New England Forests as a Natural Climate Solution:

Talking Points

NORTHEAST FOREST NETWORK

January 2024

The Northeast Forest Network

The Northeast Forest Network is a coalition of conservationists and advocates across New England and New York dedicated to furthering forest conservation, ensuring a livable climate, protecting clean air and water, enhancing wildlife habitats, and supporting local economies and communities.

On November 3, 2021, Northeast Forest Network (NFN) members expressed unanimous support for promoting allfive separate but complementary pathways for increasing the climate benefit of New England's forests described in the then soon-to-be-released report, New England's Climate Imperative: Our Forests as a Natural Climate Solution (Meyer et al. 2022). Network members learned that New England forests already absorb 14% of CO2 emissions, which could increase to 21% of current emissions by 2050 by adopting these five pathways: avoided deforestation, wildland reserves, improved forest management, mass timber construction, and urban and suburban forests.

NFN members, worked with marketing consultant Water Words That Work and one of the report's principal co-authors, Kavita Kapur Macleod, to develop a set of talking points that would help people advance calls to action involving one or more pathways. The talking points within refer to the potential impacts for each of the five pathways not only for the region as a whole but also by state (unavailable in the 2022 report). Furthermore, this set of talking points uses more accessible language and units of measure, including cars removed from the road, than were described in the Forests as a Natural Climate Solution report. For the full breakdown of the calculations used for these talking points, please click here to view the spreadsheet.

NFN hopes that the talking points and calculations spreadsheet will help anyone seeking to make a more compelling case for why we need to keep forests as forests, designate more wildland reserves, normalize climate-informed forest management, build more buildings with wood, and better care for and protect from development our urban and suburban trees and forests.

Highstead Foundation

Highstead is a conservation organization and operating foundation based in Redding, Connecticut, with the following mission: To inspire curiosity and build knowledge about plants and wooded landscapes in order to enhance life, preserve nature, and advance sound stewardship practices.
We envision a healthier, more livable world for all by working to bring people and science together to responsibly conserve the land that sustains us and to steward our natural spaces, resources, and communities thoughtfully and inclusively.

Published by Highstead Foundation and available in digital format at www.highstead.net

Visit www.highstead.net to learn about the Highstead Foundation.

Visit https://wildlandsandwoodlands.org/networks/northeast-forest-network/ and www.standupforfoests.org/ and https://standupforforests.org/about-stand-up-for-forests/ to learn more about the Northeast Forest Network.

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For more information about these talking points, please get in touch with Bill Labich at blabich@highstead.net

New England Talking Points

Here's the bad news: New England releases 187 million tons of carbon pollution into the atmosphere each year by burning gasoline, coal, oil, and natural gas.[1] That's more than 12 tons of pollution for every resident of New England each year![2]

But the good news is that New England forests and trees absorb almost 27 million tons of that pollution back out of the atmosphere every year.[3] Our forests absorb the pollution from about 5 million cars — more than all the cars in Massachusetts and Rhode Island.[4] Here's another way to look at it: New England forests protect our climate as effectively as 6,700 wind turbines.[5]

Forests in cities to rural communities also provide much more: cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses can use to make paper and lumber and, in turn, support many high-paying jobs. It's a win-win.

Here's some even better news: With a bit of willpower and some common-sense steps, people could help New England forests absorb much more carbon pollution. Scientists believe that our forest could absorb 12 million more tons of pollution each year, or 358 million more tons by 2050.[6]

Here are five pathways New England can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Every year, 28,000 acres of forests in New England are lost forever to runaway development or energy infrastructure[7] — an area slightly larger than Worcester, Massachusetts.

Scientists recommend slowing deforestation in New England to just 7,000 acres annually.[8] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

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[1] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[2] Greenhouse Gas Equivalencies Calculator | US EPA
[3] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[4] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[5] Greenhouse Gas Equivalencies Calculator | US EPA
[6] Ibid.
[7] Supplementary_4.pdf (highstead.net), Table 1.
[8] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.

If we reach this goal, our forests could absorb another 74 million tons of carbon dioxide over the next thirty years.[9] That's about the same 30-year benefit as 621 wind turbines.[10]

Pathway #2: Wildland Reserves

New England is covered with forests large and small, but almost all of it is open to timber harvesting. Less than 4% of the forests[11] — an area slightly larger than Rhode Island[12] — are currently off-limits to logging.

Scientists recommend increasing this amount to 10%[13] — an area almost the size of Connecticut.[14] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 50 million tons of carbon pollution out of the atmosphere between now and 2050.[15] That's about the same 30-year benefit of taking 336,000 cars off the road[16] — more than half the cars and trucks in Vermont.[17]

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. However, some of these working forests have been thinned out or are too overgrown to absorb the maximum amount of pollution from the air.

Scientists recommend that New England timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If New England timber companies and family forest owners did that on 50% of their lands, it would keep 200 million tons of carbon pollution out of the atmosphere between now and 2050.[18] That's about the same 30-year benefit as 1,700 wind turbines.[19]

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[9] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[10] Greenhouse Gas Equivalencies Calculator | US EPA
[11] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[12] Rhode Island - Wikipedia
[13] Natural-Climate-Solutions LR-1.pdf (highstead.net), 22.
[14] Connecticut - Wikipedia
[15] Natural-Climate-Solutions LR-1.pdf (highstead.net), 22.
[16] Greenhouse Gas Equivalencies Calculator | US EPA
[17] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[18] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 27.
[19] Greenhouse Gas Equivalencies Calculator | US EPA

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 6,400 new buildings across New England over the next 30 years.[20] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If New England construction companies did that, it would keep 15 million tons of carbon pollution out of the atmosphere between now and 2050.[21] That's about the same 30-year benefit as taking 100,000 cars off the road or installing 126 wind turbines.[22]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in New England, especially in our cities.

Scientists recommend increasing tree cover by 5% in New England's cities, suburbs, and towns.[23] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

Reaching that goal will keep almost 17 million tons of carbon pollution out of the atmosphere between now and 2050.[24] That's about the same 30-year benefit as taking 111,000 vehicles off the road or having 140 wind turbines![25]

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[20] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 32.
[21] Ibid.
[22] Greenhouse Gas Equivalencies Calculator | US EPA
[23] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[24] Ibid.
[25] Greenhouse Gas Equivalencies Calculator | US EPA

Connecticut Talking Points

Here's the bad news: Connecticut releases 47 million metric tons of carbon pollution into the atmosphere each year by burning gasoline, coal, oil, and natural gas.[26] That's about 13 tons of pollution for every Connecticut resident each year![27]

But the good news is that Connecticut forests and trees absorb around 7% (3 million tons) of that pollution back out of the atmosphere each year.[28] Connecticut forests absorb the pollution from more than 620,000 cars[29] — more than one-fifth of all the cars in the state![30] Here's another way to look at it: Connecticut forests protect our climate as effectively as 775 wind turbines.[31]

Forests in cities to rural communities also provide us with so much more! Cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses can make paper and lumber from and, in turn, support many high-paying jobs. It's a win-win.

Here's some even better news: With a bit of willpower and some common-sense steps, people could help Connecticut forests absorb a lot more carbon pollution. Scientists believe that the forests in Connecticut could absorb 1.2 million more tons of pollution each year (if all five pathways are pursued).[32] Annually, that's about the same amount of pollution produced by 240,000 cars![33]

Here are five pathways Connecticut can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Every year, 1,650 acres of forests in Connecticut are lost forever to runaway development or energy infrastructure[34] — an area about the size of two Central Parks.[35]

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[26] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet).
[27] Greenhouse Gas Equivalencies Calculator | US EPA
[28] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[29] Greenhouse Gas Equivalencies Calculator | US EPA
[30] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[31] Greenhouse Gas Equivalencies Calculator | US EPA
[32] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[33] Greenhouse Gas Equivalencies Calculator | US EPA
[34] Supplementary_4.pdf (highstead.net), Table 1.
[35] Central Park - Wikipedia

Scientists recommend slowing deforestation in Connecticut to just 400 acres per year.[36] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, Connecticut forests could absorb another 5.7 million tons of carbon dioxide over 30 years.[37] That's about the same benefit as taking 38,000 cars off the road for 30 years or decommissioning one coal-fired power plant![38]

Pathway #2: Wildland Reserves

Connecticut is covered with forests, large and small, but almost all are open to timber harvesting. Less than 1.4% of these forests[39] — an area about the size of Stamford[40] — is currently off-limits to logging.

Scientists recommend increasing this to 10%[41] — an area not quite as large as Middlesex County.[42] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional, existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 1.8 million tons of carbon pollution out of the atmosphere between now and 2050.[43] To get the same climate benefit over 30 years as expanding the wildland reserves, we'd have to take about 12,000 cars off the road or install 15 wind turbines.[44]

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

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[36] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[37] Ibid.
[38] Greenhouse Gas Equivalencies Calculator | US EPA
[39] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 23.
[40] Connecticut State - USA.com™
[41] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[42] http://www.usa.com/rank/connecticut-state--land-area--county-rank.htm
[43] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[44] Greenhouse Gas Equivalencies Calculator | US EPA

Scientists recommend that Connecticut timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If Connecticut family forest owners did that on 50% of their lands, it would keep almost 20 million tons of carbon pollution out of the atmosphere between now and 2050.[45] To get the same climate benefit as improved forest management, we'd have to keep 132,000 cars off the road for 30 years — or install 166 wind turbines,[46] or 164 more than what the state had in 2020.[47]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 1,500 new buildings in Connecticut over the next 30 years.[48] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If Connecticut construction companies did that, it would keep 3.5 million tons of carbon pollution out of the atmosphere between now and 2050.[49] To get the same climate benefit as mass timber construction, we'd have to take about 24,000 cars off the road or keep 29 additional wind turbines running for 30 years.[50]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in Connecticut, especially in our cities. Scientists recommend that we increase tree cover in Connecticut by 5% in cities, suburbs, and towns.[51] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

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[45] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[46] Greenhouse Gas Equivalencies Calculator | US EPA
[47] Which State Has the Most Wind Turbines – Wind Turbine Magazine
[48] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 32.
[49] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[50] Greenhouse Gas Equivalencies Calculator | US EPA
[51] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.

Reaching that goal will keep 5 million tons of carbon pollution out of the atmosphere between now and 2050.[52] To get the same climate benefit as improving forest management, we'd have to take about 34,000 cars off the road[53] — about as many vehicles as there are in the entire city of Wallingford.[54]

[52] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[53] Greenhouse Gas Equivalencies Calculator | US EPA
[54] https://en.wikipedia.org/wiki/List_of_cities_in_New_England_by_population

Maine Talking Points

Here's the bad news: Maine releases 19 million tons of carbon pollution into the atmosphere yearly by burning fossil fuels and other sources.[55] That's 14 tons of pollution for every resident of Maine each year![56]

Maine forests and trees absorb around 46% (9 million tons) of that pollution back out of the atmosphere each year.[57] Maine's forests absorb the pollution from almost 1.8 million cars — more than all the cars in Maine and Vermont.[58] Here's another way to look at it: Maine forests protect our climate as effectively as 2,300 wind turbines,[59] six times the number of wind turbines in the entire state in 2020.[60]

Forests in cities to rural communities also provide us with so much more: cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy in every season. Forests, when well-managed, grow fiber that businesses can use to make paper and lumber and support many high-paying jobs. It's a win-win.

Here's some even better news: With a little willpower and some common-sense steps, people could help Maine forests absorb a lot more carbon pollution. Scientists believe that the forests in Maine could absorb 4.8 million more tons of pollution each year (if all five pathways are pursued).[61] That's about the same amount of pollution produced by a million cars,[62] almost as many cars in the state.[63]

Here are five pathways Maine can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Each year, 12,400 acres of forests in Maine are lost forever to development[64] — an area about the size of Westbrook.[65]

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[55] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[56] Ibid.
[57] Ibid.
[58] Greenhouse Gas Equivalencies Calculator | US EPA
[59] Ibid.
[60] Which State Has the Most Wind Turbines – Wind Turbine Magazine
[61] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[62] Greenhouse Gas Equivalencies Calculator | US EPA
[63] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[64] Supplementary_4.pdf (highstead.net), Table 1.
[65] Westbrook, ME - USA.com™

Scientists recommend slowing deforestation in Maine to just 3,100 acres per year.[66] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, Maine forests could absorb another 25 million tons of carbon dioxide over the next 30 years.[67] To get the same climate benefit as protecting our forests from development, we'd have to take 170,000 cars off the road for 30 years.[68]

Pathway #2: Wildland Reserves

Maine is covered with forests large and small, but almost all of it is open to timber harvest. Less than 3% of the forests[69] — an area half the size of Rhode Island[70] — is currently off-limits for logging.

Scientists recommend increasing this amount to 10% of the state's forests[71] — about the size of Washington County.[72] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 39 million tons of carbon pollution out of the atmosphere between now and 2050.[73] To get the same 30-year climate benefit as protecting our forests as wildlands, we'd have to take about one out of every five cars off the road in the state! [74] [75]

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[66] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[67] Ibid.
[68] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[69] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 4, 23.
[70] Rhode Island - Wikipedia
[71] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[72] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 4, 23. http://www.usa.com/rank/maine-state--land-area--county-rank.htm
[73] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[74] Greenhouse Gas Equivalencies Calculator | US EPA
[75] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

Scientists recommend that Maine timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If Maine timber companies and family forest owners did that on 50% of their lands, it would keep about 76 million tons of carbon pollution out of the atmosphere between now and 2050.[76] To get the same 30 years of climate benefit, we'd have to install 640 wind turbines or take two of every five cars off the road. [77] [78]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 640 new buildings in Maine over the next 30 years.[79] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If Maine construction companies did that, it would keep 1.5 million tons of carbon pollution out of the atmosphere between now and 2050.[80] To get the same climate benefit, we'd have to take about 10,000 cars off the road or build 13 more wind turbines![81]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in Maine, especially in our cities.

Scientists recommend increasing tree cover by 5% in Maine's cities, suburbs, and towns.[82] We could get there by reforming zoning and development planning and incentivizing

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[76] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 7, 28.
[77] Greenhouse Gas Equivalencies Calculator | US EPA
[78] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[79] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 8, 32.
[80] Ibid.
[81] Greenhouse Gas Equivalencies Calculator | US EPA
[82] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.

property owners and communities to plant more trees on their land, especially in urban areas.

Reaching that goal will keep more than a million tons of carbon pollution out of the atmosphere between now and 2050.[83] To get the same climate benefit over 30 years, we'd have to take about 7,000 cars off the road.[84]

[83] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[84] Greenhouse Gas Equivalencies Calculator | US EPA

Massachusetts Talking Points

Here's the bad news: Massachusetts releases 80 million tons of carbon pollution into the atmosphere yearly by burning fossil fuels and other sources.[85] That's more than 11 tons of pollution for every Massachusetts resident each year![86]

Massachusetts forests and trees currently absorb around 5% (4 million tons) of that pollution back out of the atmosphere yearly.[87] Massachusetts' forests absorb the pollution from about 900,000 cars[88] — about ⅛ of all the cars in the Commonwealth.[89] Here's another way to look at it: Massachusetts forests protect our climate as effectively as 1100 wind turbines.[90]

Forests in cities to rural communities also provide much more! Cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses use to make paper and lumber and support many high-paying jobs. It's a win-win.

Here's some even better news: With a bit of willpower and some common-sense steps, people could help Massachusetts forests absorb much more carbon pollution. Scientists believe that the forests in Massachusetts could absorb 2 million more tons of pollution each year (if all five pathways are pursued).[91] That's like reducing coal burning by 276 pounds per person in the Commonwealth or removing 390,000 cars from the road.[92]

Here are five pathways Massachusetts can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Every year, 2,900 acres of forests in Massachusetts are lost forever to development[93] — that's an area about the size of Melrose.[94]

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[85] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Communication with Co-author Kavita Macleod (Natural Climate Solutions Spreadsheet)
[86] Ibid.
[87] Ibid.
[88] Greenhouse Gas Equivalencies Calculator | US EPA
[89] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[90] Greenhouse Gas Equivalencies Calculator | US EPA
[91] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod (Natural Climate Solutions Spreadsheet), Greenhouse Gas Equivalencies Calculator | US EPA
[92] Ibid.
[93] Supplementary_4.pdf (highstead.net), Table 1.
[94] Massachusetts Land Area City Rank (usa.com)

Scientists recommend slowing deforestation in Massachusetts to just 720 acres per year.[95] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, Massachusetts forests could absorb another 9.5 million tons of carbon dioxide over 30 years.[96] To get the same climate benefit, we'd have to take more than 64,000 cars off the road[97] — about the same amount as all the cars in Lawrence.[98]

Pathway #2: Wildland Reserves

Massachusetts is covered with forests large and small, but almost all are open to timber harvest. Only about 4% of the forests[99] — an area about the size of Dukes, Suffolk, and Nantucket Counties together[100] — are currently off-limits for logging.

Scientists recommend increasing this area to 10%[101] — slightly smaller than Essex County.[102] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 1.7 million tons of carbon pollution out of the atmosphere between now and 2050.[103] To get the same climate benefit, we'd have to install 14 wind turbines.[104]

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[95] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[96] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[97] Ibid.
[98] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet), https://www.massachusetts-demographics.com/cities_by_population
[99] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 4, 23.
[100] http://www.usa.com/rank/massachusetts-state--land-area--county-rank.htm
[101] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[102] http://www.usa.com/rank/massachusetts-state--land-area--county-rank.htm
[103] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[104] Greenhouse Gas Equivalencies Calculator | US EPA

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

Scientists recommend that Massachusetts timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If Massachusetts timber companies and family forest owners did that on 50% of their lands, it would keep 31.4 million tons of carbon pollution out of the atmosphere between now and 2050.[105] To get the same climate benefit, we'd have to take 211,000 cars off the road[106] — almost all the cars in Worcester and Fall River combined.[107]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 3,100 new buildings in Massachusetts over the next 30 years.[108] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If Massachusetts construction companies did that, it would keep 7.2 million tons of carbon pollution out of the atmosphere between now and 2050.[109] To get the same climate benefit over 30 years, we'd have to remove almost 50,000 cars from the roads.[110]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in Massachusetts, especially in our cities.

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[105] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[106] Greenhouse Gas Equivalencies Calculator | US EPA
[107] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet), Massachusetts Cities by Population (massachusetts-demographics.com)
[108] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 8, 32.
[109] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[110] Greenhouse Gas Equivalencies Calculator | US EPA

Scientists recommend increasing tree cover by 5% in cities, suburbs, and towns in Massachusetts.[111] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

Reaching that goal will keep 7.6 million tons of carbon pollution out of the atmosphere between now and 2050.[112] We'd have to install 64 more wind turbines to get the same climate benefit.[113]

[111] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[112] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[113] Greenhouse Gas Equivalencies Calculator | US EPA

New Hampshire Talking Points

Here's the bad news: New Hampshire releases 18 million tons of carbon pollution into the atmosphere each year through burning fossil fuels and from other sources.[114] That's 13 tons of pollution for every resident of New Hampshire each year![115]

New Hampshire forests and trees absorb around 26% (5 million tons) of that pollution back out of the atmosphere each year.[116] Our forests absorb the pollution from about a million cars — the same amount as from seven of every ten vehicles on the road in the state.[117] [118] Here's another way to look at it: New Hampshire forests protect our climate as effectively as 1162 wind turbines,[119] equal to a 14-fold increase in the number of turbines in the state in 2020.[120]

Forests in cities to rural communities also provide us with much more: cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses can make paper and lumber from and, in turn, support many high-paying jobs. It's a win-win.

Here's some even better news: With a bit of willpower and some common-sense steps, people could help New Hampshire forests absorb much more carbon pollution. Scientists believe that the forests in New Hampshire could absorb 2 million more tons of pollution each year (if all five pathways are pursued).[121] That's about the same amount of pollution saved by 487 wind turbines.[122]

Here are five pathways New Hampshire can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

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[114] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[115] Ibid.
[116] Ibid.
[117] Greenhouse Gas Equivalencies Calculator | US EPA
[118] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[119] Greenhouse Gas Equivalencies Calculator | US EPA
[120] Which State Has the Most Wind Turbines – Wind Turbine Magazine
[121] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[122] Greenhouse Gas Equivalencies Calculator | US EPA

Every year, 4,600 acres of forests in New Hampshire are lost forever to development[123] — that's an area about the size of Wolfeboro.[124]

Scientists recommend slowing deforestation in New Hampshire to just 1,150 acres annually.[125] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, New Hampshire forests could absorb another 12.9 million tons of carbon dioxide over 30 years.[126] To get the same climate benefit over 30 years, we'd have to take almost 90,000 cars off the road [127] — almost the same number of cars in the city of Nashua.[128]

Pathway #2: Wildland Reserves

New Hampshire is covered with forests, large and small. Still, almost all of it is open to timber harvest. Less than 6% of the forests[129] — an area about the size of Belknap County[130] — are currently off-limits for logging.

Scientists recommend increasing this amount to 10% of forests[131] — an area about the size of Rockingham County.[132] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 3.6 million tons of carbon pollution out of the atmosphere between now and 2050.[133] To get the same climate benefit, we'd have to remove 25,000 cars from the road,[134] almost all the cars in Hudson, New Hampshire, for 30 years.[135]

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[123] Supplementary_4.pdf (highstead.net), Table 1.
[124] New Hampshire Land Area City Rank (usa.com)
[125] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[126] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 4, 23.
[127] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet),Greenhouse Gas Equivalencies Calculator | US EPA
[128] https://www.newhampshire-demographics.com/cities_by_population
[129] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 4, 23.
[130] http://www.usa.com/rank/new-hampshire-state--land-area--county-rank.htm
[131] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[132] http://www.usa.com/rank/new-hampshire-state--land-area--county-rank.htm
[133] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[134] Greenhouse Gas Equivalencies Calculator | US EPA
[135] https://www.newhampshire-demographics.com/cities_by_population

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

Scientists recommend that New Hampshire timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If New Hampshire timber companies and family forest owners did that on 50% of their lands, it would keep 39 million tons of carbon pollution out of the atmosphere between now and 2050.[136] To get the same climate benefit, we'd have to install 326 new wind turbines,[137] representing a four-fold increase from 2020.[138]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 560 new buildings in New Hampshire over the next 30 years.[139] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If New Hampshire construction companies did that, it would keep 1.3 million tons of carbon pollution out of the atmosphere between now and 2050.[140] To get the same climate benefit, we'd have to take about 9,000 cars off the road[141] — more cars than in the entire town of Hampstead![142]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in New Hampshire, especially in our cities.

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[136] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[137] Greenhouse Gas Equivalencies Calculator | US EPA
[138] Which State Has the Most Wind Turbines – Wind Turbine Magazine
[139] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 8, 32.
[140] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[141] Greenhouse Gas Equivalencies Calculator | US EPA
[142] https://www.newhampshire-demographics.com/cities_by_population

Scientists recommend increasing tree cover by 5% in cities, suburbs, and towns in New Hampshire.[143] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

Reaching that goal will keep 1.3 million tons of carbon pollution out of the atmosphere between now and 2050.[144] To get the same climate benefit over 30 years as expanding urban and suburban forests, we'd have to install another 11 new wind turbines or remove 8,900 cars from the roads,[145] almost as many cars as in Hampstead.[146]

[143] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[144] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[145] Greenhouse Gas Equivalencies Calculator | US EPA
[146] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool

Rhode Island Talking Points

Here's the bad news: Rhode Island releases 13 million tons of carbon pollution into the atmosphere yearly by burning fossil fuels and other sources.[147] That's almost 12 tons of pollution for every Rhode Island resident annually![148]

Rhode Island forests and trees absorb around 3% (0.4 million tons) of that pollution back out of the atmosphere each year.[149] Our forests absorb the pollution from about 80,000 cars[150] — about 1/10 of all the cars in the state.[151] Here's another way to look at it: Rhode Island forests protect our climate as effectively as 100 wind turbines.[152]

Forests in cities to rural communities also provide us with so much more! Cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses can use to make paper and lumber and support many high-paying jobs. It's a win-win.

Here's some even better news: With a bit of willpower and some common-sense steps, people could help Rhode Island forests absorb much more carbon pollution. Scientists believe that the forests in Rhode Island could absorb 0.3 million more tons of pollution each year (if all five pathways are pursued).[153] That's like removing 60,000 cars from the road,[154] more than all the vehicles in Pawtucket.[155]

Here are five pathways Rhode Island can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Every year, 926 acres of forests in Rhode Island are lost forever to development[156] — an area about the size of Kingston.[157]

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[147] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[148] Ibid.
[149] Ibid.
[150] Greenhouse Gas Equivalencies Calculator | US EPA
[151] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[152] Greenhouse Gas Equivalencies Calculator | US EPA
[153] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[154] Greenhouse Gas Equivalencies Calculator | US EPA
[155] https://www.rhodeisland-demographics.com/cities_by_population
[156] Supplementary_4.pdf (highstead.net), Table 1.
[157] Rhode Island Land Area City Rank (usa.com)

Scientists recommend slowing deforestation in Rhode Island to just 230 acres yearly.[158] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, Rhode Island forests could absorb another 2.8 million tons of carbon dioxide over the next 30 years.[159] To get the same climate benefit as we would get by slowing deforestation in Rhode Island, we'd have to take 19,000 cars off the road[160] — about the same as all the cars in Newport.[161]

Pathway #2: Wildland Reserves

Rhode Island is covered with forests large and small, but almost all of it is open to timber harvest. Only about 4% of the forests[162] — an area about the size of Bristol County[163] — is currently off-limits for logging.

Scientists recommend increasing this amount to 10%[164] — an area about the size of Warwick and Westerly.[165] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 370,000 tons of carbon pollution out of the atmosphere between now and 2050.[166] To get the same climate benefit over 30 years as expanding Rhode Island's wildland reserves, we would have to build three more wind turbines or remove 2,500 cars from the roads.[167]

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

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[158] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[159] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[160] Greenhouse Gas Equivalencies Calculator | US EPA
[161] https://www.rhodeisland-demographics.com/cities_by_population
[162] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 4, 23.
[163] Rhode Island Land Area County Rank (usa.com)
[164] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[165] Rhode Island Land Area City Rank (usa.com)
[166] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[167] Greenhouse Gas Equivalencies Calculator | US EPA

Scientists recommend that Rhode Island timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

If Rhode Island timber companies and family forest owners did that on 50% of their lands, it would keep 3.6 million tons of carbon pollution out of the atmosphere between now and 2050.[168] To get the same climate benefit as improving forest management in Rhode Island, we'd have to take 25,000 cars off the road[169] — about the same number of cars as in West Warwick.[170] [171]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 270 new buildings in Rhode Island over the next 30 years.[172] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If Rhode Island construction companies did that, it would keep 600,000 tons of carbon pollution out of the atmosphere between now and 2050.[173] To get the same climate benefit over 30 years, we'd have to remove 4,000 cars or install five wind turbines.[174]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in Rhode Island, especially in our cities.

Scientists recommend increasing tree cover by 5% in cities, suburbs, and towns in Rhode Island.[175] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

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[168] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[169] Greenhouse Gas Equivalencies Calculator | US EPA
[170] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[171] https://www.rhodeisland-demographics.com/cities_by_population
[172] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 8, 32.
[173] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[174] Greenhouse Gas Equivalencies Calculator | US EPA
[175] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.

Reaching that goal will keep 1.2 million tons of carbon pollution out of the atmosphere between now and 2050.[176] To get the same climate benefit as expanding urban and suburban forests in Rhode Island, we have to take about 8,000 cars off the road[177] — almost as many vehicles as in the entire town of Glocester.[178] [179]

[176] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[177] Greenhouse Gas Equivalencies Calculator | US EPA
[178] https://www.fool.com/the-ascent/research/car-ownership-statistics/
[179] https://www.rhodeisland-demographics.com/cities_by_population

Vermont Talking Points

Here's the bad news: Vermont releases 10 million tons of carbon pollution into the atmosphere each year through burning fossil fuels and from other sources.[180] That's more than 15 tons of pollution for every Vermont resident each year![181]

Vermont forests and trees absorb around 57% (5 million tons) of that pollution back out of the atmosphere yearly.[182] Our forests absorb the pollution from more than 1 million cars[183] — almost double the cars in the whole state.[184] Here's another way to look at it: Vermont forests protect our climate as effectively as 1,366 wind turbines.[185]

Forests in cities to rural communities also provide much more! Cleaner air and water, cooling in the summer, wind protection in the winter, a healthy environment with plenty of native plants and animals, and places to enjoy every season. Forests, when well-managed, grow fiber that businesses make paper and lumber from and support many high-paying jobs. It's a win-win.

Here's some even better news: With a little willpower and some common-sense steps, people could help Vermont forests absorb a lot more carbon pollution. Scientists believe that the forests in Vermont could absorb 1.9 million more tons of pollution each year (if all five pathways are pursued).[186] That's about the same amount of pollution saved by 468 wind turbines.[187]

Here are five pathways Vermont can take to get there:

Pathway #1: Avoided Deforestation

All people deserve a safe, warm home to live in, but not in a way that destroys our forests unnecessarily. Building solar farms is good for the climate, but not if you cut down the forest to do it. We can make better choices!

Every year, 5,800 acres of forests in Vermont are lost forever to development[188] — an area about the size of Montpelier.[189]

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[180] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet
[181] Ibid.
[182] Ibid.
[183] Greenhouse Gas Equivalencies Calculator | US EPA
[184] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[185] Greenhouse Gas Equivalencies Calculator | US EPA
[186] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet
[187] Greenhouse Gas Equivalencies Calculator | US EPA
[188] Supplementary_4.pdf (highstead.net), Table 1.
[189] Vermont Land Area City Rank (usa.com)

Scientists recommend slowing deforestation in Vermont to just 1,450 acres per year.[190] We could get there with better zoning and development planning and by protecting more forests and open space in cities, suburbs, and towns.

If we reach this goal, Vermont forests could absorb another 17.5 million tons of carbon dioxide over the next 30 years.[191] To get the same climate benefit as slowing deforestation in Vermont, we would have to install 147 new wind turbines across the state.[192]

Pathway #2: Wildland Reserves

Vermont is covered with forests large and small, but almost all of it is open to timber harvest. Only about 5% of the forests[193] — an area about the size of Lamoille County[194] — are currently off-limits for logging.

Scientists recommend increasing this amount to 10%[195] — an area about the size of Orleans County.[196] Over time, these "wildland reserves" would mature and reach the "old growth" stage of development. These mature forests have many benefits and hold up better to the stresses of a changing climate.

We could get there by designating additional existing state-owned lands as Wildland Reserves and incentivizing "Forever Wild" easements on privately owned land.

Reaching this goal would keep 3.3 million tons of carbon pollution out of the atmosphere between now and 2050,[197] which is equal to the 30-year benefit of 27 wind turbines.[198]

Pathway #3: Improved Forest Management

Commercially harvested forests are part of the climate solution, and of course, we all need wood and paper. But some of these working forests are either too thin or too overgrown to absorb the maximum amount of pollution from the air.

Scientists recommend that Vermont timber companies and family forest owners manage their forests using "climate-smart" practices. They could still help produce the wood and paper we need — and their forests would fight the climate crisis more effectively.

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[190] Natural-Climate-Solutions_LR-1.pdf (highstead.net) Table 3, 19. (Middle tier assumes 75% reduction in projected annual forest loss)
[191] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[192] Greenhouse Gas Equivalencies Calculator | US EPA
[193] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[194] https://www.rhodeisland-demographics.com/cities_by_population
[195] Natural-Climate-Solutions_LR-1.pdf (highstead.net), 3.
[196] https://www.rhodeisland-demographics.com/cities_by_population
[197] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod,(Natural Climate Solutions Spreadsheet)
[198] Greenhouse Gas Equivalencies Calculator | US EPA

If Vermont timber companies and family forest owners did that on 50% of their lands, it would keep 33.6 million tons of carbon pollution out of the atmosphere between now and 2050.[199] To get the same climate benefit as improving forest management in Vermont, we have to remove 225,000 cars, [200] equal to removing four of every ten cars in the state.[201]

Pathway #4: Mass Timber Construction

You might be surprised that timber beams are sometimes the most climate-smart way to construct a building. That's because producing steel and concrete creates much more carbon pollution than harvesting trees.

Scientists recommend using "mass timber construction" instead of steel and concrete in about 390 new buildings in Vermont over the next 30 years.[202] We could get there by revising building codes and offering financial incentives to help increase demand for these building materials.

If Vermont construction companies did that, it would keep 910,000 tons of carbon pollution out of the atmosphere between now and 2050.[203] To get the same benefit as building with mass timber in Vermont, we would have to install eight wind turbines.[204]

Pathway #5: Urban and Suburban Forests

Who doesn't like to live in neighborhoods surrounded by big trees? Unfortunately, that's less common in Vermont, especially in our cities.

Scientists recommend increasing tree cover by 5% in Vermont's cities, suburbs, and towns.[205] We could get there by reforming zoning and development planning and incentivizing property owners and communities to plant more trees on their land, especially in urban areas.

Reaching that goal will keep 425,000 tons of carbon pollution out of the atmosphere between now and 2050.[206] To get the same as expanding forest cover in Vermont cities and

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[199] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[200] Greenhouse Gas Equivalencies Calculator | US EPA
[201] How Many Cars Are in the U.S.? Car Ownership Statistics 2022 | The Motley Fool
[202] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Table 8, 32.
[203] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)
[204] Greenhouse Gas Equivalencies Calculator | US EPA
[205] Natural-Climate-Solutions_LR-1.pdf (highstead.net, 3.
[206] Natural-Climate-Solutions_LR-1.pdf (highstead.net), Communication with Co-author Kavita Macleod, (Natural Climate Solutions Spreadsheet)

suburbs, we have to take 2,900 cars off the road[207] — as many as in the town of Woodstock.[208]

[207] Greenhouse Gas Equivalencies Calculator | US EPA
[208] https://www.vermont-demographics.com/cities_by_population