# CLIMATEFRIENDLY FOOD GUIDE 

From the Humankind public radio program

Produced in association with GBH/Boston Heard on NPR and PRX member-stations and our podcast

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## Tasty, earth-smart eating!

There's no getting around it: The foods we eat have a huge environmental impact and they contribute to global warming. That's why a lot of people who are concerned about recent weather extremes and climate change are now paying closer attention to their dietary choices. It's not just what kind of car you drive (if you drive one), or how well you conserve energy (hopefully you do). It's also which foods you eat. And earthsmart eating tastes great!

That's the focus of an informative public radio project from Humankind, heard on NPR and PRX member-stations. It's titled The Diet-
Climate Connection and you can hear the audio at humanmedia.org/dcc and learn more. And this fact-packed 'Climate-Friendly Food Guide' is based on information learned in our extensive interviews with leading climate scientists, health experts and others. Please consider the important knowledge here and adapt it as you can. And let others know about this Climate-Friendly Food Guide, which is free and downloadable at: humanmedia.org/foodguide
Thank you.
David Freudberg
Executive Producer and host of Humankind

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## The Diet-Climate Connection



The problem of climate change results mostly from the fossil fuels we use (oil, natural gas, coal), which emit heat-trapping gases into the atmosphere. The more we use these fuels, the more heat is trapped by the greenhouse gases. This warms the air and the seas, causing droughts, violent storms, heat waves and numerous other effects - and the situation, say top scientists, is getting worse, not better. 2023 was Earth's hottest year ever.

This all relates to how we eat because factory farming methods, especially for producing


This graph shows global warming emissions (in pounds of emissions per pound or pint) for various foods. Red meat (beef and pork) clearly tops the list, with emissions three times higher than for fish and nearly 18 times higher than for pasta.

Source: Union of Concerned Scientists modeling
livestock, rely heavily on fossil fuels. (By contrast, "sustainable" food production methods use fewer resources and are much gentler on the environment.) So, the question is: Which foods are most climate-friendly and which are least-climate friendly?

And here's the good news. The most climatefriendly foods are also healthy and tasty! (Hint fruits and vegetables help you and the planet.) And simply by wasting less food - about $40 \%$ of food in the U.S. is never consumed - we use significantly lower fossil fuels.

The main scientific finding here is that certain kinds of livestock production do heavy damage to the environment. This results partly from growing so many feed crops for the animals (and clearing forests to grow them), and from the animals' own waste products, especially in large-scale industrialized operations that bring most meat to the table. Animal waste also produces potent heat-trapping gases. Crops grown directly for people, by contrast, have a far smaller environmental impact. So we can combat global warming by reducing our consumption of animal products - especially red meat and dairy. Instead, we can enjoy more fruits and veggies as well as non-animal sources of protein (many flavorful bean dishes are rich in protein), which do much less environmental harm.

## A delicious way to

 counteract climate change"In terms of immediacy of action and the
feasibility
of bringing about [greenhouse gas] reductions in a short period of time" eating more fruits and vegetables and less meat "is the most attractive opportunity."

- Dr. Rajendra Pachauri
former Chair, UN's
Intergovernmental Panel on Climate Change, Nobel Peace Prize recipient


## Getting Started

Here are some tips for the most effective climate-friendly food actions you can take:

1. Increase your intake of fruits, vegetables, high-protein plant foods (peas, lentils, soy and other beans) and whole grains, while cutting down on animal products, especially red meat and dairy.
2. Reduce food waste and spoilage. Avoid serving supersized meals, where food ends up being discarded. Cook and store foods in more energy-conserving ways. Cook extra for another day, use the right size pot, monitor the heat source to avoid overcooking and fuel waste.

3. Eat foods in season, with long shelf life, grown locally (to minimize gasoline usage in shipping). Perishable foods like berries, especially when available out of season, are more likely to be flown in from other countries, requiring heavy fuel use. Many tasty root crops (carrots, sweet potatoes, onions) last longer, reducing waste. Fruits like apples will outlive most berries.
4. Compost your leftover plant food in your garden, instead of sending it to the dump. This further reduces production of methane, a potent greenhouse gas.
5. Plan menus. When we get to the store or farmer's market we'll know exactly what we want and how much. This cuts down on impulse buying of items that might spoil before we use them, and saves money.
6. Use smaller plates. This is a natural incentive to eat less, trimming waste and waistlines!
7. Instead of fast, rushed food, savor your meal! Slow down, eat with others, notice the delicious aromas, the sweet and sour flavors, the chewy textures. This way, it's easier to be satisfied and grateful for our food.
8. Remember that marketing of foods is for profit, not necessarily the health of your body or our planet! Even if the advertising culture tempts us to make poor choices, we can vote with our forks and take care of ourselves better!

## HEALTHY EATING PLATE



- Harvard University


Harvard School of Public Health
The Nutrition Source
www.hsph.harvard.edu/nutritionsource


Copyright © 2011 Harvard University. For more information about The Healthy Eating Plate, please see The Nutrition Source, Department of Nutrition, Harvard School of Public Health www.thenutritionsource.org, and Harvard Health Publications, health.harvard.edu.

## 10 tips to help you eat more vegetables

1discover fast ways to cook Cook fresh or frozen vegetables in the microwave for a quick-and-easy dish to add to any meal. Steam green beans, carrots, or broccoli in a bowl with a small amount of water in the microwave for a quick side dish.

2be ahead of the game Cut up a batch of bell peppers, carrots, or broccoli. Pre-package them to use when time is limited. You can enjoy them on a salad, with hummus or in a veggie wrap


$\vartheta$choose vegetables rich in color
Brighten your plate with vegetables that are red, orange, or dark green. They are full of vitamins and minerals. Try acorn squash, cherry tomatoes, sweet potatoes, or collard greens. They not only taste great but also are good for you, too.

USDA $\begin{aligned} & \text { United States } \\ & \text { Department of Agriculture }\end{aligned}$
Center for Nutrition
Center for Nutrition

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check the freezer aisle
Frozen vegetables are quick and easy to use and are just as nutritious as fresh veggies. Try adding frozen corn, peas, green beans, spinach, or sugar snap peas to some of your favorite dishes or eat as a side dish.

$\square$stock up on veggies
Canned vegetables are a great addition to any meal, so keep on hand canned tomatoes,
kidney beans, garbanzo beans, mushrooms, and beets. Select those labeled as "reduced sodium," "low sodium," or "no salt added."


6make your garden salad glow with color Brighten your salad by using colorfu vegetables such as black beans, sliced red bell peppers, shredded radishes, chopped red cabbage, or watercress. Your salad will not only look good but taste good, too.


while you're out
If dinner is away from home, no need to worry. When ordering, ask for an extra side of vegetables or side salad instead of the typical fried side dish.

savor the flavor of seasonal vegetables
Buy vegetables that are in season for maximum flavor at a lower cost. Check your local supermarket specials for the best-in-season buys. Or visit your local farmer's market.

try something new
You never know what you may like. Choose a new vegetable-add it to your recipe or look up how to fix it online.

Meatless Mondays
"By taking one day a week and not eating meat, you're actually cutting back your meat consumption by $15 \%$ right there. And that means you're cutting back your saturated fat consumption, you're improving your own health, and you're having all these environmental benefits as well."

- Dr. Roni Neff, Johns Hopkins Bloomberg School of Public Health


## How much protein do you need? Probably less than you think!

From the U.S. Centers For Disease Control and Prevention -- recommended daily intake:
Ages 1-3 13 grams (girls and boys)
Ages 4-8 19 grams (girls and boys)
Ages 9-13 $\quad 34$ grams (girls and boys)
Ages 14-18 46 grams (girls), 52 grams (boys)
Ages 19+ 46 grams (women), 56 grams (men)
To help assess the protein power of everyday climate-friendly foods, see chart on next page.


Beans can be added to rice or pasta dishes in place of animal protein. If pre-cooked, or from a can, they can be mixed together to make a great bean salad with some garnish and served cold. Don't forget to use in soups.

## Climate-friendly Protein Options

Protein superstars are in green. (Print out and keep in kitchen!)
(Source of grams of protein per measure: USDA National Nutrient Database for Standard Reference)

| FOOD | US <br> Measure |  | Grams <br> Protein |
| :--- | :--- | ---: | :--- |


| FOOD | US <br> Measure |  | Grams <br> Protein |
| :--- | :--- | ---: | :--- |
| NOTES |  |  |  |

# kid-friendly vegsies \& fruits 

## 10 tips for making healthy foods more fun for children

## smoothie creations

Blend fat-free or low-fat yogurt or milk with fruit pieces and crushed ice. Use fresh, frozen, canned, and even overripe fruits. Try bananas, berries, peaches, and/or pineapple. If you freeze the fruit first, you can even skip the ice!


2delicious dippers
Kids love to dip their foods. Whip up a quick dip for veggies with yogurt and seasonings such as herbs or garlic. Serve with raw vegetables like broccoli, $\bigcap$ carrots, or cauliflower. Fruit chunks go great with a yogurt and cinnamon or vanilla dip.

3caterpillar kabobs Assemble chunks of melon, apple, orange, and pear on skewers for a fruity kabob. For a raw veggie version, use vegetables like zucchini, cucumber, squash, sweet peppers, or tomatoes.


Encourage children to eat vegetables and fruits by making it fun. Provide healthy ingredients and let kids help with preparation, based on their age and skills. Kids may try foods they avoided in the past if they helped make them.

4personalized pizzas Set up a pizza-making station in the kitchen. Use whole-wheat English muffins, bagels, or pita bread as the crust. Have tomato sauce, low-fat cheese, and cut-up vegetables or fruits for toppings. Let kids choose their own favorites. Then pop the pizzas into the oven to warm.
 fruity peanut butterfly
Start with carrot sticks or celery for the body. Attach wings made of thinly sliced apples with peanut butter and decorate with halved grapes or dried fruit.frosty fruits
Frozen treats are bound to be popular in the warm months. Just put fresh fruits such as melon chunks in the freezer (rinse first). Make "popsicles" by inserting sticks into peeled bananas and freezing.

7bugs on a log
Use celery, cucumber, or carrot sticks as the log and add peanut butter. Top with dried fruit such as raisins, cranberries, or cherries, depending on what bugs you want!homemade trail mix
Skip the pre-made trail mix and make your own. Use your favorite nuts and dried fruits, such as unsalted peanuts, cashews, walnuts, or sunflower seeds mixed with dried apples, pineapple, cherries, apricots, or raisins. Add whole-grain cereals to the mix, too.

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## potato person

Decorate half a baked potato. Use sliced cherry tomatoes, peas, and low-fat cheese on the potato to make a funny face.

10
put kids in charge
Ask your child to name new veggie or fruit creations. Let them arrange raw veggies or fruits into a fun shape or design.



Like taking 7.6 million cars off the road

That would be the environmental benefit if everyone in
 the U.S. ate no meat or cheese just one day a week for a year.

## Reinstate Family Meals

It's clear that society will need to undergo a great paradigm shift to create that elusive goal of "sustainability." And while eating homecooked meals around a family table isn't a miraculous solution to restore balance to our precious planet, it's a step in the right direction. Creating positive associations around food, modeling respect for wholesome eating, and teaching about food production and preparation are all critical components of raising children who respect the fruits of the Earth.

The challenge of enticing busy families to the table remains the greatest barrier to the family meal. Despite our best intentions, it's easy to get caught up in soccer practice, work commitments, and piano recitals. To help ease the transition, I suggest talking in the language of love: food. Lure resistant family members to the table with irresistible culinary delights, and make this new family structure one that you all look forward to. This might mean a lot of kid-friendly favorites like grilled cheese and cut veggies, or make-your-own-pizza-night to get the ball rolling. Or it might mean bringing back dessert and offering a small treat at the end of a sit-down dinner... Taking the time to eat together is one of the most meaningful gifts you can give to yourself and your children.

Excerpted from "Be a Super Mom (or Dad): Reinstate Family Meals" by Tovah Paglaro


## Childhood Obesity

Obesity has become one of America's most serious health problems. Childhood obesity has doubled, and adolescent obesity has tripled. Children who eat regularly with their families generally have healthier eating patterns. They consume more fruits and vegetables and less fried foods, soft drinks and saturated fat. This helps them maintain a healthy weight, and it may be one of the best weapons against the national obesity epidemic.
(Making Mealtimes Pleasant, doc. HGIC 4105, Clemson Cooperative Extension)

# smart shopping for vegsies \& fruits 

## 10 tips for affordable vegetables and fruits

1celebrate the season Use fresh vegetables and fruits that are in season. They are easy to get, have more flavor, and are usually less expensive. Your local farmer's market is a great source of seasonal produce.

2why pay full price?
Check the local newspaper, online, and at the store for sales, coupons, and specials that will cut food costs. Often, you can get more for less by visiting larger grocery stores (discount grocers if available).

3stick to your list
Plan out your meals ahead of time and make a grocery list. You will save money by buying only what you need. Don't shop when you're hungry. Shopping after eating will make it easier to pass on the tempting snack foods. You'll have more of your food budget for vegetables and fruits.

It is possible to fit vegetables and fruits into any budget. Making nutritious choices does not have to hurt your wallet. Getting enough of these foods promotes health and can reduce your risk of certain diseases. There are many low-cost ways to meet your fruit and vegetable needs.
try canned or frozen Compare the price and the number of servings from fresh, canned, and frozen forms of the same veggie or fruit. Canned and frozen items may be less
 expensive than fresh. For canned items, choose fruit canned in $100 \%$ fruit juice and vegetables with "low sodium" or "no salt added" on the label.

5buy small amounts frequently Some fresh vegetables and fruits don't last long. Buy small amounts more often to ensure you can eat the foods without throwing any away.

6buy in bulk when items are on sale For fresh vegetables or fruits you use often, a large size bag is the better buy. Canned or frozen fruits or vegetables can be bought in large quantitites when they are on sale, since they last much longer.

7store brands = savings
Opt for store brands when possible. You will get the same or similar product for a cheaper price. If your grocery store has a membership card, sign up for even more savings.

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$(3$keep it simple Buy vegetables and fruits in their simplest form. Pre-cut, pre-washed, ready-to-eat, and processed foods are convenient, but often cost much more than when purchased in their basic forms.

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## plant your own

Start a garden-in the yard or a pot on the deck-for fresh, inexpensive, flavorful additions to meals. Herbs, cucumbers, peppers, or tomatoes are good options for beginners. Browse through a local library or online for more information on starting a garden.


10plan and cook smart Prepare and freeze vegetable soups, stews, or other dishes in advance. This saves time and money. Add leftover vegetables to casseroles or blend them to make soup. Overripe fruit is great for smoothies or baking.


## Organic Produce

Most crops are grown using applied fertilizer, pesticides and herbicides. These products are made from nonrenewable petro-
 chemicals and they degrade the soil and biology that supports it, sometimes contaminating the food we eat. The run-off from these chemicals causes massive pollution problems in rivers and oceans. Organic food is raised using natural composts and methods that build soil and biodiversity, usually resulting in more delicious, nutrient-dense food.

## Other Climate-Friendly Food Shopping Tips

Study the Smart Shopping for Veggies and Fruits chart on the previous page. Also, bring your own shopping bags to reduce consumption of trees (paper bags) and crude oil (the basis for plastic bags). Plan ahead to prevent impulse shopping trips, so you can save on gasoline and traffic headaches. At the grocery store, head for the produce section first and revel in its freshness. Take our Protein Chart with you to the store and follow the Healthy Food Plate recommendations.

Meet Your Farmer! Enjoy farmers' markets, often once or twice a week at a designated public place like a park or parking lot. Some farmers' markets have live entertainment. This is a great venue to get fresh, flavorful produce, and it is more likely to be organic.


## The New (Ab)Normal

Portion sizes have been growing. So have we. The average restaurant meal today is more than four times larger than in the 1950s. And adults are, on average, 26 pounds heavier. If we want to eat healthily, there are a few things we can do for ourselves and our community: Order the smaller meals on the menu, split a meal with a friend, or, eat half and take the rest home. We can also ask the managers at our favorite restaurants to offer smaller meals.

## Plant Power

"Studies that look at people and their habits have linked vegetarian diets with a decreased risk of heart disease, diabetes, high blood pressure, obesity, and colon cancer."


## Food waste is

 staggeringAbout $40 \%$ of food available in the United States is discarded
 each year, leaving a huge environmental footprint.

## Eating at Restaurants

Author Rip Esselstyn suggests: "Use the menu as a list of ingredients. A $100 \%$ plant-strong meal might not be available, but maybe the restaurant uses some ingredients in other meals that are completely plant-strong. For instance, you might notice steamed vegetables and potatoes in one dish, and black beans in another. Well, the three together make for a great plant-strong plate!" Just ask your server for this combination.

Your body needs the right balance of energy - mainly carbohydrates, protein (from as many plant sources as possible), and other nutrients, such as vitamins and minerals from fruits and vegetables. You can attain this balance at a single meal or from individual dishes throughout the day.

In a restaurant, you can make up a meal from the available side dishes and appetizers. Order two to four individually for your feast! Climate-friendly, healthy meals can be found in many cuisines: Italian could be Pasta Primavera. A Thai restaurant could be

stir-fried vegetables with tofu. Japanese fare could be Vegetable Tempura with steamed rice or noodles. Indian choice could be a Biryiani - a flavorful rice dish blended with many vegetables and nuts.

Don't forget you can always carry your own personal stash of nuts or freeze dried tofu into a restaurant and sprinkle your favorites over a large salad, to boost your protein intake. Try to avoid iceberg lettuce, which has minimal nutritional value. Instead pick spinach or cabbage products like low-fat coleslaw.

When you're out and about, look for fruit salads, salad bars in supermarkets, tubs of hummus or other bean dips. Before leaving on a trip, think and plan your food choices ahead! Avoid the frustration of arriving at a hotel late with no nutritious food outlets in sight. But in your suitcase could be your favorite trail mixes, microwavable soups, vacuum packed supplies, instant oatmeal, even a pack of tofu (all tofu is cooked to get to the block stage).


## Cooking Tips

Millions of people are now modifying their diets as they realize that their food choices really do make a difference. One way to achieve your climate-friendly food goals is to join in the global network of people enjoying Meatless Mondays. Below are a couple of the great, easy-to-prepare recipes at www.meatlessmonday.com


## Pasta Primavera

Carrots, squash and bell peppers are roasted to bring out their natural sweetness then tossed with hearty whole wheat penne. This dinner is simple to prepare but the variety of veggies makes the flavors surprisingly complex. Serves 6
a little non-stick cooking spray, to prepare the baking sheets 3 carrots, peeled and cut into thin strips
2 medium zucchini, cut into thin strips
2 yellow squash, cut into thin strips
1 onion, thinly sliced
1 yellow bell pepper, cut into thin strips
1 red bell pepper, cut into thin strips
$1 / 4$ cup olive oil
salt and ground pepper, to taste
1 tablespoon Italian herbs
1 pound whole wheat rotini or penne pasta
$1 / 4$ cup parmesan cheese, grated

Preheat oven to 400 degrees. Prepare two large baking sheets with aluminum sprayed with non stick cooking spray.

In a large roasting pan toss the carrots, zucchini, squash, onion and bell peppers with the olive oil, Italian seasoning and salt and pepper to taste. Roast for 10 minutes, stir, and cook another 10 minutes, or until carrots are tender and the other veggies have begun to brown.

While vegetables are roasting bring a large pot of salted water to a boil over medium-high heat.

Cook pasta in the boiling water for about 8-10 minutes, or until al dente. Drain pasta reserving 1 cup of the cooking liquid.

Toss the pasta with the mixed roasted veggies. Add enough reserve cooking liquid to moisten the pasta and season with pepper to taste.

1 cup brown rice
2 cups green lentils, rinsed and sorted

2 tablespoons olive oil, divided

3 large onions, sliced
1 teaspoon cumin
$1 / 2$ teaspoon cinnamon
1 teaspoon salt
freshly ground black pepper, to taste
1 cup flat-leaf parsley, finely chopped sprinkle extra virgin olive oil, for serving
(Recipe is courtesy of Anne Tegtmeier of Apron Strings, www.apronstringsblog.com)

## Become a Food Citizen!

You're part of the new wave of food citizens who are educating them-
 selves towards a more sustainable personal and planetary lifestyle.


## Middle Eastern Lentils Ẻ Rice

In this Middle Eastern classic, also known as Mujaddara, onions are caramelized until sweet and brown to season the green lentils and hearty brown rice. Cinnamon and cumin complement the caramelized onion to spice this traditional dish which won't break the bank. Serves 6


Humankind host David Freudberg at the White House vegetable garden, with White House chef Sam Kass.

## Multiple benefits at once

Increasing intake of fruits, veggies, beans and grains gives "benefits for health, benefits for climate change, benefits for environment, benefits for your pocket book, benefits for community vitality. All those things are co-benefits of these types of choices that we might make."
— Dr. Roni Neff, Johns Hopkins Bloomberg School of Public Health

## Grow Your Own Food

Start a vegetable patch in your yard! Enjoy scrumptiously fresher food, traveling food steps not food miles. You'll get better flavor and higher nutrition if you've prepared great soil; and there is simply no comparison to eating food you have grown yourself. Oh! And did we mention great for the planet? How to get started: $\underline{\text { foodprint.org/growing-your-own-food/ }}$

## Health benefits of climate-friendly food choices

Research shows how ample fruit and vegetable intake (requiring an increase for most Americans) can reduce a person's risk of chronic diseases, including stroke and perhaps other cardiovascular diseases, diabetes, and certain cancers. (Centers for Disease Control and Prevention)

A diet high in these foods tends to have a lower environmental footprint, helping to counteract climate change.

This information is not intended to be a substitute for professional medical advice, diagnosis, or treatment. Always consult your health care provider with any questions about a medical condition.

## Check out these GREAT sources of further information

- Diet for Hot Planet by Anna Lappe
- Diet for a Small Planet by Frances Moore Lappe (updated 2021)
- Food Climate Research Network: tabledebates.org/tour
- Foodtank, think tank for food advocating global food system change: foodtank.com

