

## CALCULATING ENERGY COSTS FOR MITIGATION SYSTEMS

The ANSI/AARST standards for radon mitigation require professionals to provide clients with an estimate of the annual cost to operate their newly installed mitigation system.

### Determining How Much Electricity a Fan Uses

There are a couple of ways to figure out how much energy, or electricity, a radon fan uses.

1. After the fan is installed and the system is complete, plug the fan into a watt meter. The device will tell you how much electricity the fan uses. Watt meters cost about \$30.
2. Find the rated wattage for the fan. This is often printed on the fan. For your convenience, a list of common radon fans and their ratings is available at the end of this document.

### Calculating Annual Cost

- A quick estimate of the annual cost can be found using the rated wattage of the fan. This rating roughly equates to the annual operating cost when electricity is about \$0.10 per kWh. If a fan is rated at 66 watts, it will cost about \$66 per year to operate.
- A more accurate estimate can be calculated using the rated wattage of the fan and the price per kilowatt hour charged by the local utility. The annual cost of the radon system can be calculated with this equation:

$$\text{Total annual energy cost} = \left( \frac{\text{fan watts}}{1,000} \right) \times \text{price per kWh} \times 24 \text{ hours} \times 365 \text{ days}$$

Where:

Fan watts is the rated wattage for the fan installed in the radon system. Price per kWh is the amount charged by the local utility for 1 kilowatt of electricity for an hour.

#### Example:

You are using a Fantech RN1, rated for 20 watts. The local utility charges about \$0.11 per kilowatt hour (kwh). It will cost a customer about \$19.27 per year to operate that radon system.

$$\left( \frac{20 \text{ W}}{1,000} \right) \times \$0.11 \text{ per kWh} \times 24 \text{ hours} \times 365 \text{ days} = \$19.27 \text{ annually}$$

## CALCULATING ENERGY COSTS FOR MITIGATION SYSTEMS

For your convenience, here are the rated wattage for the brands and models of fans commonly available on the market.

### Rated Wattage of Common Radon Fans

| Fan Brand and Model Name | Max. Watts |
|--------------------------|------------|
| Fantech RN1              | 20         |
| Fantech RN2 EC           | 53         |
| Fantech RN2              | 58         |
| Fantech RN2 SL           | 87         |
| Fantech RN3              | 141        |
| Fantech RN4              | 174        |
| Festa Spirit             | 27         |
| Festa Maverick           | 66         |
| Festa Hawk               | 66         |
| Festa Maverick LV        | 74         |
| Festa Hawk LV            | 74         |
| Festa Patriot            | 90         |
| Festa Prowler LV         | 90         |
| Festa Legend LV          | 90         |
| Festa Legend             | 140        |
| Festa Prowler            | 140        |
| Festa Fury               | 140        |
| Festa Eagle Extreme      | 170        |
| Festa Legend Extreme     | 170        |
| Festa Force              | 280        |
| Festa Eagle              | 310        |
| RadonAway RP140          | 19         |
| RadonAway RP145          | 66         |
| RadonAway RP260          | 65         |
| RadonAway RP265          | 136        |
| RadonAway RP380          | 138        |
| RadonAway GX3            | 135        |
| RadonAway GX4            | 170        |
| RadonAway SF180          | 71         |

## CALCULATING ENERGY COSTS FOR MITIGATION SYSTEMS

| Fan Brand and Model Name | Max. Watts |
|--------------------------|------------|
| RadonAway XP151          | 70         |
| RadonAway XP201          | 74         |
| RadonAway XP261          | 117        |
| RadonAway GP301          | 100        |
| RadonAway GP501          | 146        |
| RadonAway HS2750         | 463        |
| RadonAway HS5500         | 632        |

Please verify the rated wattage of fans with the manufacturer as they may change.

The wattage listed is the maximum watts. The actual energy used is affected by the amount of air the fan moves. The less air a fan moves, the less electricity used. To get a more accurate energy usage estimate that takes airflow and pressure into consideration, you can reference the fan performance curves available at [WPB Enterprises Inc. Mitigation Fan Testing \(https://www.wpd-radon.com\)](https://www.wpd-radon.com).

Minnesota Department of Health, Indoor Air Unit  
625 Robert Street N.  
PO Box 64975  
St. Paul, MN 55164  
651-201-4601  
[health.indoorair@state.mn.us](mailto:health.indoorair@state.mn.us)  
[mn.gov/radon](http://mn.gov/radon)

9/13/2023

*To obtain this information in a different format, call: 651-201-4601.*