Consumer's Guide to Radon Reduction

United States Environmental Protection Agency
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How to Reduce Radon Levels in Your Home

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Please Note:

EPA closed its National Radon Proficiency Program (RPP) in 1998. Please check our proficiency page for more information on how to find a qualified radon service professional. The information in this document which refer to companies, individuals or test devices that "meet EPA's requirements", or "EPA Certified...", or refers to EPA's old RPP designations "RMP or RCP" is no longer applicable. This document is in need of revision to reflect the closure of EPA's old RPP. Our proficiency page has information on how to find qualified radon service professionals.

Overview

Reduce Radon Levels In Your Home

Radon is the second leading cause of lung cancer. The Surgeon General and the EPA recommend testing for radon and reducing radon in homes that have high levels. Fix your home if your radon level is confirmed to be 4 picoCuries per liter (pCi/L) or higher. Radon levels less than 4 pCi/L still pose a risk, and in many cases may be reduced. If you smoke and your home has high radon levels, your risk of lung cancer is especially high.

Select A State Certified And/Or Professional Radon Service Provider

Choose a state-certified or professional radon service provider. Call your state radon office for a list of qualified contractors in your area or contact one or both of the private national radon proficiency programs, visit our proficiency web site at: http://www.epa.gov/radon/proficency.html.

Radon Reduction Techniques Work

Radon reduction systems work. Some radon reduction systems can reduce radon levels in your home by up to 99%. The cost of fixing a home generally ranges from $500 to $2500. Your costs may vary depending on the size and design of your home and which radon reduction methods are needed. Thousands of people have reduced radon levels in their homes.

Maintain Your Radon Reduction System

Maintaining your radon reduction system takes little effort and keeps the system working properly and radon levels low.

Introduction

You have tested your home for radon, but now what? This booklet is for people who have tested their home for radon and confirmed that they have elevated radon levels -- 4 picoCuries per liter (pCi/L) or higher.

This booklet can help you:

1. Select a qualified contractor to reduce the radon levels in your home
2. Determine an appropriate radon reduction method
3. Maintain your radon reduction system

If you want information on how to test your home for radon, call your state radon office and ask for a copy of A Citizen's Guide to Radon.

How Radon Enters Your House

Radon is a naturally occurring gas produced by the breakdown of uranium in soil, rock, and water. Air pressure inside your home is usually lower than pressure in the soil around your home's foundation. Because of this difference in pressure, your house acts like a vacuum, drawing radon in through foundation cracks and other openings. Radon may also be present in well water and can be released into the air in your home when water is used for showering and other household uses. In most cases, radon entering the home through water is a small risk compared with radon entering your home from the soil. In a small number of homes, the building materials can give off radon, although building materials rarely cause radon problems by themselves.

Radon is a Cancer-causing, Radioactive Gas

Radon is estimated to cause many thousands of lung cancer deaths each year. In fact, the Surgeon General has warned that radon is the second leading cause of lung cancer in the United States. Only smoking causes more lung cancer deaths. If you smoke and your home has high radon levels, your risk of lung cancer is especially high.

What Do Your Radon Test Results Mean?

The amount of radon in the air is measured in "picoCuries of radon per liter of air," or "pCi/L." Sometimes test results are expressed in Working Levels, "WL," rather than picoCuries per liter of air. A level of 0.02 WL is usually equal to about 4 pCi/L in a typical home.

Any radon exposure has some risk of causing lung cancer. The lower the radon level in your home, the lower your family's risk of lung cancer. The U.S. Congress has set a long-term goal that indoor radon levels be no more than outdoor levels; about 0.4 pCi/L of radon is normally found in the outside air. EPA recommends fixing your home if the results of one long-term test or the average of two short-term tests taken in the lowest lived in level of the home show radon levels of 4 pCi/L (or 0.02 WL) or higher. A short-term test remains in your home for two days to 90 days, whereas a long-term test remains in your home for more than 90 days. With today's technology, radon levels in most homes can be reduced to 2 pCi/L or below.

Have You Confirmed Your Radon Test?

If your first short-term test result is 4 pCi/L or higher (or 0.02 WL or more), EPA recommends that you take a second test to be sure. For a better understanding of your year-round average radon level, take a long-term test. If you need results quickly, take a second short-term test and average it with the first. The higher your initial short-term test result, the more certain you can be that you should take a short-term rather than a long-term follow-up test. If your first short-term test result is several times the action level -- for example, about 10 pCi/L or higher -- you should take a second short-term test immediately.

Why use a tester or a test kit that meets EPA requirements?

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Whether you use a short- or long-term test, use a device and a testing company that is state certified and/or is listed in EPA's Radon Proficiency Program (RPP). If you want to use a do-it-yourself test kit, use one that displays the phrase "Meets EPA Requirements." EPA's RPP Program is designed to help assure that consumers get reliable radon measurement and mitigation services. If you want to hire a professional to take the measurement, or contact your state radon office for a current list of state certified and/or RPP listed

companies and individuals. Listed RMP Program participants must follow quality assurance and EPA measurement procedures and have demonstrated the ability to take reliable measurements with specific devices. Your state may also have additional requirements for professional radon testers.

Why Hire a Contractor?

EPA recommends that you have a qualified contractor fix your home because lowering high radon levels requires specific technical knowledge and special skills. Without the proper equipment or technical knowledge, you could actually increase your radon level or create other potential hazards. But, if you decide to do the work yourself, get information on appropriate training courses and copies of EPA's technical guidance documents from your state radon office.

Why Use A State-Certified And/Or RPP Contractor?

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EPA recommends that you use a contractor trained to fix radon problems. The radon mitigation contractor portion of EPA's National Radon Proficiency Program (RPP) requires contractors to take training courses and pass an exam before being listed as proficient. EPA maintains a list of radon contractors who meet RPP requirements. RPP mitigation contractors carry a current RPP photo identification card and all RPP contractors are required to follow EPA standards to make sure that their work meets minimum quality standards. A number of states have their own contractor certification programs which have additional requirements. Check with your state radon office to see if the contractor you are considering is state certified

and/or RPP listed.

How To Select A Contractor

Get Estimates

Choose a contractor to fix a radon problem just as you would choose someone to do other home repairs. It is wise to get more than one estimate, to ask for references, and to contact some of those references to ask if they are satisfied with the contractors' work. Also, ask your county or state consumer protection office for information about the contractors.

Use this check-list when evaluating and comparing contractors and ask the following questions:

Yes	No	
		Will the contractor provide references or photographs, as well as test results of 'before' and 'after' radon levels of past radon reduction work?
		Can the contractor explain what the work will involve, how long it will take to complete, and exactly how the radon reduction system will work?
		Does the contractor charge a fee for any diagnostic tests? Although many contractors give free estimates, they may charge for diagnostic tests -- these tests help determine what radon reduction system should be used, but are not always necessary (see "Radon Reduction Techniques" below for more on diagnostic tests).
		Did the contractor inspect your home's structure before giving you an estimate?
		Did the contractor review the quality of your radon measurement results and determine if EPA testing procedures were followed? [An RPP requirement] (see note about closure of EPA's National Radon Proficiency Program above)

Compare the contractors' proposed costs and consider what you will get for your money. Take into account the following: a system that is less expensive to install may have higher operating and maintenance costs than a system that is more expensive to install; the best system for your house may be the more expensive option; and the quality of the building material will affect how long the system lasts.

Do the contractors' proposals and estimates include:

Yes	No	
		Proof of liability insurance and being bonded and licensed?
		Proof of state certification and/or RPP Listing? (see note about closure of EPA's National Radon Proficiency Program above)
		Diagnostic testing prior to design and installation of a radon reduction system?
		Installation of a warning device to caution you if the radon reduction system is not working correctly? [An RPP Requirement] (see note about closure of EPA's National Radon Proficiency Program above)

		Testing after installation to make sure the radon reduction system works well? [An RPP requirement] (see note about closure of EPA's National Radon Proficiency Program above)
		A guarantee to reduce radon levels to 4 pCi/L or below, and if so, for how long?

The Contract

Ask the contractor to prepare a contract before any work starts. Carefully read the contract before you sign it. Make sure everything in the contract matches the original proposal. The contract should describe exactly what work will be done prior to and during the installation of the system, what the system consists of, and how the system will operate. Carefully consider optional additions to your contract which may add to the initial cost of the system, but may be worth the extra expense. Typical options might include a guarantee that the contractor will adjust or modify the system to reach the promised radon level, or an extended warranty and/or a service plan.

Important information that should appear in the contract includes:

- The total cost of the job, including all taxes and permit fees; how much, if any, is required for a deposit; and when payment is due in full.
- The time needed to complete the work.
- An agreement by the contractor to obtain necessary licenses and follow required building codes.
- A statement that the contractor carries liability insurance and is bonded and insured to protect you in case of injury to persons, or damage to property, while the work is done.
- A guarantee that the contractor will be responsible for damage and clean-up after the job.
- Details of warranties, guarantees, or other optional features, including the acceptable resulting radon level.
- A declaration stating whether any warranties or guarantees are transferable if you sell your home.
- A description of what the contractor expects the homeowner to do (e.g., make the work area accessible) before work begins.

What to Look for in a Radon Reduction System

In selecting a radon reduction method for your home, you and your contractor should consider several things, including: how high your initial radon level is, the costs of installation and system operation, your house size and your foundation type.

Installation and Operating Costs

For most homes, radon reduction measures are no more expensive than having a new hot water heater installed or having the house painted. The cost of a contractor fixing a home generally ranges from $500 to $2500, depending on the characteristics of the house and choice of radon reduction methods.

Most types of radon reduction systems cause some loss of heated or air conditioned air, which could increase your utility bills. How much your utility bills will be affected depends on the climate you live in, what kind of reduction system you select, and how your house is built. Systems that use fans are more effective in reducing radon levels; however, they will increase your electric bill. The table below lists the installation and average operating costs for different radon reduction systems and describes the best use of each method.

How a Radon Reduction System May Affect Your Home

In order to minimize the effect of installing a radon reduction system in your house, ask your contractor before any work starts how the system can be made to blend with its surroundings. For instance: radon vent pipes may be encased with materials that match the exterior of your house, or the pipes may be routed up through closets.

Radon Reduction Techniques

There are several methods that a contractor can use to lower radon levels in your home. Some techniques prevent radon from entering your home while others reduce radon levels after it has entered. EPA generally recommends methods which prevent the entry of radon. **Soil suction**, for example, prevents radon from entering your home by drawing the radon from below the house and venting it through a pipe, or pipes, to the air above the house where it is quickly diluted.

Any information that you may have about the construction of your house could help your contractor choose the best system. Your contractor will perform a visual inspection of your house and design a system that considers specific features of your house. If this inspection fails to provide enough information, the contractor will need to perform **diagnostic tests** to help develop the best radon reduction system for your home. For instance, your contractor can use a "smoke gun" to find the source and direction of air movement. A contractor can learn air flow sources and directions by watching a small amount of smoke that he or she shot into holes, drains, sumps, or along cracks. The sources of air flow show possible radon routes.

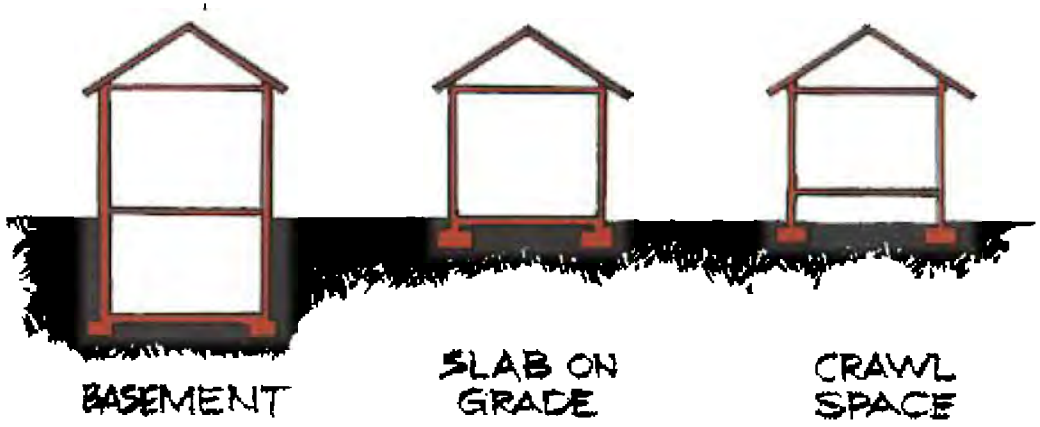
Another type of diagnostic test is a "soil communication test." This test uses a vacuum cleaner and a smoke gun to determine how easily air can move from one point to another under the foundation. By inserting a vacuum cleaner hose in one small hole and using a smoke gun in a second small hole, a contractor can see if the smoke is pulled down into the second hole by the force of the vacuum cleaner's suction. Watching the smoke during a soil communication test helps a contractor decide if certain radon reduction systems would work well in your house.

Whether diagnostic tests are needed is decided by details specific to your house, such as the foundation design, what kind of material is under your house, and by the contractor's experience with similar houses and similar radon test results.

House Foundation Types

Your house type will affect the kind of radon reduction system that will work best. Houses are generally categorized according to their foundation design. For example: **basement, slab-on-grade** (concrete poured at ground level), or **crawlspace** (a shallow unfinished space under the first floor). Some houses have more than one foundation design

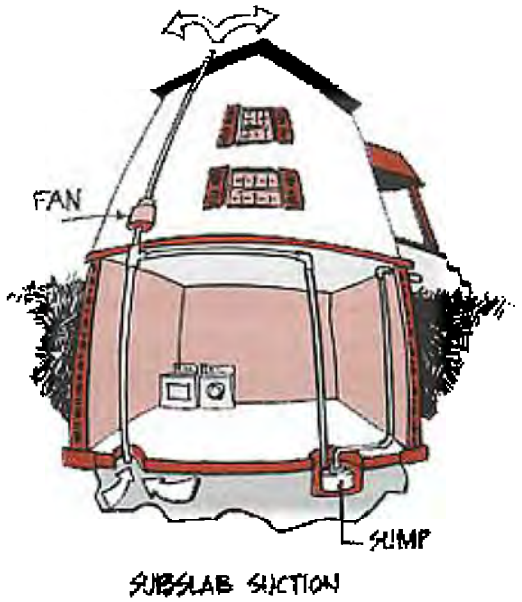
feature. For instance, it is common to have a basement under part of the house and to have a slab-on-grade or crawlspace under the rest of the house. In these situations a combination of radon reduction techniques may be needed to reduce radon levels to below 4 pCi/L.



Radon reduction systems can be grouped by house foundation design. Find your type of foundation design above and read about which radon reduction systems may be best for your house.

Basement and Slab-on-Grade Houses

In houses that have a basement or a slab-on-grade foundation, radon is usually reduced by one of four types of soil suction: **subslab suction, drain tile suction, sump hole suction, or block wall suction**.



SUBSLAB SUCTION

Active Subslab suction (also called **subslab depressurization**) is the most common and usually the most reliable radon reduction method. Suction pipes are inserted through the floor slab into the crushed rock or soil underneath. They also may be inserted below the concrete slab from outside the house. The number and location of suction pipes that are needed depends on how easily air can move in the crushed rock or soil under the slab, and on the strength of the radon source. A contractor usually gets this information from visual inspection, from diagnostic tests, and/or from experience. Acting like a vacuum cleaner, a fan connected to the pipes draws the radon gas from below the house and then releases it into the outdoor air. **Passive subslab suction** is the same as active subslab suction except it relies on air currents instead of a fan to draw radon up from below the house. Passive subslab suction is generally not as effective in reducing high radon levels as active subslab suction.

Some houses have **drain tiles** to direct water away from the foundation of the house. Suction on these drain tiles is often effective in reducing radon levels if the drain tiles form a complete loop around the foundation.

One variation of subslab and drain tile suction is **sump hole suction**. Often, when a house with a basement has a sump pump to remove unwanted water, the sump can be capped so that it can continue to drain water and serve as the location for a radon suction pipe.

Block wall suction can be used in basement houses with hollow block foundation walls. This method removes radon from the hollow spaces within the basement's concrete block wall. It is often used together with subslab suction.

Crawlspace Houses

In houses with crawlspaces, radon levels can sometimes be lowered by **ventilating** the crawlspace passively (without the use of a fan) or actively (with the use of a fan). Crawlspace ventilation lowers indoor radon levels both by reducing the home's suction on the soil and by diluting the radon beneath the house. Natural ventilation in a crawlspace is achieved by opening vents, or installing additional vents. Active ventilation uses a fan to blow air through the crawlspace instead of relying on natural air circulation. In colder climates, for either natural or active crawlspace ventilation, water pipes in the crawlspace need to be insulated against the cold.

Another effective method to reduce radon levels in crawl space houses involves covering the earth floor with a heavy plastic sheet. A vent pipe and fan are used to draw the radon from under the sheet and vent it to the outdoors. This form of soil suction is called **submembrane depressurization**.

Other Types of Radon Reduction Methods

Other radon reduction techniques that can be used in any type of house include: sealing, house pressurization, natural ventilation, and heat recovery ventilation. Most of these methods are considered to be either temporary measures, or only partial solutions to be used in combination with other measures.

Sealing cracks and other openings in the foundation is a basic part of most approaches to radon reduction. Sealing does two things, it limits the flow of radon into your home and it reduces the loss of conditioned air, thereby making other radon reduction techniques more effective and cost-efficient. *EPA does not recommend the use of sealing alone to reduce radon because, by itself, sealing has not been shown to lower radon levels significantly or consistently.* It is difficult to identify and permanently seal the places where radon is entering. Normal settling of your house opens new entry routes and reopens old ones.

House pressurization uses a fan to blow air into the basement or living area from either upstairs or outdoors. It attempts to create enough pressure at the lowest level indoors (in a basement for example) to prevent radon from entering into the house. The effectiveness of this technique is limited by house construction, climate, other appliances in the house, and occupant lifestyle. In order to maintain enough pressure to keep radon out, the doors and windows at the lowest level must not be left opened, except for normal entry and exit.

NATURAL VENTILATION

Some **natural ventilation** occurs in all houses. By opening windows, doors, and vents on the lower floors you increase the ventilation in your house. This increase in ventilation mixes radon with outside air and can result in reduced radon levels. In addition, ventilating your house can help to lower indoor radon levels by reducing the vacuum effect. Natural ventilation in any type of house, (aside from ventilation of a crawlspace), should normally be regarded as a *temporary* radon reduction approach because of the following disadvantages: loss of conditioned air and related discomfort, *greatly* increased costs of conditioning additional outside air, and security concerns.

A **heat recovery ventilator (HRV)**, also called an **air-to-air heat exchanger**, can be installed to increase ventilation. An HRV will increase house ventilation while using the heated or cooled air being exhausted to warm or cool the incoming air. HRVs can be designed to ventilate all or part of your home, although they are more effective in reducing radon levels when used to ventilate only the basement. If properly balanced and maintained, they ensure a constant degree of ventilation throughout the year. HRVs also can improve air quality in houses that have other indoor pollutants. There could be significant increase in the heating and cooling costs with an HRV, but not as great as ventilation without heat recovery (see "Installation and Operating Cost Table" below).

Does Your Contractor's Work Meet RPP Requirements?

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There are certain basic requirements that all radon reduction systems should meet. RPP Mitigation Service Providers (formerly known as RCP Contractors) must meet the following performance standards (for a complete list of RPP standards call your state office). Some states have similar requirements:

- Radon reduction systems must be clearly labeled. This will avoid accidental changes to the system which could disrupt its function.

- The exhaust pipes of soil suction systems must vent 10 feet or more above the ground, and away from windows, doors, or other openings that could allow the radon to reenter the house.
- The exhaust fan must be located in an unlivable area. For instance, it should be in an un-occupied attic of the house or outside - not in a basement!
- If installing an exhaust fan outside, the contractor must install a fan that meets local building codes for exterior use.
- All active radon reduction systems require electrical connections that must be installed according to local electrical codes.
- A warning device must be installed to alert you if the system stops working properly. Examples of system failure warning devices are: a liquid gauge, a sound alarm, a light indicator, and a dial (needle display) gauge.
- A warning device must be placed where it can be seen or heard easily. If your monitor shows that the system is not working properly, call a contractor to have it checked.
- RPP contractors must make sure a follow-up radon test is done within 30 days of system installation, but no sooner than 24 hours after your system is in operation with the fan on, if it has one. To test the system's initial effectiveness, a 2-7 day measurement is recommended. Test conditions: windows and doors must be closed 12 hours before and during the test, except for normal entry/exit.
- RPP contractors must recommend that you get an independent follow-up radon measurement. Having an independent tester perform the test, or conducting the measurement yourself, will eliminate any potential conflict of interest.

Your RPP contractor should also check that your radon reduction system's warning device works. Make sure your contractor completely explains your radon reduction system, demonstrates how it operates, and explains how to maintain it. Ask for written operating and maintenance instructions and copies of any warranties.

Living in a House with a Radon Reduction System

Maintaining Your Radon Reduction System

Similar to a furnace or chimney, radon reduction systems need some occasional maintenance. You should look at your warning device on a regular basis to make sure the system is working correctly. Fans may last for five years or more (although manufacturer warranties tend not to exceed three years) and may then need to be repaired or replaced. Replacing a fan will cost around $250 including parts and labor. By testing at least every two years, you will confirm that your radon level is staying low and that your fan is still performing well.

Remember, the fan should NEVER be turned off; it must run continuously for the system to work correctly.

The filter in an HRV requires periodic cleaning and should be changed twice a year. Replacement filters for an HRV are easily changed and are priced between $5 and $15. Ask your contractor where filters can be purchased. Also, the vent that brings fresh air in from the outside needs to be inspected for leaves and debris. The ventilator should be checked annually by a heating, ventilating, and air-conditioning professional to make sure the air flow remains properly balanced. HRVs used for radon control should run all the time.

Remodeling Your Home After Radon Levels Have Been Lowered

If you decide to make major structural changes to your home after you have had a radon reduction system installed (such as converting an unfinished basement area into living space), ask your radon contractor whether these changes could void any warranties. After you remodel, retest in the lowest lived-in area to make sure the construction did not reduce the effectiveness of the radon reduction system. If you are adding a new foundation for an addition to your house, address the radon problem during construction.

Buying or Selling a Home?

If you are buying or selling a home and need to make decisions about radon, consult EPA's Home Buyer's and Seller's Guide to Radon. If you are selling a home that has a radon reduction system, inform potential buyers and supply them with information about your system's operation and maintenance.

If you are buying a new house, consider that it is almost always less expensive to build radon-resistant features into new construction than it is to fix an existing house that has high radon levels. Ask your builder if he or she uses radon-resistant construction features. Your builder can refer to EPA guidance about radon and new construction, or your builder can work with a state certified and/or RCP contractor to design and install the proper radon reduction system. To obtain EPA's technical documents, check our radon publications and our IAQ publications sites, or contact your state radon office.

All homes should be tested for radon and high radon levels should be reduced.

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Do You Have a Well?: Radon in Water

Well owners with elevated indoor radon levels should test their well water for radon. Radon in your water supply can increase your indoor radon level, although, in most cases, radon entering the home through water will be a small source of risk compared with radon entering from the soil. EPA estimates that indoor radon levels will increase by about 1 pCi/L for every 10,000 pCi/L of radon in water. *You can find publications and documents developed by EPA's Office of Ground Water and Drinking Water relating to radon in drinking water and the radon in drinking water rule at http://www.epa.gov/safewater/radon.html.*

What do the results of your water test mean?

Estimate how much the radon in your water is elevating your indoor radon level by subtracting 1 pCi/L from your indoor air radon level for every 10,000 pCi/L of radon that was found in your water. (For example: if you have 30,000 pCi/L of radon in your water, then 3 pCi/L of your indoor measurement may have come from radon in water.) If most of the radon is not coming from your water, fix your house first and then retest your indoor air to make sure that the source of elevated radon was not your private well. If a large contribution of the radon in your house is from your water, you may want to consider installing a special water treatment system to remove radon. EPA recommends installing a water treatment system only when there is a proven radon problem in your water supply.

How is radon removed from water?

Radon can be removed from water by using one of two methods: aeration treatment or granular activated carbon (GAC) treatment. Aeration treatment involves spraying water or mixing it with air, and then venting the air from the water before use. GAC treatment filters water through carbon. Radon attaches to the carbon and leaves the water free of radon. The carbon may need special handling in its disposal if it is used at a high radon level or if it has been used for a long time. In either treatment, it is important to treat the water where it enters your home (point-of-entry device) so that all the water will be treated. Point-of-use devices, such as those installed on a tap or under the sink, will only treat a small portion of your water and are not effective in reducing radon in your water. It is important to maintain home water treatment units properly because failure to do so can lead to other water contamination problems. Some homeowners opt for a service contract from the installer to provide for carbon replacement and general system maintenance.

Refer to the Installation and Operating Cost Table for more information on water treatment systems.

INSTALLATION AND OPERATING COST TABLE				
Technique	**Typical Radon Reduction**	**Typical Range of Insulation Costs (Contractor)**	**Typical Operating Cost Range for Fan Electricity & Heated/ Cooled Air Loss (Annual)**	**Comments**
Subslab Suction (Subslab Depressurization)	80-99%	$800-$2,500	$75-$175	Works best if air can move easily in material under slab.
Passive Subslab Suction	30-70%	$550-$2,250	There may be some energy penalties	May be more effective in cold climates; not as effective as active subslab suction.
Draintile Suction	90-99%	$800-$1,700	$75-$175	Works best if draintiles form complete loop around house.
Blockwall Suction	50-99%	$1,500-$3,000	$150-$300	Only in houses with hollow blockwalls; requires sealing of major openings.
Sump Hole Suction	90-99%	$800-$2,500	$100-$225	Works best if air moves easily to sump under slab; or if draintiles form complete loop.

Submembrane Depressurization in a crawl space	80-99%	$1,000-$2,500	$70-$175	Less heat loss than natural ventilation in cold winter climates.
Natural Ventilation in a crawl space	0-50%	none ($200-$500 if additional vents installed)	There may be some energy penalties.	Costs variable
Sealing of Radon Entry Routes	0-50%	$100-$2,000	None	Normally used with other techniques; proper materials & installation required
House (Basement) Pressurization	50-99%	$500-$1,500	$150-$500	Works best with tight basement isolated from outdoors & upper floors.
Natural Ventilation	Variable	None ($200-$500 if additional vents installed)	$100-$700	Significant heated/cooled air loss; operating costs depend on utility rates & amount of ventilation.
Heat Recovery Ventilation	25-50% if used for full house; 25-75% if used for basement	$1,200-$2,500	$75-$500 for continuous operation	Limited use; best in tight house; for full house, use with levels no higher than 8 pCi/L; no higher than 16 pCi/L for use in basement; less conditioned air loss than natural ventilation.
Water Systems: Aeration	95-99%	$3,000-$4,500	$40-$90	More efficient than GAC; requires annual cleaning to maintain effectiveness & to prevent contamination; carefully vent system.
Water Systems: Activated Carbon (GAC)	85-99%	$1,000-$2,000	None	Less efficient for higher levels than aeration; use for moderate levels (around 5,000 pCi/L or less); radon by-products can build on carbon may need radiation shield around tank & care in disposal.

* NOTE: The fan electricity and house heating/cooling loss cost range is based on certain assumptions regarding climate, your house size, and the cost of electricity and fuel. Your costs may vary. Numbers based upon 1991 data.

How to Order This Guide

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Consumer Federation of America *strongly urges consumers to have elevated radon levels in their homes reduced. EPA's "Consumer's Guide to Radon Reduction" will assist those individuals and offers very good advice for selecting and working with a qualified radon contractor.*