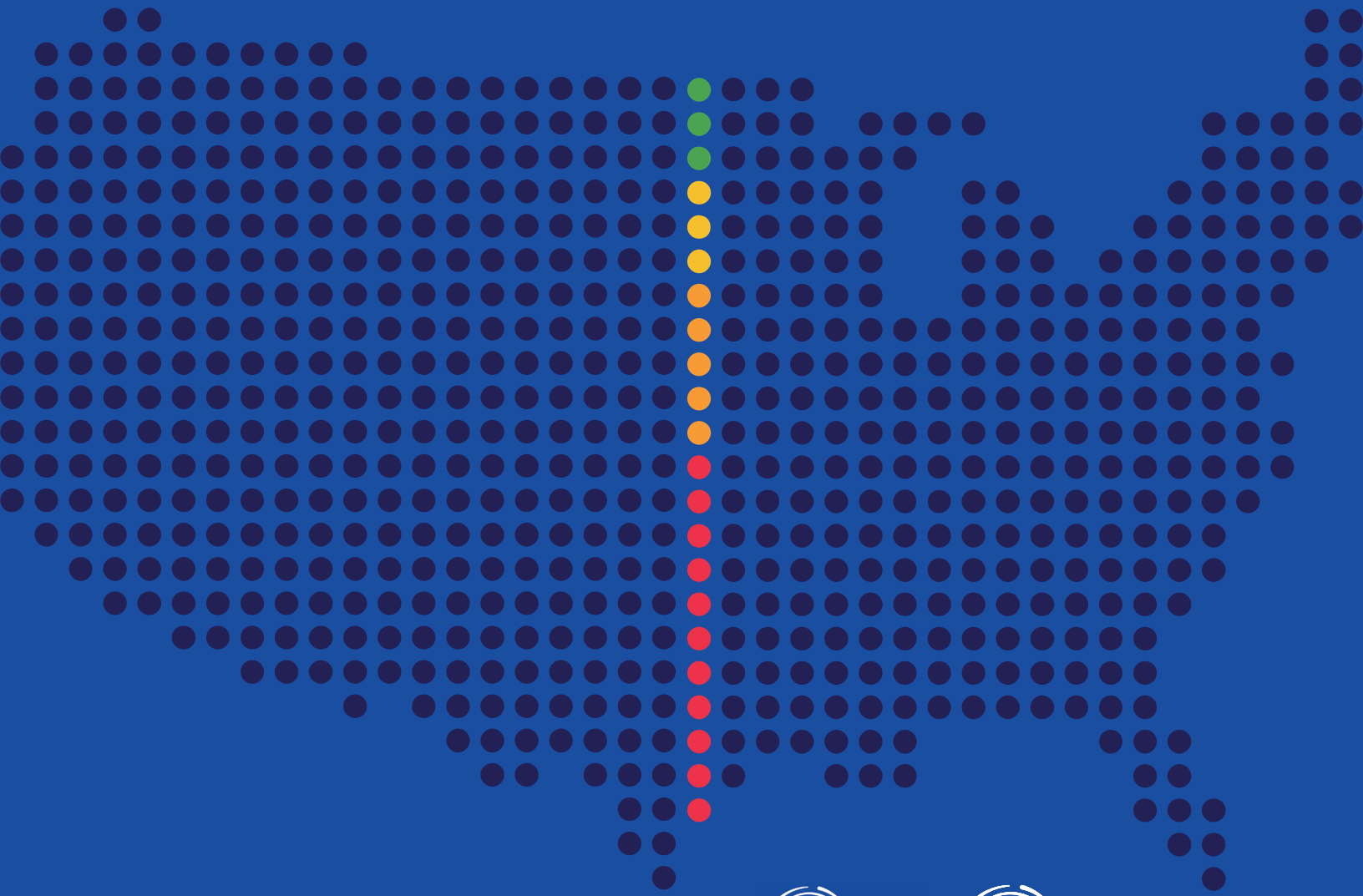
UNITED STATES SUSTAINABLE DEVELOPMENT REPORT 2021



SDSN United States of America

SUSTAINABLE DEVELOPMENT SOLUTIONS NETWORK
A GLOBAL INITIATIVE FOR THE UNITED NATIONS

NOVEMBER 2021

Sustainable Development Solutions Network (SDSN) and SDSN USA

The views expressed in this report do not reflect the views of any organization, agency or program of the United Nations. It has been prepared by a team of independent experts of the SDSN Secretariat.

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An interactive online dashboard and all data used in this report can be accessed at: www.sdgindex.org

FOREWORD

The message is sobering. Most of the states are far off the mark in achieving the SDGs.

I am very pleased to welcome this year's United States Sustainable Development Report 2021. This report provides an up-to-date benchmarking of the progress of the 50 states towards the Sustainable Development Goals. The message is sobering. Most of the states are far off the mark in achieving the SDGs. Parts of the US are especially off track, notably the states of the Southern and Appalachian regions.

The overall shortcoming of the United States in progress towards the SDGs is easily grasped by the overall US ranking among nations. In the global Sustainable Development Report 2021, the US ranks 32nd in the world, far behind most of the high-income countries. The US is especially lagging because of high obesity (SDG 2), low share of renewable energy (SDG 7), high inequality of income (SDG 10), high flows of wastes and emissions embodied in imports (SDG 12), high CO_2 emissions (SDG 13), low protection of marine (SDG 14) and terrestrial (SDG 15) ecosystems, high rates of homicide and incarceration (SDG 16), low levels of development assistance (SDG 17), and excessive tax secrecy (SDG 17).

The state level data not only replicate this overall lack of progress, but signal enormous variations across the US states. The highest performing region is New England, with Vermont ranking 1st, followed by Massachusetts (2nd), Maine (5th), New Hampshire (7th), and Connecticut (12th). The lowest ranking states are in the South and Appalachia, with Arkansas (47th), Louisiana (48th), West Virginia (49th), and Mississippi (50th).

The poor performance of the US states reflects, among other factors, the enormous and rising inequality in American society. America is starkly divided by class, race, gender, and geography. This year's report, and SDSN's companion report *In the Red: The US Failure to Deliver on the Promise of Racial Equity*, put a special focus on the conditions of the poor and excluded in American society, especially regarding disparities by race and ethnicity. The evidence suggests that the large gaps in social and economic conditions in America are actually worsening on several crucial dimensions, such as wages, residential segregation, and child poverty.

Unfortunately, the SDGs have not yet achieved a prominent position in US politics and public policy. While many universities, businesses, NGOs, and cities are aligning with the SDGs, the engagement of the federal and state governments on the SDGs remains far weaker, especially in comparison with the prominence of the SDGs in peer nations, notably in the European Union. The Trump Administration not only ignored the SDGs in policy making but avoided reference to them in US diplomacy as well. We hope that this year's report will not only shine a light on the US shortcomings in progress towards the SDGs, but also spur a new national commitment to the goals, which after all have been adopted by all 193 member states of the United Nations.

As we go to print, President Joe Biden's proposals for Building Back Better (BBB) are still in legislative limbo. I would like to note that many of the proposals — for example on expanded healthcare, access to education, and sustainable infrastructure — are strongly aligned with the SDGs, and would help to advance America's progress towards the goals. Ironically, the lead political opposition to the BBB proposals often arise in Congressional delegations of the states in the South and Appalachian Region that are farthest behind in achieving prosperous, inclusive, and sustainable economies. I hope that the detailed data and analysis in this report will help to align federal actions with rapid progress towards the SDGs.

JEFFREY D. SACHS
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EXECUTIVE SUMMARY

The United Nations's Sustainable Development Goals (SDGs) are a useful framework for collaboration because they are shared and supported by all 193 member countries of the UN. They provide a useful framework for sustainability because they require interdisciplinary and intersectoral collaboration. Therefore, understanding US state policy through the lens of the SDGs both connects state efforts to broader, international movements for an environmentally, socially, and economically just world, and supports an interdisciplinary approach to understanding state progress.

To facilitate states and the communities that live in them in leveraging this framework, SDSN tracks SDG progress at the state level. This year, SDSN has expanded on its 2018 report to include information on if, and how quickly, states are approaching SDG achievement. With nine years to go before the 2030 Goals deadline, on average US states are less than halfway to achieving the SDGs. The report finds:

States are not improving quickly enough to meet the SDGs by 2030 and at least 20 percent of indicators in every state are going in the wrong direction. US states are not doing what needs to be done to protect the environment, end inequality, or provide for healthy lives, among other things. In contrast to so many other places around the globe where progress is visible, US states are getting worse across a myriad of areas.

Inequalities are deeply entrenched across US states. Twenty percent of the indicators used in this report measure how states were delivering aspects of sustainable development to excluded communities. Those indicators were among the poorest performers in the report, several of which were getting worse.

Preliminary results show that COVID-19 has increased challenges to SDG delivery and its impacts underline the need for universal health coverage and universal access to key social and physical infrastructure. COVID-19 stay at home orders highlighted the disparity in access to adequate and affordable housing. Racial inequality in homelessness is so prevalent that every state scored a zero (out of a possible 100 points). Many US residents still do not have access to adequate healthcare, broadband, food, and employment. These systems required intervention before the pandemic: the situation is now even more urgent.

Environmental justice efforts show a path forward through Black and Indigenous and other excluded community-led efforts. Lack of state action on climate change is putting all at risk. Excluded communities are already bearing the burden of inaction.Excluded communities have also demonstrated the ability to address both inequality and environmental impacts, and provide crucial leadership on a sustainable path forward.

Data gaps, time lags, and lack of disaggregated data highlight the need for improvement in statistical capacity and new approaches to monitor SDG achievement. State-level data is missing on essential topics such as lead in water and outcomes for people with disabilities. Other areas, particularly those focused on justice and state violence, are woefully out of date and/or the official records are incomplete. Proper and safe stewardship of personal data and careful maintenance of data sovereignty must also be held in balance as data collection and demands grow. The SDGs provide a framework to advocate for a better world. Timely, disaggregated, boundaried, and complete data are essential to complete that aim.

The SDGs were agreed upon at the national level, but local action is essential to their achievement. Universities, like those organized by SDSN's network teams, have essential roles to play in fostering collaboration and local action, and providing technical expertise to community-led efforts. Tools for measuring SDG achievement have also been powerful ways to unite diverse stakeholders in goal setting and to drive accountability. Voluntary Local Reviews (VLRs), Voluntary University Reviews (VURs), and data dashboards like the open-source version provided by SDSN, can also be powerful tools for SDG achievement. The changes necessary to move the states to SDG achievement over the next nine years will need to be bold and courageous; that action is only possible through collaboration. It is possible to achieve these Goals, but business as usual won't be nearly enough.

OVERALL RANKINGS

Figure 1: State rankings on 2021 US state Sustainable Development Report

Rank	State	Score	Trend
1	Vermont	60.4	→
2	Massachusetts	58.8	→
3	Washington	58.2	→
4	Minnesota	57.1	→
5	Maine	56.2	→
6	Oregon	55.5	→
7	New Hampshire	54.8	→
8	Hawaii	54.5	→
9	Maryland	54.3	→
10	California	54.1	→
11	New York	53.9	→
12	Connecticut	53.8	→
13	Colorado	53.6	→
14	New Jersey	52.4	→
15	Rhode Island	52.3	→
16	Wisconsin	51.2	→
17	Idaho	49.6	→
18	Delaware	48.4	→
19	Michigan	48.3	→
20	Virginia	48.2	→
21	Nebraska	47.4	→
22	Utah	47.0	→
23	Iowa	46.6	→
24	South Dakota	46.3	→
25	Illinois	46.2	→
26	Montana	44.8	→
27	Nevada	44.7	→
28	Kansas	44.5	→
29	Pennsylvania	43.7	→
30	North Dakota	43.2	→
31	Arizona	42.9	→
32	Wyoming	42.3	→
33	Florida	41.9	→
34	Georgia	41.4	→
35	North Carolina	40.4	→
36	Missouri	40.4	→
37	South Carolina	39.5	→
38	Tennessee	39.5	→
39	Ohio	39.1	→
40	Kentucky	38.2	→
41	Texas	38.1	→
42	New Mexico	37.7	→
43	Alaska	36.9	→
44	Indiana	36.8	→
45	Alabama	34.3	→
46	Oklahoma	33.7	→
47	Arkansas	32.8	→
48	Louisiana	31.2	→
49	West Virginia	30.9	→
50	Mississippi	30.5	→

↑ On Track
→ Stagnating
↗ Moderately increasing
↓ Decreasing

GLOSSARY, ACRONYMS AND STATE CODES

CO_2: carbon dioxide

CO_2e: carbon dioxide equivalents

tCO_2: metric tons of carbon dioxide

$mtCO_2$: million metric tons of carbon dioxide

EPA: Environmental Protection Agency

FEMA: Federal Emergency Management Agency

GDP: Gross Domestic Product

HABS: Harmful Algal Blooms

IPCC: Intergovernmental Panel on Climate Change

LNOB: Leave no one behind

2SLGBTQIA+: Two-spirit, Lesbian, Gay, Bisexual, Transgender, Queer, Intersex, Asexual and other gender and sexual identities

MBARI: Monterey Bay Aquarium Research Institute

MDG: Millennium Development Goals

OECD: Organisation for Economic Co-operation and Development

PREPA: Puerto Rico Electric Power Authority

SDG: Sustainable Development Goals

SDGWG: Puerto Rico SDG Working Group

SDSN: Sustainable Development Solutions Network

SDWA: Safe Drinking Water Act

TANF: Temporary Assistance for Needy Families

UN: United Nations

UNSC: United Nations Statistical Commission

WIC: Special Supplemental Nutrition Program for Women, Infants, and Children

LIST OF US STATES AND ABBREVIATIONS

Alabama	**AL**	Montana	**MT**
Alaska	**AK**	Nebraska	**NE**
Arizona	**AZ**	Nevada	**NV**
Arkansas	**AR**	New Hampshire	**NH**
California	**CA**	New Jersey	**NJ**
Colorado	**CO**	New Mexico	**NM**
Connecticut	**CT**	New York	**NY**
Delaware	**DE**	North Carolina	**NC**
District of Columbia	**DC**	North Dakota	**ND**
Florida	**FL**	Ohio	**OH**
Georgia	**GA**	Oklahoma	**OK**
Hawai'i	**HI**	Oregon	**OR**
Idaho	**ID**	Pennsylvania	**PA**
Illinois	**IL**	Puerto Rico	**PR**
Indiana	**IN**	Rhode Island	**RI**
Iowa	**IA**	South Carolina	**SC**
Kansas	**KS**	South Dakota	**SD**
Kentucky	**KY**	Tennessee	**TN**
Louisiana	**LA**	Texas	**TX**
Maine	**ME**	Utah	**UT**
Maryland	**MD**	Vermont	**VT**
Massachusetts	**MA**	Virginia	**VA**
Michigan	**MI**	Washington	**WA**
Minnesota	**MN**	West Virginia	**WV**
Mississippi	**MS**	Wisconsin	**WI**
Missouri	**MO**	Wyoming	**WY**

THE SUSTAINABLE DEVELOPMENT GOALS

Goal 1: End poverty in all its forms everywhere

Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

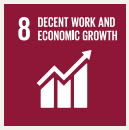
Goal 3: Ensure healthy lives and promote well-being for all at all ages

Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Goal 5: Achieve gender equality and empower all women and girls

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all



GOAL 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

GOAL 9: Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation

GOAL 10: Reduce inequality within and among countries

GOAL 11: Make cities and human settlements inclusive, safe, resilient and sustainable

GOAL 12: Ensure sustainable consumption and production patterns

GOAL 13: Take urgent action to combat climate change and its impacts

GOAL 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

GOAL 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

GOAL 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

GOAL 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

INTRODUCTION

In 2018, SDSN released the first United States state-level report measuring how well US states delivered the Sustainable Development Goals (SDGs). In this new report SDSN looks at if, and how well, states are progressing towards the 2030 Goals. The results are alarming. To achieve the SDGs, states need to improve scores by an average of approximately 54 points (out of 100) in the next nine years. For reference, over the past five years US states have improved their scores by an average of three points, or a little over half a point a year. No state is on track to achieve the SDGs by 2030 and every state has at least one Goal and at least 20% of indicators that are moving away from, rather than towards, SDG achievement.

These findings come at a moment where there are renewed calls to drastically reevaluate and reshape US priorities in the face of devastating impacts from climate change, an ongoing global pandemic, a racial reckoning, and crumbling infrastructure. With a new Presidential administration almost at its one-year mark, this report aims to highlight what a bold vision of economic, social and environmental justice might require, and where there are examples of sustainable success that can provide a roadmap for the next three years and to 2030.

What happens in US states is both important and impactful. In 2018, US state and local expenditures were an estimated $3.8 trillion (compared with $4.8 trillion at the federal level), the majority of which goes to key SDG areas like education, health, poverty alleviation and transportation. [I,II,III]

If US states were compared with countries elsewhere in the world, several states would rank among the largest in GDP, land area, or both. States have significant resources and infrastructure to deliver on the Sustainable Development Goals, both on their own and in coordination with the federal government. In fact, Hawai'i has already adopted the SDGs as part of the Aloha+ challenge for implementation at the state-level.

What are the Sustainable Development Goals (SDGs)?

The SDGs are a set of 17 Goals developed and unanimously adopted by all 193 member countries of the United Nations, to be achieved by 2030. They cover a range of ambitious objectives to end poverty, protect the planet, and ensure equality and prosperity for all.[IV] The SDGs are interdisciplinary, with many indicators repeated across Goals—highlighting that progress in any one area depends on simultaneous development in another. This fact underlines the importance of collaborative problem solving, as no one group, or action, will be sufficient for achieving these Goals—purposeful local, county, regional and national action will be needed to build sustainable change.

The global community developed 169 targets to understand and track progress towards meeting these Goals for 2030. These targets were developed through extensive effort and input from citizens, community groups, non-profits, activists, academics, political leaders, and more. The SDGs follow up and expand on a set of UN goals developed in the year 2000, the

Millennium Development Goals (MDGs), which were set for achievement in 2015.[V] Using the lessons learned from the MDGs, the SDGs focus more closely on local, community-driven change, on community stakeholder leadership, and on putting the welfare of those with the least, first. Local, community-driven monitoring is essential for the specificity and customization it allows. Sub-national reporting like this state-level index, helps communities see results in a broader context, including regional and international comparisons and also provides a tool to support community members who are advocating for positive change where they live.[VI] Further, because so many important decisions —like those on infrastructure, healthcare expansion, and education— are made at the state level, having timely, available data to support SDG action at the state level is also essential.

How should this index be used?

To help states and regions understand where they're making progress, where they need to move faster, and where they're headed in the wrong direction: This update provides crucial new information about the strength of efforts thus far to achieve a sustainable US. It should help states to identify the key policy priorities and the areas where most urgent action is needed.

To hold leaders accountable to action: The index should be used by citizens, community groups, non-profits, activists, academics, and others to hold state governments accountable for achieving the SDGs. While the US federal government adopted the SDGs along with all UN Member States in 2015, most US states have yet to engage with the sustainable development agenda.

To promote interdisciplinary solutions: By compiling state data from numerous agencies and policy areas into one report, the index encourages individuals and groups to break down silos in government administration, business, and academia to develop more integrated solutions to achieve the SDGs at the state and regional level.

To advocate for improved data: This report is merely a starting point for measurement of the SDGs at the state level. There are important data gaps, for example on coastal and marine management, biodiversity, indigenous rights, economic and social conditions of marginalized groups, geographic distribution of resources and more. It will be very important to overcome such data gaps in the coming years to target repair and improvement efforts and to achieve the SDGs.

'Leave No One Behind' Agenda

In unanimously adopting the Sustainable Development Goals, the world's governments committed to "leave no one behind" (LNOB). This Agenda requires prioritizing the needs of the most marginalized, discriminated against, impoverished, and vulnerable, ensuring that public policies support human dignity for all foremost, and guaranteeing basic human needs are met for all. Vulnerable groups include poor people, excluded racial and religious communities, children, older adults, disabled people, women, 2SLGBTQIA+ people, migrants, Indigenous peoples, refugees and other groups. In addition to leaving no group or individual behind, this index also highlights the importance of leaving no state behind—the US cannot achieve the SDGs unless they are achieved by all 50 states.

SDSN has made some of the first attempts to track disparate SDG delivery across racial groups in the US in reports such as: *Never More Urgent: A Preliminary Review of How the U.S. is Leaving Black, Hispanic, and Indigenous Communities Behind;* and *In the Red: The US Failure to Deliver on a Promise of Racial Equality.* This report includes an LNOB Index, which builds on previous work and allows for comparison across states along dimensions of inequality such as poverty and access to services; geography and environment; age; racial, physical and religious identity; and gender and sexual identity.

Figure 2: SDSN reports on the racial disparity in US SDG delivery

Source: SDSN

How to interpret results

The SDG index presents an overall picture of the extent to which states are attaining the Sustainable Development Goals. For each indicator, state values are transformed (normalized) to a value between 0 and 100, so that each indicator can be compared to the others. A normalized score of 0 signifies no progress, and a score of 100 signifies attainment of the respective SDG indicator, Goal, or of the SDGs overall. The states are also color-coded on a dashboard for 15 of the 17 SDGs (Figure 3).

Using historical data (usually 2015-2020), the index estimates how fast a state has been progressing towards an SDG and determines whether – if extrapolated into the future – this pace will be sufficient to achieve the SDG by 2030. Progress towards achievement on a particular indicator is described using a 4-arrow system (Figure 3).

Since projections are based on past growth rates over a span of several years, a state may have observed a decline in performance over the past year but still be considered 'on track'. This methodology emphasizes long-term structural changes since the adoption of the SDGs in 2015, with less emphasis on annual changes that may be cyclical or temporary.[VII] More information on the development of the colors and rankings can be found in the Methodology section.

Figure 3: Color meaning for SDG scores and arrows used to track US SDG progress

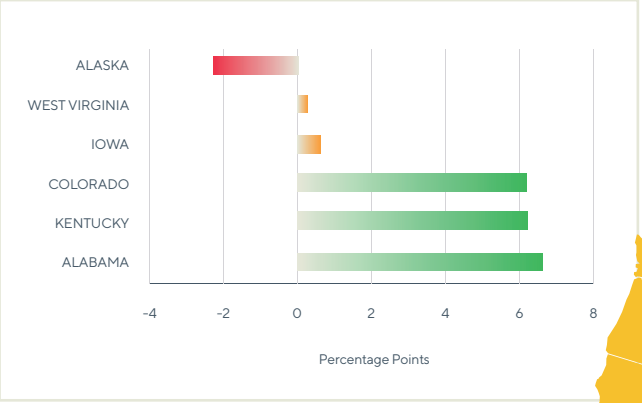
Source: SDSN

KEY FINDINGS

Using the latest available data, US states are, on average, about halfway to achieving the SDGs, with 9 years to go until 2030. Vermont is ranked #1 in the US, as the state closest to achievement, at almost 61%. West Virginia and Mississippi are the furthest, coming in at #49 and #50, at 31% of the way to achievement, or about half as much progress as Vermont (see Figure 4). On average, states improved by approximately half a point per year. To achieve the SDGs by 2030, states would need to improve scores by approximately five and a half points each year, which is more than the average state improvement over the last five years combined.

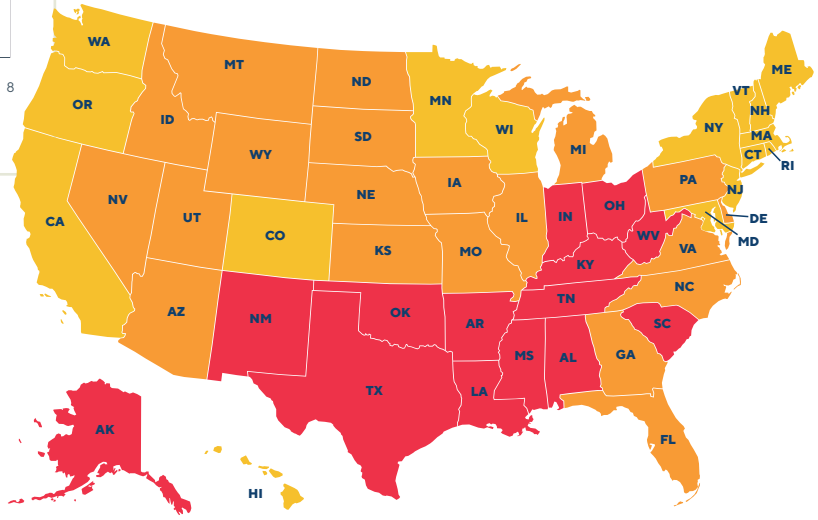
2030, the year the SDGs are meant to be achieved by UN Member States, coincides with the UN Intergovernmental Panel on Climate Change (IPCC)'s projection of a tipping point for the climate crisis. The necessary and urgent actions that will need to take place to address the climate change crisis must also take into account their impacts on inequality and justice. The lack of progress reflected in the results of this report represents the very real hunger, violence, disenfranchisement, and insecurity that people in the US face every day. The climate crisis threatens to worsen all of these dynamics. Bold, coordinated, interdisciplinary action that tackles these multiple crises is needed urgently (see section on Environmental Justice for more detail).

Figure 4: Notable changes in SDG index scores by state, 2015-2020



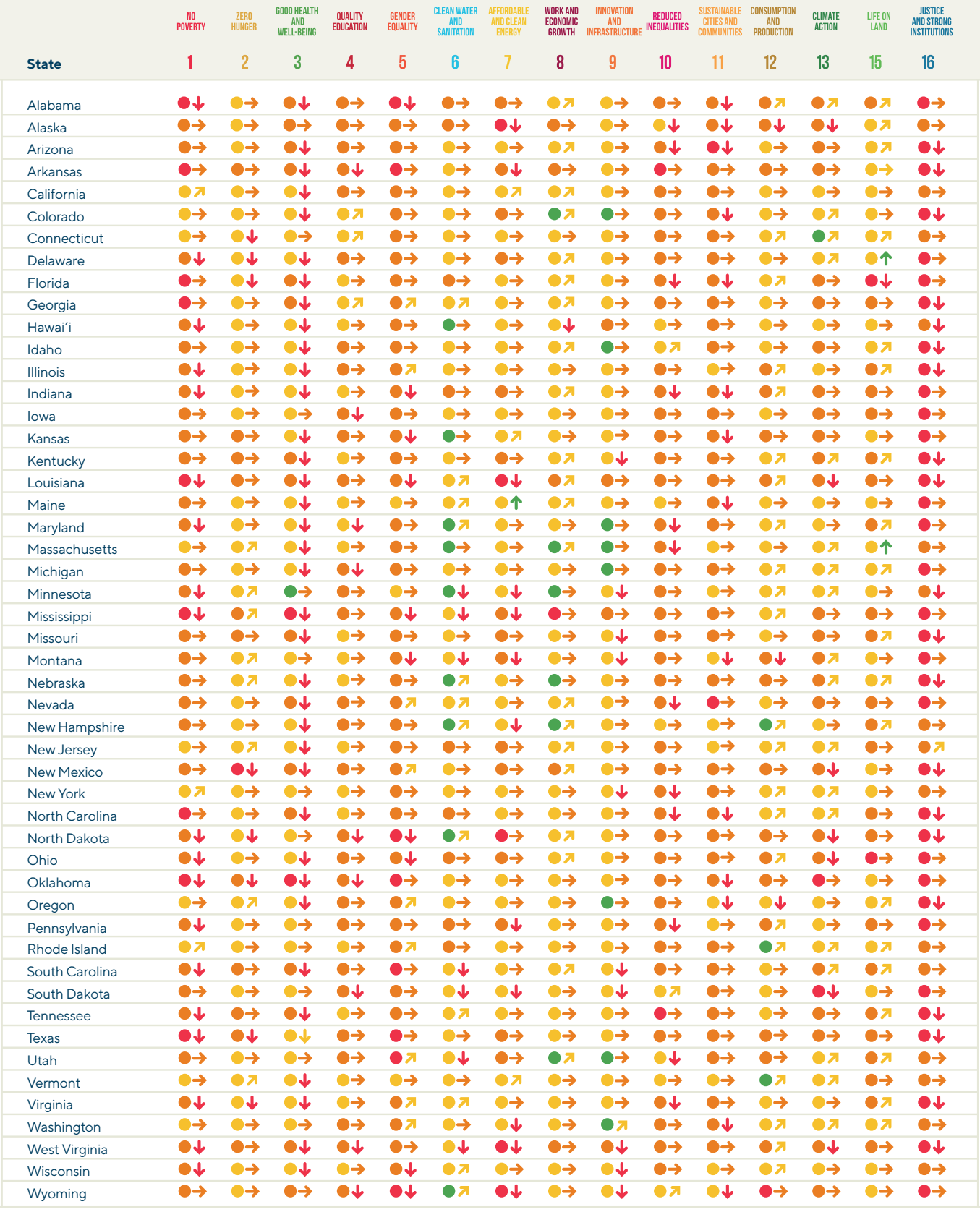
Source: SDSN analysis, 2021

Figure 5: Map of overall performance on SDG index, 2021



Source: SDSN analysis, 2021

Figure 6: US States SDG Dashboard, 2021



SDG Achievement · Challenges remain · Significant challenges remain · Major challenges remain

On Track · Moderately increasing · Stagnating · Decreasing

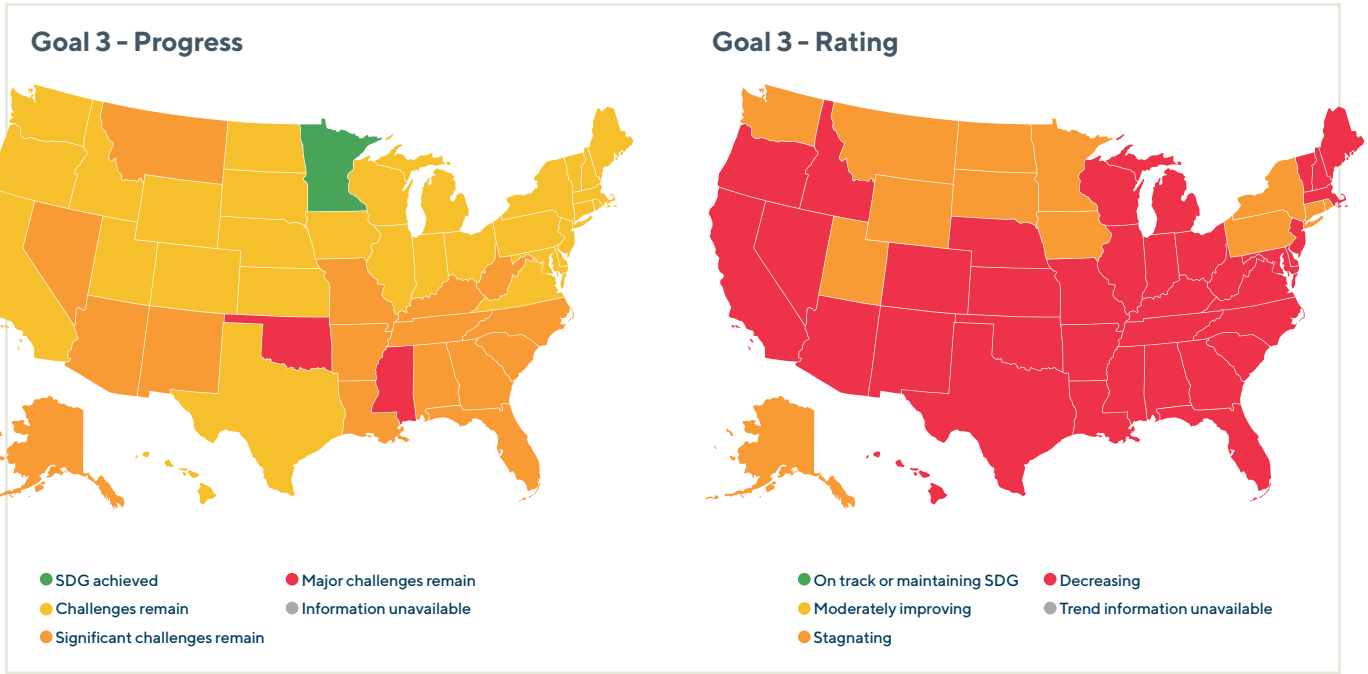
Overall

No state has met the SDGs (Figure 7) and none are currently "on track" to achieve the SDGs by 2030 (Figure 4, column 1). All states are stagnating on the SDGs. Only three states — Delaware, Maine and Massachusetts — have at least one Goal value that is on track for achievement (Figure 4, see: green arrows). Overall, there has been very little progress on the SDGs in the US since the SDGs were adopted in 2015. The best performing states have improved an average of 1.25 points a year, or approximately 6 points over the past 5 years. On the other hand, some states have made almost no overall progress and Alaska's score is worse in 2020 than it was in 2015 (Figure 4). States would need to accelerate the speed in which they improve SDG delivery by nearly eight times, on average, over their 2015-2020 rates to achieve the SDGs by 2030. It is important to note that these rates do not take into account changes due to the pandemic. Available data suggests that, were COVID -19 data to be included, the situation would likely be worse (see COVID-19 section). For example, the 2021 Sustainable Development Report, which tracks SDG progress at the international level, found that in 2021, country SDG scores went down for the first time since 2015. At the indicator level, every state is going in the wrong direction for at least 20% of the 92 indicators with trend data. Achieving the SDGs in the US won't just require faster progress, for every state it will also require reversal on a fifth of the included indicators.

Goals

Zooming in thematically to the Goal level, no Goals are improving fast enough, on average, across all the states, to be on track for SDG achievement by 2030. The Goals improving at the fastest rate, on average, are Goals 8: Decent Work and Economic Growth and 12: Responsible Consumption and Production. Goals 8 and 9: Industry, Innovation, and Infrastructure have made the biggest average score improvement since 2015 (Figure 8). The Goals making the slowest average progress are Goals 1: End Poverty, 3: Good Health and Well-Being, 11: Sustainable Cities, and 16: Peace, Justice and Strong Institutions. Rhode Island is the only state that is not getting worse, on average, in at least one Goal (red arrows, Figure 4). In Goal 3, average performance declined by approximately 2 points, one of two Goals where average performance got worse (Figure 8). Of the nine indicators in Goal 3, five are getting worse on average.

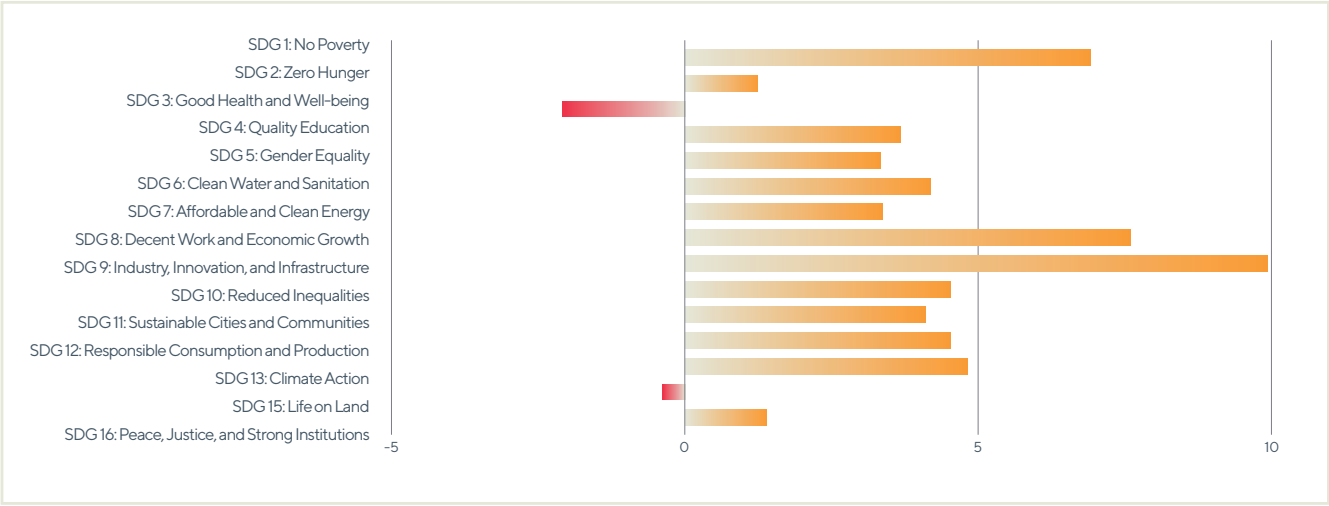
Figure 7: Map of progress and trend on Goal 3: Good health



Source: SDSN analysis, 2021

Only one of these indicators includes data past 2019, which points to the worsening state of US health pre-COVID-19 and suggests the enormity of recovery from the pandemic (see section on COVID-19 for fuller analysis). Although there is some success in achieving Goal 3 (Figure 7, map left) trends (Figure 7, map right) show that progress is stagnating or getting worse for all states. The results are not all bad, however. There are also individual states on track to achieve Goals 7: Affordable and Clean Energy (Maine), and 15: Life on Land (Delaware, and Massachusetts) by 2030.

Figure 8: Average SDG porgress by goal, 2015-2020

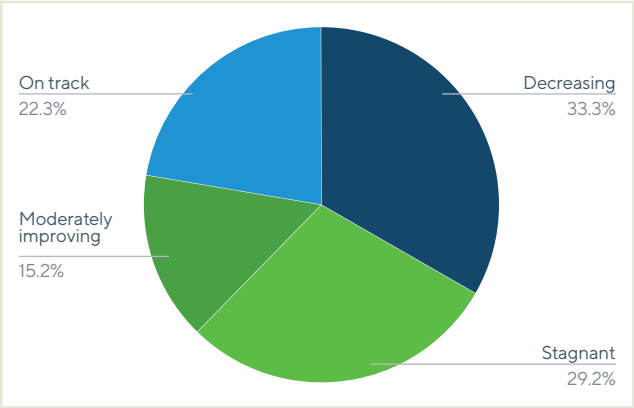


Source: SDSN analysis, 2021

Indicators

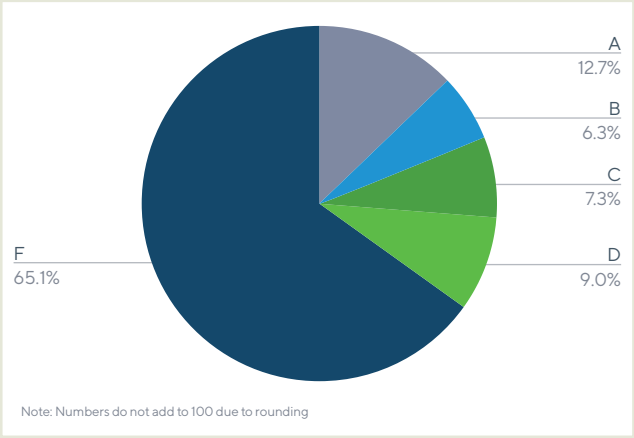
For every state, at least 20% of the indicators are getting worse. But it is not all bad news. For example, invasive species management is on track for SDG achievement by 2030. Unemployment rates pre-COVID-19 were improving at a rate such that had they been maintained, unemployment rates would have been predicted to be on track for SDG achievement by 2030. Unfortunately, these trends have been largely reversed by the COVID-19 pandemic (for more information see the section on COVID-19). While about a third of the values across all indicators and states are getting worse, a quarter are "on track" (Figure 9). There are 13 indicators where average performance is improving, but not fast enough for SDG achievement. There are 27 indicators where average performance is getting worse. If SDG progress were to be scored as an exam, nearly ⅔ of state and indicator values would be getting an 'F' (Figure 10). However, there are 81 indicators where at least one state is on track for SDG achievement, which demonstrates that while progress thus far is unacceptably slow, there are bright spots across the country and achievement is within reach.

Figure 9: SDG progress by state and indicator



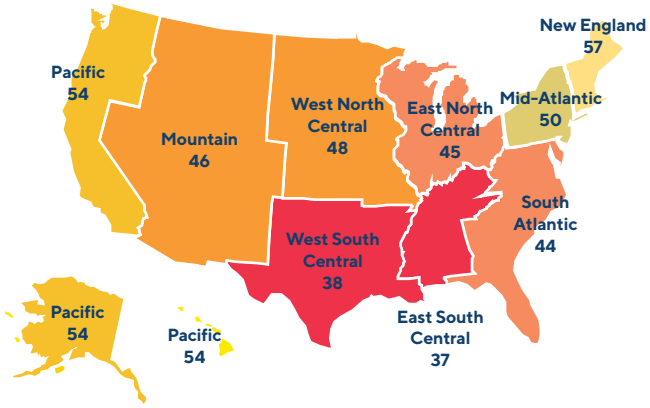
Source: SDSN analysis, 2021

Figure 10: State indicator scores, illustrated as grades



Source: SDSN analysis, 2021

Figure 11: Map of SDG Score by region Map of SDG score by region

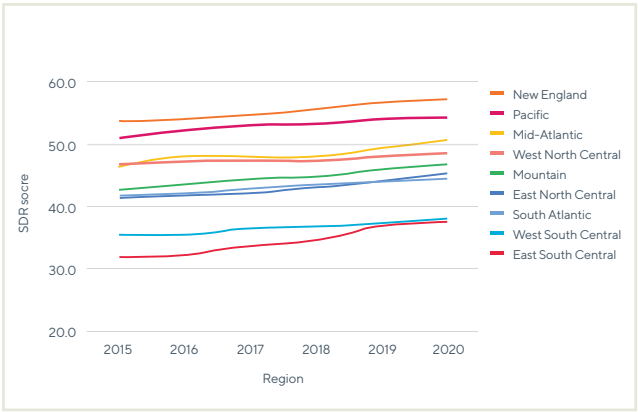


Source: SDSN Calculation, 2021

Regional Trends in Scores

There is marked regional variation in scores, with New England and the Pacific regions closer to achievement than regions in the South (Figure 11). States in the regions furthest behind are particularly lagging in Goals 1, 2, and 16. Goal 1 (No poverty) shows some of the largest differences, with the West South Central Region, which includes Texas, Louisiana, and Mississippi, having an average score of 11/100 compared with New England at approximately 52/100. While both regions have serious progress to make, New England is doing almost five times better at minimizing poverty. Similarly, there is a particularly large gap between the West South Central Region and the Mid-Atlantic region on Goal 13 (climate action), with Mid-Atlantic states delivering indicators approximately 40 points better than West South Central (71/100 to 28/100). Poor performance on Goal 13 is driven by high GHG emissions, poor building code coverage, and high impacts from severe weather. All regions are making slow progress, and the region furthest behind, East South Central, has made the most progress since 2015, although the change has been modest (see Figure 12).

Figure 12: Progress on SDG index by region, 2015-2020



Source: SDSN analysis, 2021

Figure 13: State rankings on Leave no one behind indicators, 2021

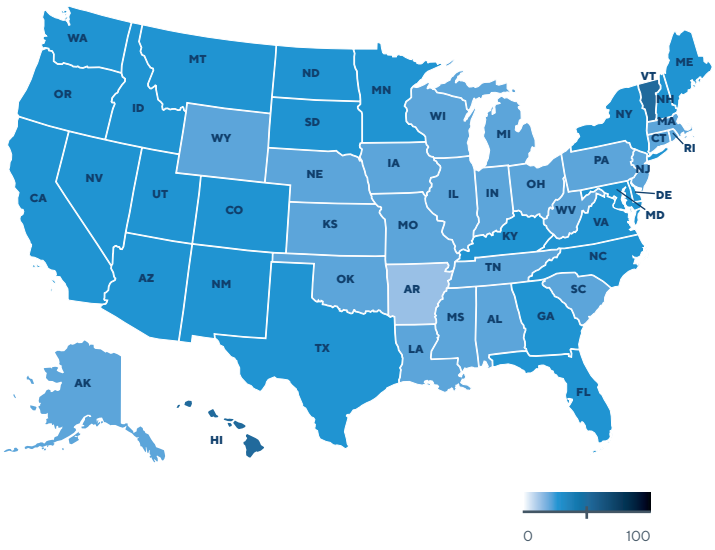
Rank	State	Score	Trend
1	Vermont	51.2	→
2	Hawaii	49.6	→
3	New Hampshire	45.6	→
4	Maine	44.2	↗
5	Idaho	43.7	→
6	Maryland	42.0	→
7	Oregon	41.7	→
8	Minnesota	40.9	→
9	Washington	40.6	→
10	Colorado	39.9	→
11	Montana	39.2	→
12	Virginia	38.6	→
13	Wyoming	38.5	→
14	North Dakota	38.5	→
15	Utah	37.9	→
16	New York	37.6	→
17	South Dakota	36.8	→
18	Delaware	36.6	→
19	Massachusetts	35.9	→
20	California	35.4	→
21	Iowa	35.1	→
22	Kentucky	34.9	→
23	New Jersey	34.7	→
24	Nevada	34.7	→
25	Nebraska	34.5	→
26	Rhode Island	34.4	→
27	Wisconsin	34.4	→
28	Connecticut	34.2	→
29	Illinois	33.6	→
30	New Mexico	33.1	→
31	Arizona	33.1	→
32	Ohio	32.5	→
33	Florida	32.2	→
34	Kansas	31.9	→
35	Missouri	31.7	→
36	Tennessee	31.3	→
37	North Carolina	31.0	→
38	Georgia	30.9	→
39	Michigan	30.5	→
40	Alaska	30.0	→
41	Texas	29.5	→
42	South Carolina	29.3	→
43	Alabama	28.9	→
44	Pennsylvania	28.9	↓
45	Louisiana	27.6	→
46	Indiana	27.4	→
47	West Virginia	27.4	↓
48	Arkansas	24.9	→
49	Oklahoma	24.8	↓
50	Mississippi	24.3	→

↑ On Track → Stagnating
↗ Moderately increasing ↓ Decreasing

States are performing worst on measures of inequality, and evidence shows it's getting worse

One of the ways countries prioritized equality when developing the SDGs is through the 'leave no one behind' principle. This requires that those who have historically been left behind in SDG delivery should be priotitized moving forward.

Figure 14: Leave No One Behind Scores



Source: SDSN analysis, 2021

Table 1: Included LNOB indicators

Indicator	Goal	Trend	Average Score (out of 100)	Minimum Score	Maximum Score
Racial disparity in homelessness	11	→	0.0	0.0	0.0
Racial disaprity in school suspension	4	●	3.0	0.0	90.0
Racial disparity in youth incarceration	16	●	3.0	0.0	92.0
Racial disparity in child poverty	1	↓	6.0	0.0	51.3
Racial disparity in police involved fatalities	16	↓	7.0	0.0	100.0
Disability employment disparity	8	→	10.0	0.0	49.0
Wage gap	5	↓	16.0	0.0	36.0
Pollution burden	10	↗	19.0	0.0	100.0
Affordable housing	1	↓	26.1	0.0	51.0
Concentration of neighborhood poverty	10	↓	28.0	0.0	78.0
Percent of people with low food access	2	●	31.0	0.0	64.0
Women in government	5	→	32.0	0.0	72.0
Disability Support	10	→	40.0	0.0	69.6
Energy burden	7	→	42.0	0.0	65.0
Elderly food insecurity	2	→	43.0	0.0	99.0
Rural infrastructure	2	●	45.0	0.0	78.0
Racial disparity in toxic air burden from factories	12	●	65.0	0.0	100.0
Racial disparity in rent burden	10	↓	69.0	48.0	88.0
Youth not in employment, education or training	8	↗	69.0	11.0	100.0
LGBT inclusion	5	↗	69.0	0.0	100.0
Racial disparity in broadband access	9	→	99.9	99.3	100.0

Source: SDSN analysis, 2021

This report includes 21 indicators evaluating LNOB across race, age, poverty, disability, gender, sexuality, and religion. These indicators are spread across 12 of the 15 included Goals. Table 1 shows the average score of each of the 21 LNOB indicators. 8 of the 10 worst performing indicators in this report are part of this grouping, a telling measure of inequality. A recent SDSN report, *In the Red: The US Failure to Deliver on the Promise of Racial Equity*, explored one aspect of this agenda, looking at how far states would have to go to achieve the SDGs if progress is measured by the racial group most excluded by US states. States are on average a third of the way to delivering the SDGs to the most excluded racial group, and deliver on average three times better to white communities.

Looking at LNOB indicators overall, seven are stagnating, six are getting worse, and three are moderately improving. The indicators for which performance is getting worse are ones that specifically track racial disparities, from renter burden and neighborhood poverty, to wages and police violence, to child poverty. US states on average perform the worst when it comes to racial disparities in homelessness, school suspension, and youth incarceration. On average, US States receive a score of 0/100 for homelessness, 3/100 for school suspension, and 3/100 for youth incarceration (where the score 0-100 represents how close the state is to achieving the SDGs, with 100 representing achievement).

Most states are stagnating overall on LNOB indicators. The exceptions are Arizona and Alaska, which are getting worse, and Maine, which is getting better, although not at a fast enough rate to reach the target by 2030 (18 of the 22 LNOB indicators have data to track trends over time). However, there are also examples that inspire hope. Hawai'i and Vermont are the closest—halfway—to correcting policies and practices that have left people behind. To make it the rest of the way by 2030, all states will need to improve. For example, Maine is on track to achieve six of these indicators by 2030, and making progress in three others. It is unclear whether the Pine Tree State or other US states will make a concerted effort, and deliver the intentional policies and implementation necessary to end inequality in the US.

US states cannot achieve the SDGs without addressing structural inequality, and without prioritizing the leadership of historically marginalized communities both in their development efforts and the development process itself. People of color, the 2SLGBTQIA+ community, people with disabilities, religious minorities and others directly impacted by inequality have provided the roadmap for what an ambitious vision of equality can look like through years of activism. Even in the best-case scenario, state communities will need to work together to push for ambitious visions of equality. Minor reforms and half measures will not be enough.

Crisis in Housing

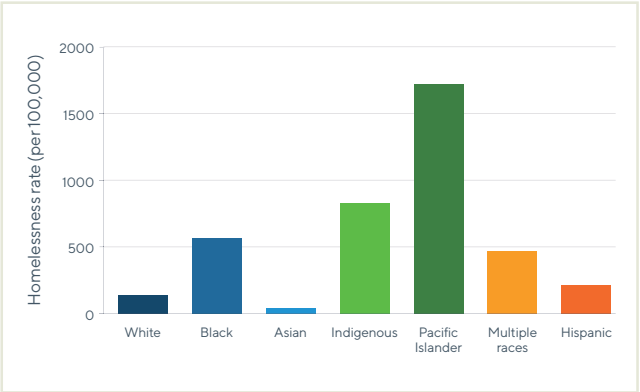
57 indicators, more than half of those that are included, are less than halfway to being achieved. Almost all of the housing related indicators fall in this group. Apart from the indicator measuring eviction rate, which is stagnating (pre-2020), all housing indicators are getting worse (Table 2). Housing stands out as particularly challenging because of how essential it is to human survival, how central it is to achieving the SDGs, and because 'staying home' has been the central proposed solution in the US to the ongoing COVID-19 pandemic.[VII]

Table 2: Included housing indicators

Indicator	Trend	Overall Score out of 100
Affordable Housing Units (per 100 extremely low income renters	↓	26.1
Renter Burden (percent or renters spending 30% or more of income to rent	↓	16.5
Racial Disparity in Renter Burden	↓	69.3
Eviction Rate	→	50.4
Overcrowded Housing (percent of occupied units)	↓	48.9
Racial Disparity in Homelessness	→	0.0

Source: SDSN analysis, 2021

Figure 15: US homelessness by race, 2019 (per 100,000)



Source: SDSN analysis, 2021

In 2019, before the pandemic, nearly half of US households were rent-burdened, or spending more than 30% of their income on rent. Non-white communities were particularly burdened, with rates 130% of that of white renters. In 2020 alone, nearly 600,000 Americans were unhoused, and the number of people experiencing homelessness increased by 2.8% from 2015 to 2020.[IX] There are extreme racial inequalities in homelessness. Rates of homelessness are on average 10.5 times higher

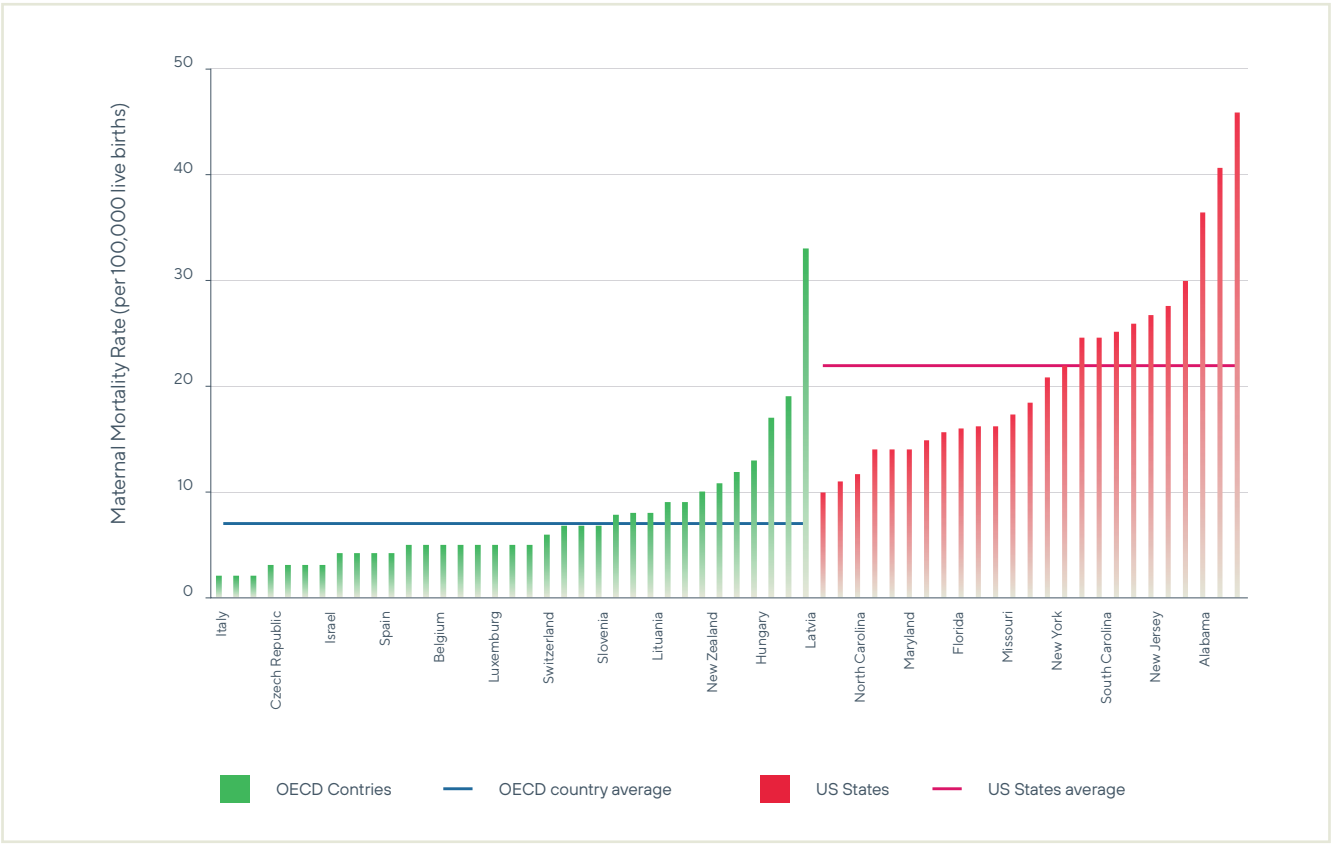
for the most excluded racial community than for white communities (see Figure 15). As highlighted in *Never More Urgent*, these rates are rooted in forced removal of Indigenous peoples to build homes for white European settlers, and have been continued by policies of slavery, confiscation of promised reparations, and ongoing colonization through gentrification and racist lending practices that continue today. As COVID-19 continues and with a recent Supreme Court ruling struck down national eviction protections, evidence suggests that the housing crisis will continue to worsen. Estimates put at least 750,000 people at risk of eviction before the end of 2021, with between 2.5 and 3.5 million households estimated to be severely behind on rent.[X]

Failure to ensure this basic need puts more than just housing goals at risk. Evidence suggests that people who are housing insecure often go without food to ensure housing (Goal 2), houseless students have worse education outcomes (Goal 4), and houseless people are less able to participate in work (Goal 8) and civic life (Goal 16), among many other impacts.[XI, XII, XIII, XIV] If the US is sincere in its aim to leave no one behind, housing is an essential part of that solution, the achievement of many other Goals depend on it.

Results in Global Context

SDSN writes a series of reports at the international, regional, and sub-national level on SDG implementation and achievement (see box On SDG indices and dashboards). Comparing indicators across these reports helps provide useful context for US progress and helps identify examples of best practices.

Figure 16: Maternal mortality rate per 100,000 births



Source: SDSN analysis of 2018 CDC and SDR data, 2021

National and subnational SDG Indices and Dashboards

Data and statistics are critical for each country to take stock of where it stands on the SDGs, to devise pathways for achieving the goals, to identify best practices, to facilitate peer-learning, and to track progress on the goals over time. The SDSN, in collaboration with various partners and building upon the methodology developed in the first SDG Index and Dashboards (Kroll, 2015), has developed regional as well as sub-national SDG Indices and Dashboards. These Indices provide a better analysis of country and regional contexts and improve policy relevance. Regional assessments are available for Africa (2018, 2019 and 2020), the Arab Region (2019), the European Union (2019 and 2020), Mediterranean countries (2019), and Latin America and the Caribbean (2020). These reports differ from the global edition in three ways: (i) they tailor the indicator selection to SDG challenges in each specific region; (ii) they use data and statistics from regional sources (such as the European Commission in Europe or ECLAC in Latin America) for a more refined analysis; and (iii) they focus on regional policy challenges and implementation efforts. For these reasons, regional SDG Indices and Dashboards are increasingly used by governments and other stakeholders.

Sub-national assessments of SDG progress serve a unique and complementary role by highlighting disparities across cities, provinces, and regions within a country. According to the OECD (2020), 105 of the 169 SDG targets underlying the 17 SDGs will not be reached without the engagement of and coordination with local, provincial, and regional governments. Similarly, UN-Habitat (2020) estimates that 23 percent of the SDG indicators have a local or urban component. SDSN and local partner organizations have therefore supported sub-national SDG Indices and Dashboards in Bolivia, Brazil, the European Union, Italy, Spain, and the United States. Many other sub-national reports are in preparation.[XV]

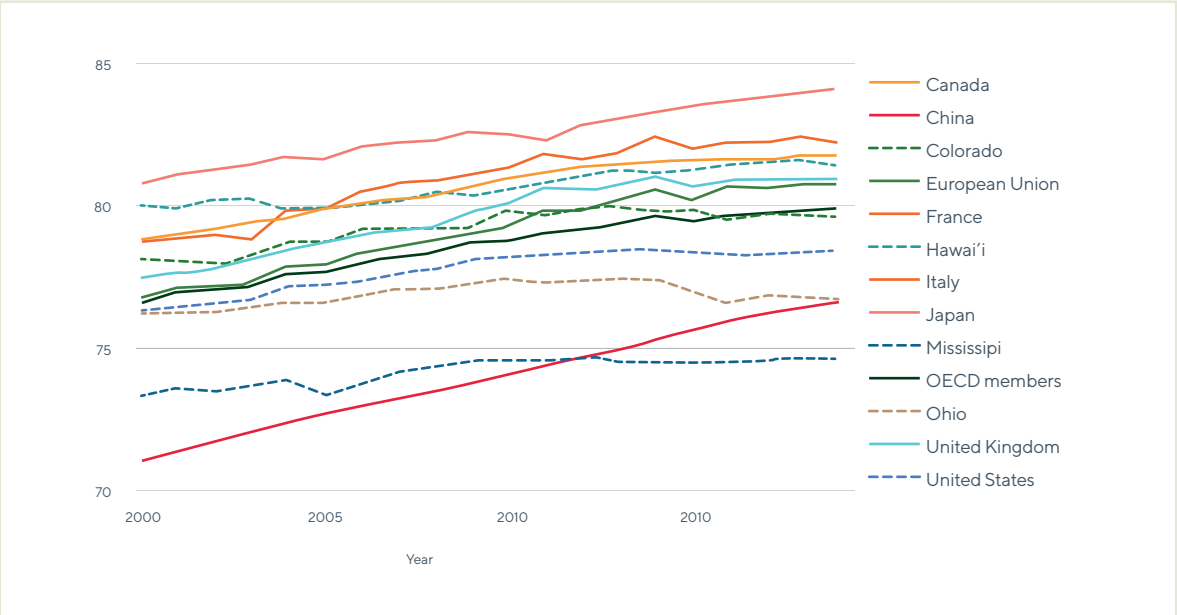
Figure 17: SDG Index and Dashboards: Global, Regional, and Subnational editions (2015-2021)

Source: SDSN

The US lags most starkly behind OECD countries in areas of justice, gender, and health. For example, maternal mortality rates across US states are, on average, three times higher than in OECD countries. The worst performing state with data, Arkansas, has a maternal mortality rate almost seven times higher than the OECD average (Figure 16). State averages conceal an even larger disparity: Black and Indigenous people are two to four times more likely to die from pregnancy-related health conditions than white people.[XVI, XVII] While 36 OECD countries are on track to meet this goal, even the best performing US state with data, Illinois, has a maternal mortality rate nearly three times higher than the 2030 Goal value. Given how poorly US states perform on maternal mortality, the lack of data on the topic is particularly troubling. Official statistics for state-level maternal mortality rates have only been released since 2018 and only for 25 of 50 states.

Maternal mortality rates are a small piece of a bigger pattern, where US life expectancy lags behind that of similar countries. By 2017, US life expectancy had fallen for three years in a row (2015-2017), a trend unexpected in high income countries and then rose very slightly (a tenth of a year each) in 2018 and 2019.[XVIII] As highlighted in the section on COVID-19, the results of the pandemic have shrunk US life expectancy even further - 1.5 years on average - and US practices have resulted in an even wider racial life expectancy gap with Black and Hispanic life expectancy down by approximately three years.[XIX] This leveling out of life expectancy is unique in OECD countries where life expectancy outside the US continues to rise (see Figure 18). Figure 18 shows how US progress was less than but moving at relatively the same rate as OECD countries in the early 2000s, but then progress began to slow down. Hawai'i and Colorado are two states whose progress aligned with other OECD countries like France, Canada, and Italy, although since 2015 Colorado's life expectancy has also leveled off. On the other hand, states like Mississippi and Ohio have markedly lower life expectancies that have stayed stagnant since 2010 while many other countries have continued to improve.

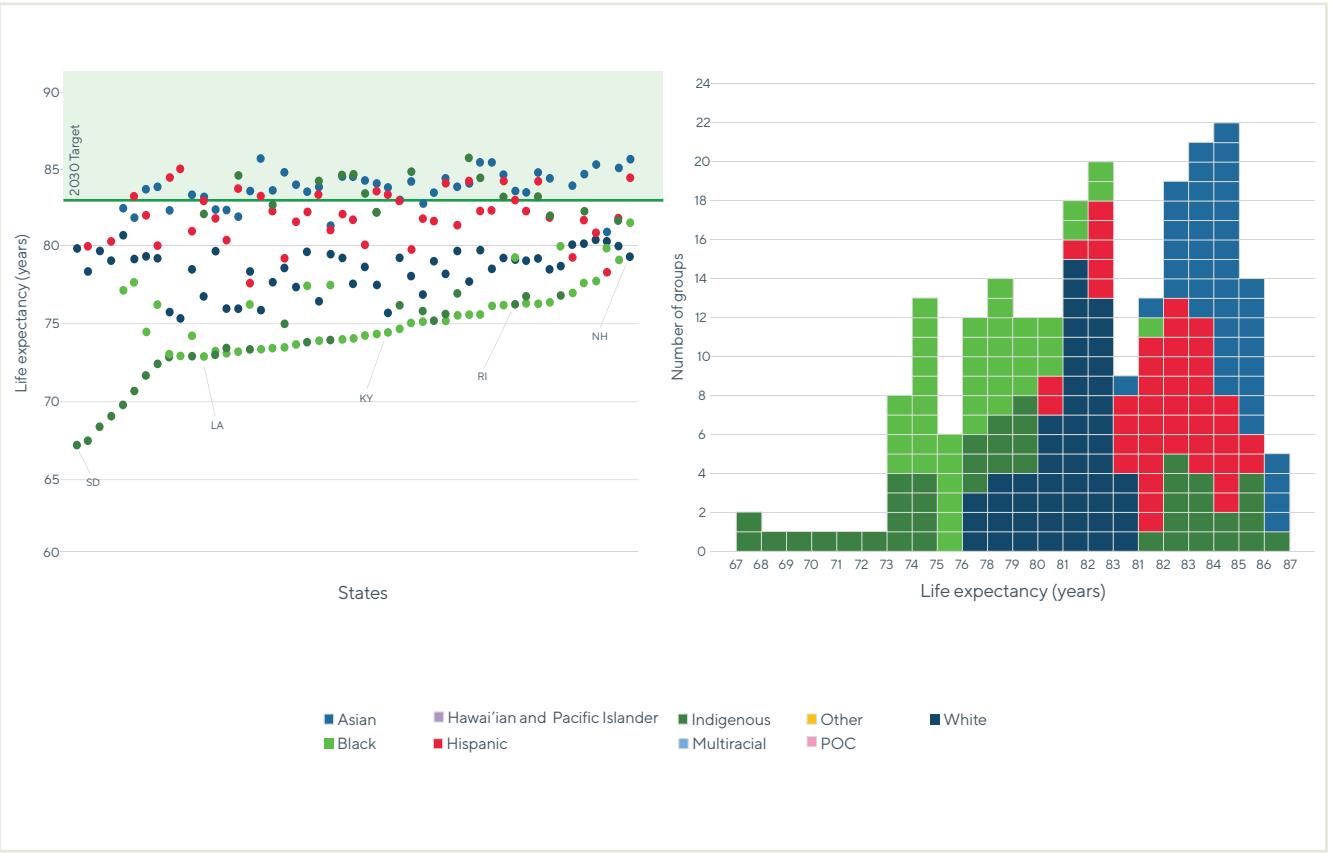
Figure 18: Life expectancy in US states and selected OECD countries, 2000-2019



Source: SDSN analysis of OECD and CDC data, 2021

Analyzing life expectancy trends at only the state level can obscure racial inequality in life expectancy, inequalities that in some cases amounts to a difference of 11 years. Figure 19 shows how wide the distribution of life expectancy is across race in US states. In the figure on the right, each box represents a racial group in a state, and the column represents the average life expectancy for that group. State average life expectancy for the racial group that states serve the least is 74 years, or approximately four and a half years fewer than the US average, or seven years fewer than the EU average in 2016 (81 years). These broad differences in life expectancy highlight the lack of relative success that US national and state policies have on keeping people alive.

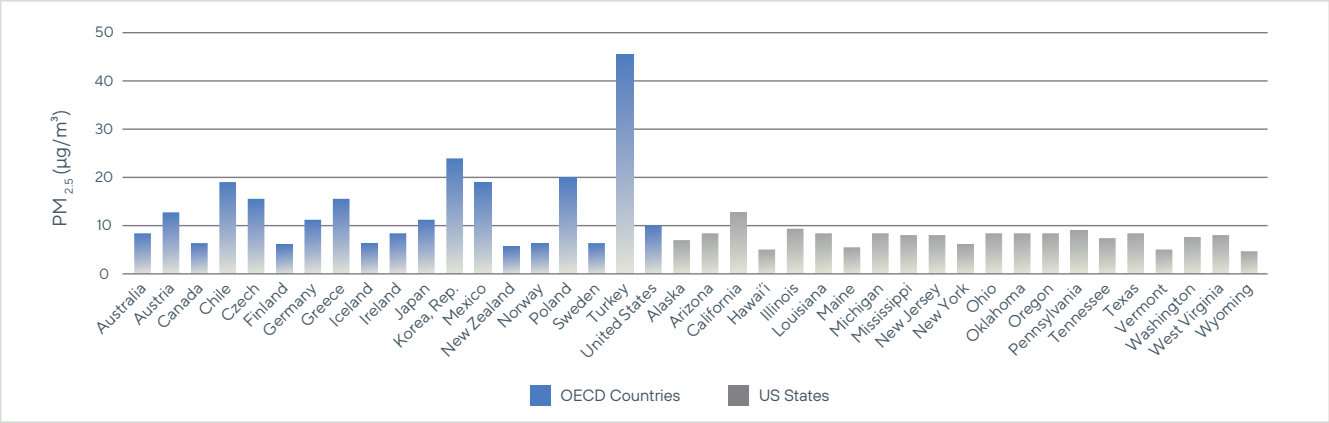
Figure 19: Life expectancy by race and state in the US



Source: *In the Red*, SDSN, 2021

On the other hand, US states outperform OECD countries on select environmental indicators like $PM_{2.5}$ exposure (see Figure 19), CO_2 intensity, and renewable energy production. $PM_{2.5}$, or fine particulate matter, is a form of air pollution that can enter the lungs and bloodstream causing serious health problems. Of the types of particulate matter in our environments, $PM_{2.5}$ poses the greatest risk to our health, especially in high concentrations.[XX] US average $PM_{2.5}$ exposure is 5.8 times lower than that of OECD countries. Our worst performing state, California, approaches the average of all OECD countries combined at an average exposure of 12.5 micrograms per cubic meter. However, the best performing OECD countries are still almost two points higher in exposure levels than our best performing states, New Hampshire, Wyoming, Vermont, and Hawai'i.

Figure 20: $PM_{2.5}$ exposure in US states and OECD



Source: SDSN analysis of OECD and EPA data, 2021

Environmental Justice

On August 9, 2021, the Intergovernmental Panel on Climate Change (IPCC) released their latest report, confirming that without immediate action to reduce global greenhouse gas emissions, "limiting warming to close to 1.5°C or even 2°C will be beyond reach." This level of warming is predicted to cause unprecedented changes to the global system, including increased pressure on food systems, increased sea level rise, higher stress on natural resources, and more. The EPA's recent *Social Vulnerability Report* makes an effort to specifically quantify the excess risk faced by communities that have been systematically excluded, similar to the efforts made by SDSN's *In the Red* report. The EPA report adds to "a growing body of literature focus[ed] on the disproportionate and unequal risks that climate change is projected to have on communities that are least able to anticipate, cope with, and recover from adverse impacts." While all people will be impacted by the worsening climate crisis, the report highlights that non-white and poor communities are likely to be hit the hardest, with these excluded racial communities 41% more likely than white people to live in areas impacted by global sea level rise, among other disparate impacts.[XXI]

Indicators used in this report measure both the direct impacts of environmental justice through indicators like 'Racial disparity in pollution burden' and in 'Toxic air burden from factories', but also indirectly through indicators that measure food insecurity, access to healthcare, access to justice, gender parity, and poverty. The climate crisis will impact all of these areas and more, illustrating the strength of the SDG framework as a multidisciplinary and interconnected approach. Progress in any one of these areas can and should contribute to progress in many of these areas.

Those communities who, in normal conditions, are already hindered in accessing services, will be all the more disadvantaged and vulnerable to environmental, social, and economic harm during a climate crisis. Despite these challenges, Black, Indigenous, and other communities of color in the US have been on the forefront of fighting climate change. A recent report, *Indigenous Resistance Against Carbon*, estimates that victories won over the past decade by Indigenous groups in the US and Canada have reduced carbon emissions by 779 million metric tons CO_2e, or approximately 12% of those countries' carbon pollution. Ongoing struggles would reduce up to an additional 12%.[XXII] In 2020, a *Red, Black and Green New Deal* was released by Black organizers to directly confront the ways that climate change impacts the Black community. This initiative is an interdisciplinary platform that includes: clean water, decarbonized energy, improved labor conditions, democratic norms, clean air, and cooperation with the Global South.[XXIII] As Agenda 2030 continues into the next decade, there are already many examples of multidisciplinary leadership and implementation in the US that can point the way to addressing the climate crisis, inequality, and justice in an integrated way.

Puerto Rico's Painful Awakening to the Sustainable Development Goals

By Ricardo Arzuaga Chaves, Executive Director
Puerto Rico Chapter of the United Nations Association of the United States of America (UNA-USA)

The loss of life and widespread destruction caused by hurricanes Irma and Maria in 2017 resulted in a painful awakening for Puerto Rico to its vulnerabilities about all of the seventeen SDGs. In an island already coping with a 70 billion+ debt crisis, almost 3,000 people lost their lives as 100% of the power grid, 95% of cellular sites, and 43% of wastewater treatment plants were rendered inoperable. More than 95% of Puerto Ricans lacked drinking water. With over 40,000 landslides, 97% of roads were impassable and 80% of agricultural infrastructure and production were lost.

The Government of Puerto Rico has taken promising steps to address some of these vulnerabilities. The Puerto Rico Energy Public Policy Act signed into law in May 2019 establishes that the Puerto Rico Electric Power Authority (PREPA) has to obtain 40% of its electricity from renewable resources by 2025, 60% by 2040, and 100% by 2050. PREPA is also mandated to phase out coal-fired generation by 2028.

The Committee of Experts and Advisors on Climate Change was created under Law 33-2019 to outline a Mitigation, Adaptation, and Resilience Plan. In February 2021, the Committee for the Prevention, Support, Rescue, and Education of Gender Violence (PARE) was established by Executive Order 2021 -13 to develop and execute a comprehensive and measurable plan to advance gender equality.

Cognizant of the need for global and regional cooperation to advance the 17 SDGs, on April 13, 2021, the Government of Puerto Rico became a member of the Local2030 Islands Network. The Network brings together emerging island economies—nations, states, and communities—from all regions of the globe. The following week Special Presidential Envoy for Climate John Kerry announced the United States' support for the Local2030 Islands Network and its commitment to partnering with small islands in their efforts to combat the climate crisis and development challenges by building resilience in the face of a changing climate.

In its official membership letter, Puerto Rico committed to supporting the Four Principles of the Local2030 Islands Network:

- Identify local goals to advance the SDGs and strengthen long-term political leadership on climate resilience and net-zero emissions pathways.
- Strengthen public-private partnerships that support diverse stakeholders in integrating sustainability priorities into policy and planning.
- Measure SDG progress through tracking and reporting on locally and culturally informed indicators.
- Implement concrete initiatives that build island resilience and a circular economy through locally appropriate solutions, particularly at the water-energy-food nexus.

To stay the course with these promising steps and principles more than 80 stakeholders representing government, academia, the private sector, and civil society are actively engaged on the Puerto Rico SDG Working Group (SDGWG). The SDGWG is a collaborative ecosystem focusing on promoting, integrating, advancing, measuring, and financing the SDGs on the Island; in partnership with other like-minded networks and action groups.

Much remains to be accomplished, but one thing is certain—Puerto Rico has been awakened to the SDGs and wants to be part of the solutions to achieving them by 2030.

COVID-19

The COVID-19 pandemic has reshaped nearly all aspects of life in the US. Due to data lags, very few of the included indicators reveal the extent of the impact felt from the pandemic. It is clear, however, that the pandemic will shape states' progress towards SDG achievement. SDSN's 2021 Sustainable Development Report, which compares country-level progress on the SDGs, found that for the first time since 2015, average SDG scores have gone down due to the impact of COVID-19. Life expectancies worldwide have gone down as a result of the pandemic, including in high income and OECD countries. In the US overall life expectancy has dropped by approximately 1.67 years, equivalent to approximately 14 years of life expectancy progress.[XXIV] Other studies estimated that found that life expectancy dropped two to four times more for Black and Hispanic people than it did for white people in the US. [XXV, XXVI] SDSN's *Never More Urgent* report highlighted how structural racial inequalities, in place before the pandemic in the United States, created conditions in which Black, Indigenous, Asian, Hispanic, and other communities of color disproportionately bear the burden of the pandemic and its associated struggles. Data from this report highlight how strained the US healthcare and public service systems were before the pandemic hit, and preliminary data from the pandemic period demonstrate that these impacts have continued or worsened. In a report by Elizabeth Wrigley-Field, researchers measured the number of excess deaths across racial groups due to the pandemic, and considered the extensive measures and changes put in place in short amounts of time to minimize loss of life. The researcher then compared the excess deaths during the pandemic with the number of excess deaths of Black people in years prior to the pandemic. They concluded that racism causes similar ratio of Black deaths in non-pandemic years that the pandemic caused in white communities.[XXVII] These results put into stark relief the costs of racism and the meagre efforts put in to addressing that loss of life, particularly when measured against the intensive effort for similar scale loss of white life during the pandemic.

Although included indicators do not cover the period of the COVID-19 pandemic, there is preliminary evidence that can help clarify the connections between the SDGs and COVID-19 outcomes. Despite reports at the beginning of the pandemic of positive environmental gains, nearly two years into the pandemic, there is no evidence of long term positive environmental impacts and some reports of worsening impacts. [XXVIII,XXIX] Similarly, there are mixed results on poverty rates in the US, with poverty rates climbing and then falling to historic lows due to important government policy interventions. [XXX]

As these policy decisions, like those impacting housing and evictions, hit legislative roadblocks and timeout, it remains to be seen what the longer-term results will be. COVID-19 also had devastating impacts on marginalized communities. For example, as of January 2021, nearly half a million incarcerated people had gotten COVID-19. [XXXI] Evidence from this report shows that states with higher SDG scores are more likely to have higher vaccination rates (see Figure 21) and states with lower index scores have a lower share of people fully vaccinated. For example, Mississippi, nearly last in the Index (score 30.8), has one of the lowest vaccination rates of 36% of the total population vaccinated. [XXXII] On the other hand, states like Massachusetts, Connecticut and Vermont have some of the highest vaccination rates (as of September, 2021) and highest SDG scores. See Box on Accounting for Vaccine Update for more details on these differences.

Figure 21: Relationship between vaccination rates and SDG score in US states

Source: SDSN analysis of CDC data, 2021

Note: data reflects full vaccination by state as of Sept 7, 2021

Explaining Differences in Vaccine Uptake Across the US States

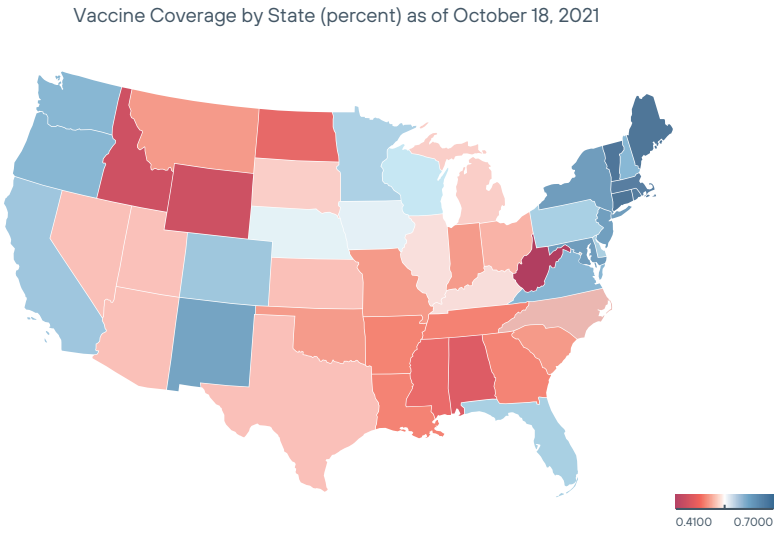
By Jeffrey Sachs, President, SDSN

US progress towards the Sustainable Development Goals depends on a shared national outlook on the importance of sustainable development and on the means to achieve it. Yet the United States is deeply divided by political ideology, culture, and educational attainments. These cultural divisions are so deep that they are routinely described as "culture wars." They have become an impediment to sustainable development, and even to basic public health.

The low uptake of COVID-19 vaccines in many parts of the US is a reflection of cultural attitudes. A significant part of the American public rejects the advice of public health experts and the scientific community to be vaccinated. As of October 18, 2021 (the time of writing), only 56% of Americans were fully vaccinated, compared with 73% in Canada, 68% in Japan, and 64% in the European Union. The lower rate of vaccination coverage in the United States depends not on the availability of doses, but on uptake. Uptake has been so depressed, in fact, that millions of doses have been discarded by US states.

At the state level, the share of the population that is fully vaccinated varies from a remarkable low of 41% in West Virginia to a high of 70% in four New England states: Connecticut, Maine, Rhode Island, and Vermont. Massachusetts ranks fifth, with 69%, and three more Atlantic states, Maryland, New Jersey, and New York, are the next highest, at 65% (Figure 22).

Figure 22: Vaccine coverage by state (%), as of Oct 18, 2021



Source: Author's calculations using CDC data, 2021

Nine states introduced bans on statewide mandates on facemasks. These states are Arizona, Florida, Georgia, Iowa, Montana, North Dakota, South Carolina, Tennessee, and Texas. Such statewide bans aim to stop businesses, local governments, and school districts from introducing mask mandates. All nine states have Republican Governors and state legislatures, and all rank relatively low in vaccine coverage; Florida is the highest among them, ranking 19th.

What accounts for this highly differentiated uptake, and the low uptake in many parts of the United States? The main factor is the public's readiness to be vaccinated, and to a lesser extent the ease of access to vaccination services, as determined by state and local government policies. Differences in the supplies of vaccine doses across the states cannot explain the low vaccine uptake in many states, since federal policies have allocated vaccine doses to states based on common and objective demographic criteria.

Cultural roots of state variation

An excellent starting point to understand America's deep cultural divides, and how they affect current vaccination rates, is the cultural history of the early United States, as described in David Hackett Fischer's pathbreaking study *Albion's Seed* (1979). In this remarkable book, Fischer argues that the original 17th century colonization of Indigenous territory by British settlers came in four distinct waves, bringing four distinct cultures. New England was settled mainly during 1629-1640 by Puritans arriving predominantly from East Anglia. The Chesapeake colonies, most importantly Virginia, were settled mainly during 1642-1675 by English nobility, coming especially from the southwest of England to colonize large tracts of land. The mid-Atlantic states, especially Pennsylvania, were settled by Quakers arriving during 1675-1725 from the English midlands. The Appalachian region, stretching from southwestern New York State to the Deep South (Georgia, Alabama, and Mississippi) was settled from 1718-1775 by Scotch-Irish immigrants from the border of England and Scotland, and from Scotch settlers arriving from Ulster, Ireland.

As demonstrated powerfully by Fischer, these four waves of settlement brought highly distinctive cultural values, local civic institutions, political ideologies, and perhaps most importantly for the vaccine issue, very different notions of freedom. In the terms introduced by Fischer, the Puritans believed in "ordered freedom," in which the towns and villages maintained public order and provided public services, most importantly basic education, to all. The gentry of Virginia believed in "hegemonic freedom," essentially the freedom of the upper class to subjugate the lower class. The Quakers believed in "reciprocal freedom," based on the Golden Rule, applied by Quakers to both Quakers and non-Quakers alike. And the Appalachian backwoodsmen believed in "natural freedom," manifested as an antipathy to governmental authority of any kind. Just as the peoples of the northern borderlands of England defended their freedom against government encroachment, so too the Appalachian populations rejected impositions by the federal and state governments regarding taxes, land claims, and other regulations.

Fischer argues persuasively that these four cultural traditions not only became embedded in their respective regions of settlement, but were also disseminated across the continental US in waves of Westward migration from the original eastern colonies. Over time, according to Fischer, the US Northeast kept its traditions of ordered liberty and reciprocal liberty. Appalachia, and then by extension, the US South and Southwest, adopted the ideology of natural liberty. Other colonized parts of the US took on the character of the groups that settled them, including migrations by the descendants of the original English settlers as well as later waves of non-English immigration.

The differential uptake of vaccines, and attitudes towards mandates on vaccination and facemasks, may reflect these deeply differentiated views of freedom. In the Northeast, widely practiced notions of ordered and reciprocal freedom mean that individuals accept vaccinations both to protect themselves and as a prosocial act to reduce the infection of others. In the Chesapeake states, such as Virginia, there is much less prosociality, and therefore less uptake of vaccines. In the Appalachian region, the South, and Southwest, the anti-government ideology of "natural liberty" leads to low uptake of vaccines.

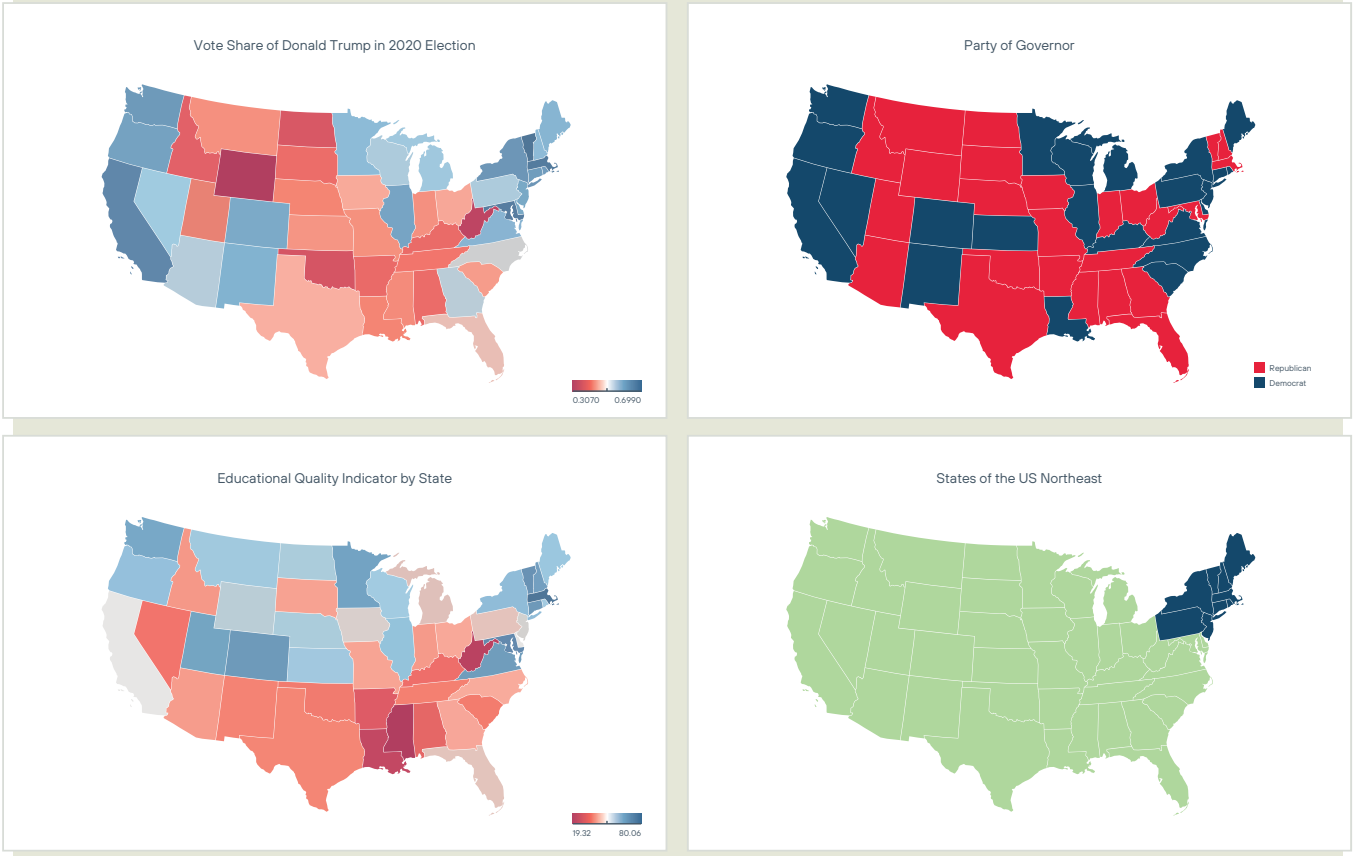
In the US today, political party affiliation is strongly correlated with these ideologies. The Republican Party, in the Trump era, exudes the philosophies of "hierarchical freedom" and especially "natural freedom," while

the Democratic Party generally embraces the notions of "ordered freedom" and "reciprocal freedom." In the Republican mindset of the Trump era, government mandates are illegitimate; the less the government regulation, the better. States with a high vote share for Trump in 2020, which are heavily concentrated in Appalachia, the South, and Southwest, as well as parts of the Midwest and mountain states, have much lower vaccine uptake and strong opposition to vaccine and face-mask mandates.

There is an additional effect of public education. Acceptance of vaccinations requires a belief in scientific norms and evidence, and a low susceptibility to fake news. States with strong educational systems should be expected to have a greater vaccine uptake. There is also a correlation between political ideology and educational quality. As Fischer describes, the ordered liberty of New England included a rigorous attention to public education, while the natural liberty of Appalachia included a de facto liberty from public education, and generally led to education of much lower quality relative to the Northeast.

To test these patterns, state-by-state vaccine coverage is examined as a function of four variables: (1) a dummy variable for Northeastern states (the five New England states, plus New York, New Jersey, and Pennsylvania); (2) each state's vote share for Trump in 2020; (3) a dummy variable for a Republican governor (=1 Republican, 0 Democrat); and (4) a measure of each state's education quality prepared by WalletHub. [XXXIII]

Figure 23: Maps of a) Votes for Trump 2020 (%); b) Party of Governor; c) Educational Quality; d) Northern states.



Source: Author's calculations, 2021

Figure 23 (a-d) show the US maps for these four potential explanatory variables. We see that the Northeast and Pacific coastal states rank lowest in Republican vote share, and generally rank among the highest in school-system quality. These states also have few Republican governors (Massachusetts, New Hampshire, and Vermont are the exceptions). The main regression results are in Table 3.

Table 3: Regression Results

Model R^2=0.8572

VARIABLE	NORTHEAST STATE	VOTED FOR TRUMP (%)	REPUBLICAN GOVERNOR	EDUCATION QUALITY
Coefficient	0.0665	-0.384	-0.0208	0.00121
Standard Error	0.0134	0.0702	0.0106	0.0005
P value	0.000	0.000	0.055	0.011

Source: Author's analysis, 2021

The four variables together explain 86% of the cross-state variation in vaccination rates (Table 3, Model R^2). States in the Northeast have a 6.6% higher vaccination rate than other states. A hypothetical state with 100% Republican voters would have a 38% lower vaccination rate than a state with 100% Democratic voters. States with a Republican governor have a 2.1% lower vaccination rate than states with a Democratic governor. And poorer educational quality accounts for 7.4 percentage points of the difference in vaccine coverage in Mississippi – the state with the lowest-ranked education system (score 19.3) – compared with Massachusetts, the state with the highest-ranked education system (score 80.1).

Further thoughts

A deeper analysis than I can offer here is needed to identify the cultural roots of the modern Republican embrace of "natural freedom" and "hegemonic freedom" over "ordered freedom" and "reciprocal freedom." Fischer's analysis seems enormously promising, as it traces current attitudes to core cultural continuities over many centuries. The religious traditions identified by Fischer also offer a piece of the puzzle; a high proportion of white evangelical protestants in a state is correlated with low state vaccination coverage (r = -0.61) and with a high Trump vote in 2020 (r = 0.69).

Whatever the cultural origins, the rejection of prosocial individual behavior and scientific advice in parts of the US – notably Appalachia, the South, and the Southwest – has hampered America's response to COVID-19, resulted in the illness and death of far too many, and harmed national progress on sustainable development. As shown elsewhere in this report, these same regions lag in delivering the Sustainable Development Goals more broadly (see Figures 11 and 12), and vaccination rates are correlated with SDG achievement at the state level (r=0.64). Sustainable development depends on a rejection of natural and hegemonic freedom. In short, sustainable development requires the public's commitment to the common good through government action and prosocial behaviors by individuals.

METHODS, GAPS, LIMITATIONS AND FURTHER RESEARCH

Methods

The SDGs are made up of 17 Goals that cover a wide range of topics, including ending poverty and hunger, protecting life on land and in water, creating decent jobs, building sustainable infrastructure, ending inequality, and promoting just institutions. They are measured by 169 targets and 232 unique indicators that are often repeated across Goals. This is because the Goals are meant to be achieved together and through each other.

To measure SDG achievement in the US, this report uses 103 indicators across 15 of the 17 Goals. Indicator values are transformed (normalized) into a 0-100 scale, where 100 represents achieving that particular indicator or Goal, and 0 represents no progress towards that Goal. Indicator scores are then averaged across each Goal to get a Goal score. Goal scores are averaged to get overall rankings. A full list of indicators can be found in the Annex.

To determine SDG progress, data was collected for each indicator going back as far as 2000, when available. For 92 of the 103 indicators, there is data for more than one year. SDG scores were calculated for each year for which there is data, starting in 2015 when the Goals began (or the closest year for which there is data) and continuing to 2020 (or the last year for which there is data). To measure growth rates, the linear average growth was calculated for the period closest to 2015-2020. These rates are then compared with the linear growth rate needed to reach a score of '100' by 2030, from the baseline values in 2015. For more detailed information, see the Full Methodology in the Annex.

How does this report compare to the 2018 edition?

This report includes additional information about how quickly and in what direction states are moving to achieve the SDGs. It sheds light on where states may be performing well right now, but getting worse, and where poor performance may mask improvement. In addition, this report includes 11 new indicators, many of which focus on measuring the 'Leave no one behind' agenda. 17 indicators were removed because recent data was not available, more precise measures were found, or alternative measures that included longitudinal data were substituted. The source, units, or definition of 13 indicators changed from those of previous report. More detailed information can be found in the Annex.

US Partnerships for the SDGs: SDG 17 at the Sub-National Level

by: Sonja Neve, Interim Network Coordinator, SDSN USA

SDG 17, Partnership for the Goals, seeks to "strengthen the means of implementation and revitalize the global partnership for sustainable development." [XXXIV] It describes the cross-sector and cross-country collaboration and coalition building necessary to achieve all of the other goals and depends on cooperation from both low- and high-income nations, as well as alignment at every level, from local to international.

Despite its status as an OECD country, the United States falls short on SDG 17, scoring less than 75 out of 100 points in the Sustainable Development Solutions Network's latest Sustainable Development Report. [XXXV] Even if the US was delivering on SDG 17, achievement of the SDGs by 2030 depends on more than just national leadership towards international cooperation. SDG 17 requires multi-stakeholder collaboration. Networks like SDSN USA provide an academic piece of the puzzle, connecting sustainable development experts across the United States to support acceleration of SDG progress. SDSN USA has been successful in forming these partnerships and linking these efforts with policymakers and community leaders through the following SDG Working Groups:

- A cross-disciplinary group of experts from universities, research institutions, advocacy organizations, and the private sector, the **Zero Hunger Pathways Project** is a collaboration that applies a systems approach to end hunger in the United States.
- The **Zero Carbon Consortium**, a coalition of eleven working groups, composed of nearly 100 experts nationwide, seeks to advise on, research, and organize climate action and the implementation of a zero carbon economy.
- SDSN USA's **Diversity, Equity, and Justice for Sustainable Development Working Group** seeks to fulfill the promise of the LNOB Agenda through incorporation of diverse perspectives, local and traditional knowledge, community driven best practices, and solutions based on science.
- **SDSN Youth USA** hopes to "empower, educate, and collaborate with youth in the USA to create sustainable development solutions." [XXXVI]

SDSN USA members have formed successful University-Community partnerships, private and public sector alliances, and regional sustainability compacts to help advance the Goals. Other initiatives like the SDGs Cities Challenge help form partnerships between cities across the globe to promote peer learning and data-sharing in alignment with the 2030 Agenda.

While the US and other wealthy OECD countries continue to fall short of their promise to provide international leadership on SDG 17, grassroots initiatives—including networks connecting research institutions and knowledge centers, like SDSN USA—are rising to the challenge by working to build bottom-up partnerships and leading a coalition dedicated to sub-national, national, and global sustainable development.

GAPS AND LIMITATIONS AND FURTHER RESEARCH

This report aims to give context and a starting point for understanding SDG delivery in the US. It is not a comprehensive national report and many of the local nuances cannot be captured here. Further, it is limited by the data availability at the state level, and across time. Both more widely covered and up to date data will be essential to SDG delivery. These areas are covered in more detail below.

Geography

This report focuses specifically on state-level action towards SDG achievement. This is essential because states have significant jurisdiction over many areas that are central to the SDGs. However, this means that topics that are most relevant to national-level jurisdiction — international aid, international cooperation, governance of some ocean territories, treaties etc. — are not included here, though they are essential to the SDGs as a whole. Additionally, very local data has a level of detail that state data, which summarizes experiences across many counties and towns, cannot provide. Other SDSN reports, such as the *2021 Sustainable Development Report* and the *2019 US Cities Sustainable Development Report*, provide other pieces of the picture that cannot be captured here. What this report can add is a level of detail beyond national reporting and a sense of context for more local measurement. This context can allow states to understand how their progress and challenges compare across regions, share successes and best practices, and learn from each other and communities around the world on how to improve SDG delivery.

Data Availability

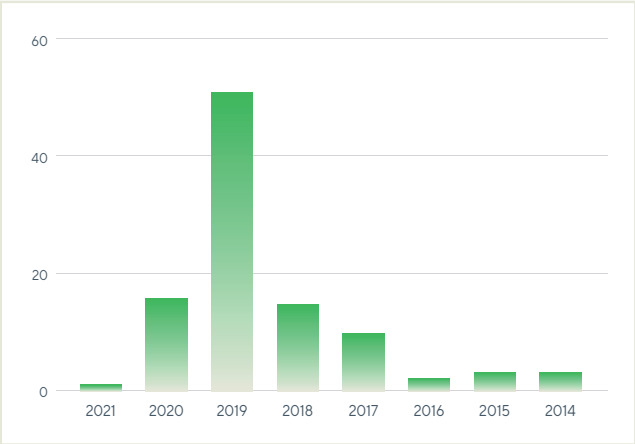
Some topic areas were not included because state-level data is not available. Topics include essential SDG goals such as lead in water, access to family planning, measures of biodiversity, and measures of inclusion across spectrums of gender and sexual orientation (see Table 5 for a more detailed list). There are also significant lags in data reporting on the SDGs. 20% of the data used in this report comes from 2017 or earlier, already four years out of date (Figure 24). Other indicators, like sexual violence, were not included at all because they have not been updated recently enough. In some cases national agencies, like the CDC and the DOJ, have not released data, while in other cases, it is because academic or advocacy groups, who have attempted to bridge the gap to account for lack of coverage of essential issues, do not have the resources to continually update the data. Part of achieving the SDGs requires building the infrastructure to monitor their progress, and there is much work to be done in this area. Table 5 below summarizes some of the many areas this report does not cover.

Table 4: Indicators without longitudinal data

2	Low grocery access (%)
2	Rural infrastructure (worst 0-100 best)
3	Maternal mortality rate (per 100,000 live births)
4	Racial disparity in school suspensions and expulsions
5	Contraceptive desert (% of persons in need located in a desert)
9	Factory burden (racial disparity in toxic air burden from nearby facilities)
12	Recycling performance (0-100%)
13	Effective carbon rate (USD/tCO_2)
15	Non-carbon ecological footprint (% of biocapacity)
16	Jail admission rate (per 100,000 people)
16	Incarceration rate (per 100,000 people)

Source: SDSN analysis

Figure 24: Most recent year of data



Source: SDSN analysis

Future Research

While the SDGs cover many aspects of life on the planet, this report covers just a fraction of the potential topic areas. For many areas, SDGs guidance requires breaking down progress by age, race, religion, disability, poverty, gender, and others. Indices by nature are reductive, meant to summarize complex information to make it digestible, and that often comes with loss of detail. National monitoring of the SDGs can and should supplement this. The official US government SDG reporting website, launched in 2015, holds an opportunity to do just that.[XXXVII] The website is currently out of date and incomplete, but reviving this resource would provide crucial information to communities across the US on SDG progress. Similarly, local monitoring efforts provide key information that has the advantage of being more timely and geographically precise. Community efforts have demonstrated that SDG delivery can vary on a block-by-block basis.

Goal 14 and Ocean Sustainability

by: Patricia L. Yager
Professor of Marine Science at the University of Georgia

Healthy oceans are key to the health of humankind. SDG 14 aims to promote the conservation and sustainable use the oceans, seas, and marine resources. Along the US coastlines, the biggest challenges to a healthy ocean include human-driven climate change, which includes both warming and ocean acidification; excess nutrient pollution (eutrophication) or pollution from oil, plastics, and other toxins; and food web disruption and biodiversity losses from overfishing. These challenges are large and require serious investments to address. The Ocean Decade (2021–2030) will help focus US effort on these priorities:

Ending human-driven climate change. Over 90% of the excess heat on earth and 25% of the excess carbon dioxide emitted due to human activities have been absorbed by the ocean.[XXXVIII] This ecosystem service has kept surface air temperatures lower than they would have been otherwise, but the ocean health suffers as a result. These warmer waters also experience lower oxygen and enhanced acidification, causing some marine species to shift their habitat range, impacting local food webs and fisheries. The good news is that US greenhouse gas emissions per capita have dropped by 25% since 2000, and emissions per $GDP have dropped even more, suggesting the US economy is not paying a price for this reduction.[XXXIX] Continued reductions are needed, however, to slow or stop the temperature rise before the planet reaches certain tipping points associated with 1.5–2°C warming. Further, reducing greenhouse gases requires global solutions and US leadership will be critical to those efforts.

Ending ocean pollution, including oil spills. Pollution by nutrient runoff or toxins like oil and plastic have a direct and immediate impact on coastal ecosystems and the services they provide. Harmful algal blooms (HABS) have caused over $1 billion per year in losses to our coastal economies in recent decades.[XL] Oil spills continue to plague our coastlines. Food wrappers, plastic bottles, cigarette butts, and other plastic marine debris continue to accumulate in our coastal oceans and harm marine life. The fish we consume now contain microplastics at unprecedented levels. [XLI] Although the US contributes just a small fraction to the global plastics problem, our high per-capita waste generation combined with a large number of coastal residents create serious problems in some coastal areas.[XLII] Following ten years of investment since the Deepwater Horizon oil spill, oceanographers are better at monitoring oil spills, modeling the behavior of oil once it is released, and understanding of the impacts on marine life.[XLIII] Efforts to clean up plastics from the marine environment help, but prevention is the best approach.

Protect food webs and fisheries. Finally, the world's appetite for seafood continues to rise and the US is no exception.[XLIV] Yet, a large (~30%) and growing fraction of marine fish stocks are considered unsustainable. US fisheries support only 16% of our total fish trade imports from around the world (48% from Asia, 22% from South America) are key to American diets. Thus, while we may manage our fisheries at home with better monitoring and sustainable practices, the US will also need to encourage sustainable practices abroad to meet consumer demand while maintaining a healthy global ocean. Education about responsible fish consumption from sources such as Seafood Watch (MBARI), ecosystem-level management, reduced waste, and sustainable aquaculture growth will all be keys to the effort.

Table 5: Indicator gaps by Goal

Goal	Indicator
1	Deep poverty Living wage Disability poverty gap Mobilization of poverty reduction resources for developing countries
2	Sustainable/resilient agricultural practices Indigenous land stewardship Small-scale food producers Biodiversity/Seed diversity Agricultural export subsidies Food commodity markets
3	Prenatal care Family planning needs met Universal health care tracer index Mental health care Air pollution/environmental health
4	Adult literacy Psychosocial wellbeing for youth Gender disparities in education Education for sustainable development Safe and inclusive learning environments
5	Domestic workers/temporary workers Trafficking Migrant workers Family planning needs met Full access to reproductive healthcare information
6	Water affordability Untreated wastewater Water pollution Transboundary water cooperation Water-related ecosystems Water and sanitation support for developing countries Community participation in water management
7	Energy access Research/investment in energy technology
8	Sustainable tourism Migration workers Forced labor and human trafficking Decoupling economic growth from environmental degradation
9	Sustainable/clean infrastructure Access of small businesses to affordable credit
10	Migration policies Discrimination and harassment Disaggregated data on community, political, and financial leadership Religious discrimination
11	Affordable/accessible transportation Cultural and natural heritage Safe inclusive spaces Disability access Rural/urban connectors
12	Corporate sustainability Sustainable public procurement Sustainable tourism Support for developing countries sustainable consumption and production Fossil fuel subsidies
13	Climate finance Climate change education
14	Oceans
15	Genetic resources Wildlife poaching/trafficking Freshwater ecosystems Mountain ecosystems Desertification/degraded land Conservation funding Conservation support to developing countries Ecosystems for poverty reduction
16	Violence against children Illicit financial and arms flows
17	Partnerships for the Goals

CONCLUSION

These results provide a sobering reminder that even before the crisis of COVID-19, no US state was on track to deliver the SDGs by 2030, and in many Goals and indicators states are actually getting worse. The SDGs provide a template to 'build forward better' in the face of environmental devastation, the ongoing climate crisis, and the COVID-19 pandemic. Bold, decisive actions towards a sustainable future are urgently required. The good news is that no community is alone. Communities from 193 countries are working on addressing these same challenges and have already developed valuable solutions.

Universities have an important role to play in achieving the SDGs. Not only have they been involved with local SDG monitoring efforts in LA, San Diego, and other cities, universities also have extensive technical knowledge that they can contribute both to their local, state, and national communities. At SDSN USA, working groups made up of universities and research institutions have been collaborating on pathways for zero carbon energy systems, pathways to zero hunger and improved nutrition outcomes, and efforts to improve diversity, equity, and justice in the US. Universities are often large employers and have significant footprints in the communities in which they are stationed, making them key players in advocating for, convening around, and supporting the technical work for achieving the SDGs locally and globally.

One tool identified to help countries track their progress on the SDGs is the Voluntary National Review (VNR). The US is one of only 29 countries that have not yet presented a VNR. Cities like New York, and universities like Carnegie Mellon, have introduced Voluntary Local Reviews (VLRs) and Voluntary University Reviews (VURs) at the UN, innovating ways to supplement national reporting. Joining the global community and conducting a VNR is one way the US can share successes and learn from other states who have been engaging with this agenda for the past five years. Many communities in the US and around the world have brought the SDGs to their local leadership and forged valuable partnerships and relationships that support their visions for the future. Civil society has begun to organize around these goals. The UN Foundation and Brookings Institute have created a center on American progress on the SDGs. Communities in the US, including in Hawai'i, Orlando, LA, New York, San Diego, Pittsburgh, and many others, have started this work and provide valuable examples of what US SDG progress can look like. Bold, courageous, imaginative, and transformative changes are needed. It is not too late, but there is much work left to do.

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ANNEX 1

LIST OF INCLUDED INDICATORS

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
1	Largest Racial Disparity in Childhood Poverty	Largest disparity in children living below twice the poverty line, compared with white children (%)	KidsCount	2019	yes	✓
1	Affordable Housing	Affordable housing (per 100 extremely low income renter households)	National Low Income Housing Coalition	2019	yes	✓
1	Adults Not Seeing a Doctor Due to Cost	Could not see doctor due to cost (% of adult population)	Kaiser Family Foundation	2019	yes	
1	Living Below the Poverty Line	Living below national poverty line (%)	American Community Survey, U.S. Census Bureau	2019	yes	
1	Working Poor	Working poor (% of population 16-64)	American Community Survey, U.S. Census Bureau, table s1703	2019	yes	
1	Families Recieving TANF	Families receiving TANF (Temporary Assistance for Needy Families) (per 100 families in poverty)	Center on Budget and Policy Priorities	2019	yes	
1	Family Leave	Family leave policy (0=not required, 1=required)	National Conference of State Legislatures	2020	yes	
1	Sick Leave	Sick leave policy (0=not required, 1=required)	National Conference of State Legislatures	2020	yes	
2	Rural Infrastructure	Rural infrastructure index (0=worst, 100=best)	TRIP, FHWA, and Federal Communications Commission	2018	no	✓
2	Living in Food Desert	People living in food desert (%)	Food Environment Atlas, US Department of Agriculture	2015	no	✓
2	Elderly Food Insecurity	Elderly food insecurity (%)	The State of Senior Hunger in America, Feeding America	2019	yes	✓
2	Obesity	Prevalence of obesity (% adult population)	Behavioral Risk Factor Surveillance System, Centers for Disease Control and Prevention	2019	yes	
2	Food Insecurity	Food insecurity (% of households)	Economic Research Service, US Department of Agriculture	2018	yes	
2	WIC (Women, Infants, and Children) Coverage	WIC (Women, Infants, and Children) coverage rate (% of eligible families)	Food and Nutrition Service, US Department of Agriculture	2018	yes	
2	Pesticide Exposure	Pesticide exposure (per 100,000 people)	National Environmental Public Health Tracking Network, Centers for Disease Control	2017	yes	
3	Uninsured	People without health insurance (% of population)	American Community Survey, U.S. Census Bureau	2019	yes	
3	Subjective Wellbeing	Subjective wellbeing index (scale 0-100)	ShareCare	2018	yes	

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
3	HIV Prevelance	HIV (Human Immunodeficiency Virus) prevalence (per 100,000)	HIV Surveillance Report, Centers for Disease Control and Prevention	2018	yes	
3	Deaths Due to Overdose	Age-adjusted deaths due to drug overdose (per 100,000 people)	CDC	2018	yes	
3	Suicide Rate	Suicide rate (per 100,000 people)	Centers for Disease Control and Prevention	2019	yes	
3	Non-comunicable Diseases	Non-communicable diseases (per 100,000 people aged 35-74)	Centers for Disease Control and Prevention	2019	yes	
3	Deaths Due to Road Collisions	Deaths due to road collisions (per 100,000 people)	Centers for Disease Control and Prevention	2019	yes	
3	Life Expectancy	Life expectancy at birth (years)	IHME	2019	yes	
3	Primary Health Care	Primary health care practitioners (% of need met)	Kaiser Family Foundation	2020	yes	
4	Racial Disparity in School Suspensions and Expulsions	How many times more children from the least served racial group are suspended or expelled from school, when compared to white people (times higher)	NCES	2014	no	✓
4	Reading Achievement	Basic reading achievement (% of grade 8 students)	National Assessment of Educational Progress	2019	yes	
4	Bachelor's Degree	Higher education (% aged 25-34, bachelors or higher)	IPUMS ACS	2019	yes	
4	Early Education	Children ages 3-4 enrolled in early education (% of population)	American Community Survey, U.S. Census Bureau	2019	yes	
4	Career and Technical Training	Career and technical education (% of graduates placed)	Carl D. Perkins Career and Technical Education Act, U.S. Department of Education	2018	yes	
4	College Debt	Students with debt (% of college graduates)	The Institute for College Access and Success	2019	yes	
4	4-year High School Graduation Rate	High school graduation rate (% of public graduates)	U.S. Department of Education	2018	yes	
5	Gender and Race Wage Gap	Gender and race wage gap (Total, % white men median wage)	American Community Survey, U.S. Census Bureau	2019	yes	✓
5	LGBTQ Hate Crimes	Lesbian, Gay, Bisexual, and Transgender (LGBT) inclusion in hate crime laws (1=worst, 4=best)	Movement Advancement Project	2020	yes	✓

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
5	Women in Government	Women in government (% in state legislature)	National Conference of State Legislatures	2018	yes	✓
5	Contraceptive Desert	Areas with insufficient contraceptive clinics (fewer than 1 clinic per 1,000 persons in need)	Bedsider.org, Power to Decide	2014	no	
5	Women in Labor Force	Female labor force (% of total labor force participation)	IPUMS ACS sample	2019	yes	
6	People Drinking Unsafe Water	Safe drinking water violations (% of people drinking water with violations)	Threats on Tap, Natural Resources Defense Council	2020	yes	
6	Dams with Emergency Plans	Dams with Emergency Action Plans (% of high hazard potential dams)	Association of State Dam Safety Offices (ASDSO) State Survey Data	2019	yes	
6	Water Pollution	Toxic chemicals released into water from production-related waste (pounds per square mile)	Toxic Release Inventory National Analysis, Environmental Protection Agency	2019	yes	
6	Incomplete Plumbing	Incomplete plumbing (% of occupied housing units)	American Community Survey, U.S. Census Bureau	2019	yes	
7	Energy Burden	Percent of income spent on household energy by those at less than 50% of the poverty level (%)	Fisher Sheehan & Colton, Home Energy Affordability Gap	2020	yes	✓
7	CO_2 Intensity of Electricity	CO_2 (Carbon dioxide) intensity of electricity ($mtCO_2$/TWh)	U.S. Energy Information Administration	2019	yes	
7	Renewable Energy Consumption	Renewable energy consumption (%)	America's Goals for 2030; U.S. Energy Information Administration	2018	yes	
7	Renewable Energy Production	Renewable energy production (%)	U.S. Energy Information Administration	2018	yes	
7	Energy Efficiency	Energy efficiency (thousand British Thermal Unit (BTU)/dollar of GDP (Gross Domestic Product))	U.S. Energy Information Administration	2018	yes	
8	Disability Employment Disparity	Dispairty in employment between abled and disabled people (people aged 16-64) (times higher)		2019	yes	✓
8	Youth Not in Employment, Education or Training	Youth not in employment, education or training (NEET) (%)	KIDS COUNT, The Annie E. Casey Foundation	2019	yes	✓
8	Employment Discrimination	Employment discrimination charges (per 100,000 people)	EEOC	2020	yes	
8	Annual Growth Rate for Real GDP	Annual growth rate for Real Gross Domestic Product (GDP)	Bureau of Economic Analysis, U.S. Department of Commerce	2019	yes	

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
8	Employment to Population Ratio	Employment to population ratio (% of population aged 20-64)	American Community Survey, U.S. Census Bureau	2019	yes	
8	Fatal Occupational Injuries	Fatal occupational injuries (per 100,000 workers)	America's Health Rankings, United Health Foundation	2020	yes	
8	Unemployment Rate	Unemployment rate (% of population 25-64)	American Community Survey, U.S. Census Bureau	2019	yes	
8	Unbanked Rate	Households that are unbanked rate (%)	Federal Deposit Insurance Corporation (FDIC)	2019	yes	
9	Racial Disparity in Broadband Access	Largest disparity in percent of households without broadband internet subscription, people of color compared to white (times higher)	IPUMS	2019	yes	✓
9	Poor Roads	Roads in poor condition (%)	American Society of Civil Engineers	2019	yes	
9	Broadband Access	Households without broadband access (%)	American Community Survey, U.S. Census Bureau	2019	yes	
9	STEM Employment	Stem (science, technology, engineering, and mathematics) employment (% of employed population)	Bureau of Labor Statistics, U.S. Department of Labor	2019	yes	
9	Deficient Bridges	State bridges in poor condition (%)	Federal Highway Administration, U.S. Department of Transportation	2019	yes	
9	Patents	Patents (per 1,000 individuals in science and engineering occupations)	National Science Board, National Science Foundation	2018	yes	
9	Scientific Journal Articles	Scientific journal articles (per 1,000 doctorate holders)	National Science Board, National Science Foundation	2017	yes	
9	Research and Development Expenditure	Research and development expenditure (% of GDP (Gross Domestic Product))	National Science Board, National Science Foundation	2017	yes	
9	Internet Use	Internet use (%)	National Telecommunications and Information Administration, U.S. Department of Commerce	2019	yes	
10	Neighborhood Poverty	People living in high-poverty neighborhoods (%)	NEA	2017	yes	✓
10	Pollution Burden	Pollution burden (% difference for people of color)	National Equity Atlas, Policy Link	2017	yes	✓
10	Racial Disparity in Rent Burden	Largest disparity in percent of renters paying 30% or more of income to rent, compare with white, HUD 2008-2017 (times higher)	HUD	2017	yes	✓

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
10	Disability Support	Case for inclusion index (0=worst, 100=best)	The Case for Inclusion, United Cerebral Palsy	2019	yes	✓
10	Hate Group Concentration	Number of hate groups (per 100,000 people)	SPLC	2020	yes	
10	Gini Coefficient	Gini coefficient (0=worst, 1=best)	American Community Survey, U.S. Census Bureau	2019	yes	
11	Racial Disparity in Homelessness	Racial disparity in homelessness (times higher)	AHAR HUD	2020	yes	✓
11	Eviction Rate	Eviction rate (per 100 households)	Eviction Lab	2016	yes	
11	Air Pollution	Exposure to air pollution ($PM_{2.5}$) (micrograms per cubic meter)	America's Health Rankings, United Health Foundation	2019	yes	
11	Sustainable Commuting	Sustainable transportation (% of commuters)	American Community Survey, U.S. Census Bureau	2019	yes	
11	Overcrowded Housing	Overcrowded housing (% of occupied housing units)	American Community Survey, U.S. Census Bureau	2019	yes	
11	Rent Burden	Rent burdened population (%)	American Community Survey, U.S. Census Bureau	2019	yes	
12	Factory Burden	Racial disparity in toxic air burden from nearby facilities (times higher)	American Journal of Public Health Analysis of National Emissions Data	2014	no	✓
12	Recycling Performance	Recycling rate (0-100%)	eunomia	2018	no	
12	Chemical Pollution	Chemical pollution (lbs/mi^2)	Toxic Release Inventory National Analysis, Environmental Protection Agency	2019	yes	
12	VOC Emissions	VOC (Volatile Organic Compounds) emissions (kg/capita)	National Emissions Inventory, Environmental Protection Agency	2019	yes	
12	Lead Emissions	Lead emissions (kg/capita)	National Emissions Inventory, Environmental Protection Agency	2017	yes	
12	NOx Emissions	Nitrogen Oxide (NOx) emissions (kg/capita)	National Emissions Inventory, Environmental Protection Agency	2019	yes	
12	SO_2 Emissions	SO_2 (Sulfur Dioxide) emissions (kg/capita)	National Emissions Inventory, Environmental Protection Agency	2019	yes	

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
12	Ozone Levels	Ozone levels (8-Hr)	Air Quality Statistics Report, Environmental Protection Agency	2019	yes	
13	FEMA Mitigation Coverage	FEMA (Federal Emergency Management Agency) mitigation coverage (%)	Mitigation Framework Leadership Group	2019	yes	
13	Resilient Building Codes	Resilient building codes (% of jurisdictions subject to hazards)	Mitigation Framework Leadership Group	2020	yes	
13	GHG Emissions	Energy-related CO_2 (Carbon Dioxide) emissions (tCO_2/capita)	U.S. Energy Information Administration	2017	yes	
13	Weather Costs	Weather costs (% of GDP (Gross Domestic Product)	National Weather Service, National Oceanic and Atmospheric Administration	2019	yes	
13	Weather Injuries and Fatalities	Weather injuries and fatalities (per 100,000 people)	National Weather Service, National Oceanic and Atmospheric Administration	2019	yes	
13	Effective Carbon Rate	Effective carbon rate (USD/tCO_2)	Regional Greenhouse Gas Initiative (RGGI); California Air Resources Board	2018	no	
13	Climate Alliance Membership	Climate alliance membership (0=no, 1=yes)	United States Climate Alliance	2021	yes	
15	Biodiversity	Species Protection Index (scale 0-100)	Map of Life, Yale University	2021	no	
15	Change in Forest Area	Change in forest area (%, 5 year change)	Forest Inventory and Analysis Program, U.S. Forest Service	2017	yes	
15	Water Pollution	Toxic chemicals released into land from production-related waste (pounds per square mile)	Toxic Release Inventory National Analysis, Environmental Protection Agency	2019	yes	
15	Toxic chemicals in air	Toxic chemicals released into air from production-related waste (pounds per square mile)	Toxic Release Inventory National Analysis, Environmental Protection Agency	2019	yes	
15	Non-carbon Ecological Footprint	Non-carbon ecological footprint (% of biocapacity)	Global Footprint Network; Earth Economics	2015	no	
15	Invasive Management Plan	Invasive management plan (0=worst, 1=best)	The Aquatic Nuisance Species (ANS) Task Force	2020	yes	
16	Police Violence	Racial disparity in police-involved fatalities (times higher)	Mapping Police Violence	2020	yes	✓
16	Youth Incarceration	Racial disparity in youth incarceration (times higher)	Burns Institute	2017	yes	✓

SDG	Display Name	Short Description	Source	Lat. Year	Trend	LNOB
16	Incarceration Rate	Incarceration rate (per 100,000 people)	PPI	2016	no	
16	State Integrity Index	State Integrity Index (scale 0-100)	SWAMP	2020	yes	
16	Justice Index	Justice Index (scale 0-100)	The Justice Index, National Center for Access to Justice at Fordham Law School	2020	yes	
16	Voter Turnout	Voter turnout (% of voting age citizens)	U.S. Census	2020	yes	
16	Murder Rate	Homicides (per 100,000 people)	Uniform Crime Reporting, Federal Bureau of Investigation	2019	yes	
16	Jail Admission Rate	Jail admission rate (per 100,000 people)	Vera Institute of Justice	2015	no	

ANNEX 2

INDICATOR CHANGES

2018 INDICATORS NOT INCLUDED IN 2021 STATE INDEX

Indicator	Definition	Rationale for Exclusion
Child Vaccine Coverage	Percent of children aged 19-35 months who have been administered the combined 3-vaccine series.	Redundancy
Adolescent Pregnancy Rate	Fertility rate of women aged 15-19.	Redundancy
Infant Mortality Rate	Infant deaths per 1,000 live births, 8-year average.	Redundancy
Incidence of Tuberculosis	Tuberculosis incidence per 100,000 people.	Redundancy
Smoking Rate	Percent of adults who are current smokers.	Redundancy
Sexual Violence	Percent of women who have experienced contact sexual violence in their lifetime (prevalence).	Out of date
Women Owned Businesses	Percent of individual-owned businesses that are owned solely by women	Out of date
Water Stress	Water stress index (Normalized Deficit Index)	Out of date
Safe Drinking Water Violations	Percent of people served by a community water system with at least one EPA Safe Drinking Water Act (SDWA) violation	Out of date
Banking Access	Banking institutions per 10,000 people.	Redundancy
Racism Index	Structural racism index on a scale of 0(worst) -100(best)	Redundancy
Park Access	Percent of population living within half a mile of a park.	Out of date
Recycling Index	Recycling index measuring if states have: a disposal ban, a mandatory recycling law, an electronic waste law, and food waste law.	Redundancy
Global Warming Awareness	Percent of adults who think global warming is happening.	Question no longer asked on survey
Climate Action Plan	Indicates whether a state has a climate action plan	Replaced
Protected Area	Percent of state area protected under GAP Status Code 1 and 2, indicatoring the degree to which land is managed for conservation.	Replaced
Lawsuit Climate Survey	Index measuring how fair and reasonable U.S. businesses perceive states' liability systems to be. Measured on a scale of 0 (worst) - 100 (best).	Replaced

NEW INDICATORS

Indicator	Description
Water Pollution	Toxic chemicals released into water from production-related waste, pounds per square mile.
Disability Employment Disparity	Number of times more likely that any person is employed than that a disabled person is employed, using employment-to-population ratio for people aged 16-64
Racial Disparity in Broadband Access	Largest disparity in percent of households without broadband internet subscription, POC compared to white
Biodiversity	Species Protection Index (scale 0-100) which measures a state's success in adequately representing species in its protected area network.
Racial Disparity in Rent Burden	Largest disparity in percent of renters paying 30% or more of income to rent, compare with white, HUD 2008-2017
Neighborhood Poverty	Percent of People of Color living in high poverty neighborhoods
Racial Disparity in Homelessness	Number of times higher that least served race is homeless, when compared with white people
Eviction Rate	The number of evictions per 100 renter homes
Factory Burden	Racial disparity in toxic air burden from nearby facilities
Recycling Performance	Recycling rate
Ozone Levels	The 4th highest daily maximum 8-hour average Ozone level in the year (ppm)
Police Violence	Racial disparity in police involved fatalities
Youth Justice	Racial disparity in youth incarceration

CHANGED INDICATORS FROM 2018

Indicator	Definition	Changes
Suicide Rate	Suicide rate (per 100,000 people)	Source changed to CDC 5-year estimates
Bachelor's Degree	Percent of population aged 25-34 with bachelor's degree or higher	Source changed to IPUMS
Dam Safety	Percent of high hazard potential dams with emergency action plans	Updated years, changed source to ASDSO, included only state regulated dams
Employment Discrimination	Employment discrimination (per 100,000 people)	Changed source to EEOC
Annual Growth Rate for Real GDP	Annual growth rate for real GDP	Changed definition from five year average of growth rate to annual growth rate
Deficient Bridges	Percent of state bridges in "poor" condition	Changed definition from percent of structurally deficient bridges to percent of bridges in poor condition
Wage gap	Gender and race wage gap (Total, % white men median wage)	Changed definition to include race
Pollution burden	Pollution Burden (perecentage point difference for people of color)	Changed definition to include difference in risk of exposure to air pollution for white people and people of color
HIV rate	HIV prevalence (per 100,000)	Changed from incidence to prevalence
State Integrity Index	Score based on the laws and regulations governing ethics and transparency in the executive and legislative branches	Changed source to SWAMP, changed definition

INDICATORS NOT UPDATED FROM 2018 REPORT

Indicator	Description	Most Recent Year of Data
Women in Government	Percent of women in state legislature	2018
Co_2 Price	Effective carbon rate (USD/tCO_2)	2018
Jail Admissions Rate	Jail admissions (per 100,000 people)	2015
Incarceration Rate	Jail and prison incarceration rate (per 100,000 people)	2016
Forest Change	Five year change in forest area (%)	2017
Non Carbon Footprint	Non-carbon ecological footprint (% of biocapacity)	2015
Contraceptive Desert	Contraceptive deserts (% of persons in need located in a desert)	2014

ANNEX 3

METHODOLOGY

FULL METHODOLOGY

The Sustainable Development Report of the United States measures progress towards the internationally agreed Sustainable Development Goals. Using publicly available, recent data from reputable sources, this index presents an aggregate snapshot of development progress in US states.

The methodology below builds on the methodology built by SDSN and Bertelsmann Stiftung for the SDG Index and Dashboards Report. It has adapted those efforts and those from the version presented in the 2018 Sustainable Development Report of the United States. This section includes: 1) information on indicator and data selection, 2) rescaling and normalizing the data, 3) aggregating composite index and adding colors and, 4) tracking trends over time.

INDICATOR SELECTION CRITERIA

To determine quality, technically-sound, indicators for selection we used the following criteria:

1. **SDG and US state relevance:** Data is matched to the SDG targets, then matched to suggested indicators as closely as possible. From this list, indicators are selected that are most relevant to state contexts, for example: the index excludes international cooperation indicators. Finally, when possible, indicators should be relevant to a policy context and/or support communities and leaders in policy-making decisions. Alignment of each indicator to the SDG target or indicator is noted on the sources pages.

2. **Statistical quality:** Data must be from a reputable source that produces data in a replicable and reliable way. Preference is given to datasets that are updated routinely, so progress can be tracked to 2030, and to datasets that have disaggregated data available, to track progress for all groups.

3. **Timeliness:** Data must be published recently, with preference given to data covering years 2017 or later.

In 7 instances, data from earlier years was used because it was the most reliable source to cover an essential issue (see the source annex for more information on specific data sources and years covered).

4. **Coverage:** Datasets must provide data for at least 80% of states.

While all variables have more than 80% coverage, there are four variables that have missing values in their latest year available: Racial disparity in child poverty, Eviction rates, Non-carbon footprint, and Dam safety.

5. **Comparability:** Data was chosen that has a reasonable or scientifically determined threshold.

There are several indicators that the UN has recommended for monitoring purposes that aren't well

suited for comparison in an index because there is no consensus on 'best' level of achievement, and indeed 'best' levels may vary by location. This is the case, for example, with passenger and freight volumes (Indicator 9.1.2) or percent of employment in the manufacturing sector (Indicator 9.2.2) from Goal 9, neither of which have an optimal level of achievement at the state level.

6. **Repeated indicators:** Data should not repeat across Goals.

Within the SDGs official indicators, there are indicators that are repeated across multiple Goals. This promotes the idea that the SDGs are interconnected and interdisciplinary. However, in order to prevent double counting of indicators within the index calculations, indicators were not repeated across Goals. In cases where an indicator could reasonably fit within multiple SDGs, it was placed within the Goal with the target that was determined to most closely/directly match the language/intent of the indicator.

7. **Outcome indicators:** Whenever possible, data should measure outcomes.

In cases where outcome data was unavailable, process or output indicators were used to track policies or actions that have research-supported impact on outcomes.

Goals 14 and 17 are not included in this index due to issues of data availability, jurisdiction, and lack of state-level comparability.

Rescaling and normalizing the data

To rescale and normalize the data, the index followed the methodology developed by SDSN and Bertelsmann Stiftung, which is detailed below. Indicators were rescaled so they could be compared with one another. The choice of upper and lower bounds with which to rescale the data is a sensitive one and can introduce unintended effects into datasets if extreme values and outliers are not taken into account. (Note: in this section the term "upper bound" is used to refer to the target value, even if the indicator data is descending and the most progress is represented by a smaller number.) Lower bounds are particularly sensitive to outliers as they can impact the rankings of the data.[21] Detailed information about each indicator, it's bounds, and the rationale for those bounds can be found in Annex 3. To account for these considerations, this index used the following methodology for determining upper and lower bounds:

The upper bound for each indicator was determined using a five-step decision tree developed by SDSN and Bertelsmann Stiftung:[22]

1. **Use the absolute quantitative thresholds outlined in the SDGs and targets:** e.g. zero poverty, universal school completion, universal access to water and sanitation, full gender equality. Some SDG targets also propose relative changes (e.g. halve poverty).

2. **Where no explicit SDG target is available, set upper bound to universal access or zero deprivation for the following types of indicators:**

   a. Measures of poverty (e.g. working poor), consistent with the SDG ambition to "end poverty in all its forms everywhere" (Goal 1).
   b. Public service coverage (e.g. preschool access).
   c. Access to basic infrastructure (e.g. broadband access, road conditions, etc.).
   d. Leave no one behind (e.g. workplace discrimination), consistent with the SDG ambition to eliminate disparate treatment for all vulnerable groups including those identified by race, indigenous status, religion, gender, sexual orientation, disability, poverty, location, and age.

3. **Where science-based targets exist that must be achieved by 2030 or later, use these to set 100% upper bound:** target value of 1.7 tons of CO_2/capita by 2050 as outlined in the Deep Decarbonization Pathways report for the United States (e.g. Goal 13: Energy-related CO_2 emissions).

4. **Where even the best performing states lag significantly behind the international community, and the indicator matches one used in international contexts, use the average of the top 5 OECD performers or the top 5 Global Index performers.**

5. **For all other indicators use the average of the top 5 performers.**

The lower bound for each indicator was determined using a two-step decision tree:

1. Use science-based thresholds for lowest acceptable or safe performance.

2. Use the 2.5 percentile score of the available data to account for outliers.

For both the upper and lower bounds:

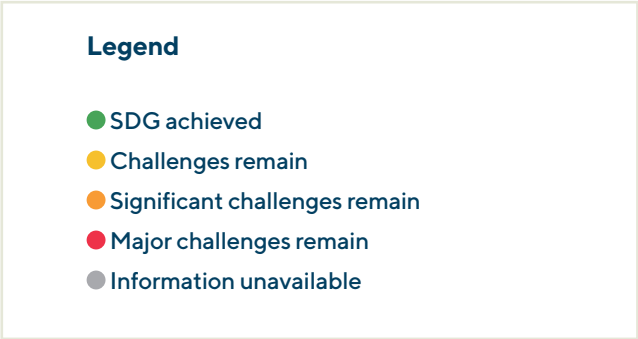
Each indicator distribution was censored, so that all values exceeding the target value scored 100, and values below the lower bound scored 0. In cases where the bounds were scientifically determined, the normalized score can be interpreted as percent of progress made towards achieving the SDGs, with 100% meaning achieving that indicator. In many cases, however, a score of zero is simply the lower benchmark of current progress of US states. In cases where the average of the top 5 is used to determine the score of '100', a '100' indicates only that this threshold level of achievement can be reasonably expected in the US context.

Calculating the index and assigning colors

Goal scores were created by taking the arithmetic average of the normalized indicator scores. Overall score was calculated by averaging the score for the 15 included SDGs.

Color scales were developed by creating interior thresholds that benchmark progress towards achieving the SDGs. The colors reflect the following scale:

Figure 25: Colors used in SDR



Source: SDSN

Green should not be interpreted as meeting the SDG indicator, but rather as an indication that the state is within range of achievement by 2030. Readers are cautioned to interpret this data in conjunction with data on rates of progress, as states could be slowing progress or moving away from achievement, or could be within range of achievement but not moving quickly enough to actually achieve the Goal by 2030.

Interior thresholds were developed, when available, by expert or scientifically determined levels. When this wasn't possible, interior thresholds were determined using summary statistics, such as using the mean (yellow/orange threshold) and the standard deviation (to set the yellow/green and orange/red thresholds) and then adjusted for clustering within the data. When the target value was more than two standard deviations away from the mean, colors were determined by evenly dividing distance to the target and adjusting for clustering. When there was just a three-point scale, three colors were used: red, yellow and green. The

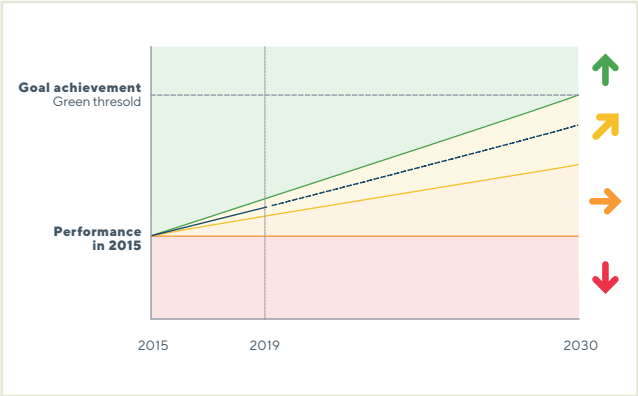
colors for Goal-level achievement were determined by mapping the indicator colors to a four-point scale (0-3), and then averaging the value across all indicators for a specific Goal.

Tracking trends over time

Historic data is used to estimate how fast a state has been progressing towards an SDG and determine whether —if extrapolated into the future—this pace will be sufficient to achieve the SDG by 2030. For each indicator, SDG achievement is defined by the Goal or achievement value (100 value) set for the SDG Dashboards. The difference in value between the target and the state value denotes the gap that must be closed to meet that goal. To estimate trends at the indicator level, we calculated the linear annual growth rates (annual percentage improvements) needed to achieve the target by 2030 (from 2015–2030), which we compared to the average annual growth rate over the most recent period (usually 2015–2019). Progress towards achievement on a particular indicator is described using a 4-arrow system (Figure 23). Figure 22 illustrates the methodology graphically.

Since projections are based on past growth rates over several years, a state may have observed a decline in performance over the past year (for instance due to the impact of COVID-19) but still be considered as being on track. This methodology emphasizes long-term structural changes over time since the adoption of the SDGs in 2015, with less emphasis on annual changes that may be cyclical or temporary.

Figure 26: Graphic representation of trends methodology



Source: SDSN

Figure 27: Four-arrow system for determining trends

Source: SDSN

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