gas burning,

Are natural gas generators always needed as backup to Heat Pumps for home heating?

\$ 600





Category 2, \$800 Answer, Problems: Wood burning plus (the bridge) Natural Gas burning, The cold weather heat pump challenge in 2024 declares as winners Heat Pump that reliably work down to 40 degrees below zero.

[Click here for the answer](#)



Solution:

Category 2, \$800 Question, Problems:
Wood burning plus (the bridge) Natural
Gas burning, Is there a partnership with
the U.S. Environmental Protection
Agency (EPA), Natural Resources Canada
(NRCan) and leading heat pump
manufacturers?

\$ 800



 Category 2, \$1,000 Answer, Problems:

Wood burning plus (the bridge)

Natural Gas burning,

Heat Pumps are the wave of the
future and completely free of
emissions.

[Click here for the answer](#)



Solution:

Category 2, \$1,000 Question, Problems:

Wood burning plus (the bridge) Natural

Gas burning,

Why will any backups to Heat Pumps not

be needed in the future?

\$ 1000



Category 3, \$200 Answer, Problems:
Industrial Wood burning plus Industrial
Coal Burning,

Answer 1 of 2: Wood burning PM_{2.5}
emissions are not counted in each country in
the World's Climate Goals.

[Click here for the answer](#)



Solution:

Category 3, \$200 Question, Problems: Industrial

Wood burning plus Industrial Coal Burning,

Question 1 of 2: How is the scientifically debunked theory of Carbon Neutrality of Wood Burning used to ignore wood burning's PM2.5 emissions in each country in the world's Climate Goals?



\$ 200





Category 3, \$400 Answer, Problems:
Industrial Wood burning plus Industrial Coal
Burning, Answer 2 of 2: Wood burning
PM_{2.5} emissions are not counted from
Industrial Wood Burning (Biomass) plants in
each country in the World.

[Click here for the answer](#)



Solution:

Category 3, \$400 Question, Problems: Industrial Wood burning plus Industrial Coal Burning, Question 2 of 2: How is the scientifically debunked theory of Carbon Neutrality of Wood Burning used to ignore wood burning's PM2.5 emissions from Industrial Wood Burning (Biomass) plants?

\$ 400



Category 3, \$600 Answer, Problems: Industrial Wood burning plus Industrial Coal Burning, Answer 1 of 3: The scientifically debunked theory calculates that if a tree is planted in the place of a cut down, burned tree, it is as if the wood burning never happened, with zero PM_{2.5} and zero CO₂ emissions, false accounting on paper.

[Click here for the answer](#)



Solution:

Category 3, \$600 Question, Problems: Industrial Wood burning plus Industrial Coal Burning,
Question 1 of 3: By what calculation is wood burning considered zero carbon emissions according the scientifically debunked theory of Carbon Neutrality of Wood Burning?

\$ 600





Category 3, \$800 Answer, Problems: Industrial Wood burning plus Industrial Coal Burning,

Answer 2 of 3: The scientifically debunked theory doesn't take into consideration that a tree planted, in the place of a cut down, burned tree, takes decades or centuries to grow to the stature of the cut down tree, able to absorb the same amount of CO₂ during photosynthesis, as the cut down tree.

[Click here for the answer](#)



\$

Solution:

\$

Category 3, \$800 Question, Problems: Industrial Wood burning plus Industrial Coal Burning,
Question 2 of 3: Why does the scientifically debunked theory of Carbon Neutrality of Wood Burning not explain why CO2 in the air would not increase when wood is burned?

\$

\$ 800

\$



Category 3, \$1,000 Answer, Problems: Industrial Wood burning plus Industrial Coal Burning, Answer 3 of 3: The scientifically debunked theory doesn't take into consideration that a tree planted, in the place of a cut down burned tree, at any size, never absorbs PM2.5, particulates of 2.5 micrometer size.

[Click here for the answer](#)



Solution:

Category 2, \$1,000 Question, Problems: Industrial Wood burning plus Industrial Coal Burning,
Question 3 of 3 : Why does the scientifically debunked theory of Carbon Neutrality of Wood Burning not explain why PM2.5 in the air would not increase when wood is burned?

\$ 1000



Category 4, \$200 Answer,
Solution: Heat Pumps without
backup,
Heat Pumps work down to 40
degrees below zero.

[Click here for the answer](#)



Solution:

Category 4, \$200 Question, Solution: Heat
Pumps without backup,

Can a Heat Pump without backup work in
cold climates during winter?

\$ 200





Category 4, \$400 Answer, Solution:
Heat Pumps without backup,
Heat Pumps can also work as Air
Conditioners.

[Click here for the answer](#)



Solution:

Category 4, \$400 Question, Solution:

Heat Pumps without backup,

Can a Heat Pump also work as an air conditioner?



\$ 400





Category 4, \$600 Answer, Solution: Heat
Pumps without backup,
Heat Pumps run on electricity and rural
electricity has been available since after
World War II, for over 75 years.

[Click here for the answer](#)



Solution:

Category 4, \$600 Question,
Solution: Heat Pumps without
backup,

Do Heat Pumps run on electricity?

\$ 600





Category 4, \$800 Answer, Solution:
Heat Pumps without backup,
Heat Pumps lower electricity monthly
charges immediately upon
installation.

[Click here for the answer](#)



Solution:

Category 4, \$800 Question, Solution:
Heat Pumps without backup,

Do Heat Pumps run efficiently, reducing
electricity monthly charges compared to
previous utility bills?

\$ 800





Category 4, \$1,000 Answer, Solution:

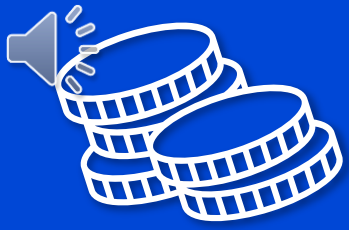
Heat Pumps without backup,

Up to \$8,000 Heat Pump rebates are

being rolled out by states in 2024,

based on a sliding income scale.

[Click here for the answer](#)



Solution:

Category 4, \$1,000 Question, Solution:

Heat Pumps without backup,

Are there Heat Pump rebates up to
\$8,000 in 2024?

\$ 1000



Category 5, \$200 Question, Less of a Problem:
Least polluting Heat Pump backup,
Wood burning is not a viable backup option
for Heat Pumps because wood burning is the
most polluting heating option.

[Click here for the answer](#)



Solution:

\$

Category 5, \$200 Answer, Less of a
Problem: Least polluting Heat Pump
backup,

\$

Is wood burning a viable backup option
for Heat Pumps?

\$

\$ 200

\$



Category 5, \$400 Answer, Less of a Problem:

Least polluting Heat Pump backup,

In Africa, Liquid Petroleum Gas is used as a backup or replacement for wood burning, but better backup or replacements are available in more modernized areas of the world.

[Click here for the answer](#)



Solution:

Category 5, \$400 Question, Less of a Problem: Least polluting Heat Pump backup, If Africa is early in the process of obtaining clean energy, can Africa still be a model for backup or elimination of wood burning, for more modernized areas of the world?



\$ 400





Category 5, \$600 Answer, Less of a Problem:

Least polluting Heat Pump backup,

In modernized countries of the world, if natural gas furnaces are already installed, they can serve as bridges to the clean energy of Heat Pumps, if Heat Pumps are not available to certain households.

[Click here for the answer](#)



Solution:

Category 5, \$600 Question, Less of a Problem: Least polluting Heat Pump backup,

Is a natural gas furnace the least PM_{2.5} polluting backup to Heat Pumps?

\$ 600

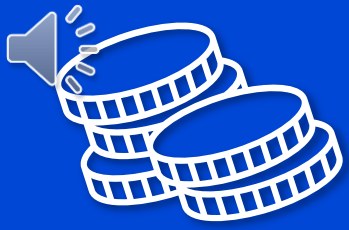




Category 5, \$800 Answer, Less of a Problem: Least
polluting Heat Pump backup,

Heat Pumps do not require a backup unless all
electricity is shut down by Climate Change caused
storms for several days in the middle of winter.

[Click here for the answer](#)



Solution:

Category 5, \$800 Question, Less of a
Problem: Least polluting Heat Pump backup,
Do Climate Change caused storms
sometimes contribute to loss of electrical
power for Heat Pumps?

\$ 800



Category 5, \$1,000 Answer, Less of a Problem: Least polluting Heat Pump backup, Destruction of an electrical grid by storms caused by Climate Change can be slowed by use of Heat Pumps rather than much more polluting wood burning, which hastens Climate Change.

[Click here for the answer](#)



Solution:

Category 5, \$1,000 Question, Less of a Problem: Least polluting Heat Pump backup,

Do the CO₂ and PM_{2.5} produced by wood burning contribute to causing Climate Change caused storms that could potentially destroy an electric grid?

\$ 1000



Category 6 \$200 Answer, Solutions: individual actions plus Industry Change,

One person can do two things at the same time:

1) stop burning wood at home and 2) ask industries to stop burning wood, and instead use the cleaner energy sources of wind, solar and geothermal.

[Click here for the answer](#)



Solution:

Category 6 \$200 Question, Solutions:
individual actions plus Industry Change,
If one person stops burning wood at home, is
that enough to help slow Climate Change?

\$ 200





Category 6, \$400 Answer, Solutions:
individual actions plus Industry Change,
Stopping wood burning residentially does
not just stop sickening the family within the
home, but also stops sickening the near
neighbors of indoor residential wood
burners.

[Click here for the answer](#)



\$

Solution:

\$

Category 6, \$400 Question, Solutions:
individual actions plus Industry Change,

Does stopping wood burning
residentially lessen the risk of sickening
your own family?

\$

\$ 400

\$



Category 6, \$600 Answer, Solutions:
individual actions plus Industry
Change,

Stopping wood burning residentially
also lessen the risk of sickening all the
people in your neighborhood.

[Click here for the answer](#)



Solution:

Category 6, \$600 Question, Solutions:
individual actions plus Industry Change,
Does stopping wood burning residentially
lessen the risk of sickening your neighbors,
near and far?

\$ 600



Category 6, \$800 Answer, Solutions:
individual actions plus Industry Change,
If you stop burning wood, you can serve
as an example for other people to stop
burning wood.

[Click here for the answer](#)



Solution:

Category 6, \$800 Question, Solutions:
individual actions plus Industry Change,
Can you be a role model by stopping
burning wood?

\$ 800





Category 6, \$1,000 Answer, Solutions: individual actions plus Industry Change,

Tell other people that in addition to asking industries to stopping burning fossil fuels and stopping burning wood (biomass), individuals can contribute to clean air, increase Public Health and slow Climate Change by stopping burning wood indoors residentially.

[Click here for the answer](#)



Solution:

Category 6, \$1,000 Question, Solutions: individual actions plus Industry Change, What can you tell other people to do, now that you know that wood burning emits 2.8 times the PM_{2.5} as the fossil fuel coal burning, and that wood burning emits 450 times the PM_{2.5} as the fossil fuel natural gas burning? Wood burning emits 90% PM_{2.5}, particulate matter of 2.5 micrometer size, the perfect size to infiltrate the human lung, setting off a cascade of human health problems and early deaths. Double Jeopardy if no action is taken.

\$ 1000