Sustainability is a broad and sometimes abstract concept about the interconnections among economy, environment and society and about the relationship between the present and the future. But when we begin to talk about the practical building blocks of sustainable development, the discussion quickly gets concrete and specific.

When we talk about a mode of development that “allows current generations to meet their needs without compromising the ability of future generations to meet theirs” we are talking, among other things, about the process of global climate change, its impact on our world, and how we should respond; about the future of an economy – sometimes referred to as “green” and other times “blue” – that will help us achieve sustainability; and about transportation systems that allow us to reduce energy consumption and conserve land even as they make the activities of daily life more accessible to all.

As with all the topics in our study of sustainable development, the elements are thoroughly interconnected. Our transportation system affects our economy; the character of our economy influences climate change; our response to climate change imposes new demands on transportation, and so on. Indeed, the causal arrows point in every direction. Still, we have to learn about these topics one at a time on their own terms even as we keep the links among them in mind.

Climate change has been widely referred to as the greatest challenge of our time. The earth’s atmosphere and oceans are warming as a result of human activity that produces “greenhouse gases” that trap solar radiation on our planet. This is largely due to the burning of coal, oil and natural gas, but also because of deforestation and methane production by livestock, and due to planetary warming itself, which has
caused releases of methane previously trapped in arctic tundra and ice.

The ultimate impact of climate change is difficult to predict. But as our scientific knowledge on the topic improves, we are increasingly certain about the potential for sea level rise leading to coastal inundations, shifts in weather patterns including both floods and droughts; and an increase in severe storms, health impacts because of heat waves.

Our food supply is also in jeopardy, in part because of the threat of drought and general pressure on water sources, but also because of the acidification of our oceans – also due to burning fossil fuels – that appears to be killing coral reefs and threatens to disrupt ocean ecologies that support production of seafood.

The good news is that because most of climate change is caused by human activity it can be limited by changes in the way we live. By developing non-carbon sources of energy such as wind, solar, geothermal and hydro-electric and by reducing the total amount of energy we consume, we can dramatically reduce the amount of carbon we emit into the atmosphere or deposit in our oceans.

The University at Buffalo’s Climate Action Plan is a good example of the practical ways organizations can work toward large-scale reductions in carbon emissions. A Climate Action Plan looks at all the sources and uses of energy, estimates what the carbon “footprint” is for each, and devises specific strategies to reduce those emissions.

Reducing consumption can take two general forms. One is through promoting efficiency in the machines and heating and lighting systems we use through better design and insulation of building spaces and “smart” controls that turn off lights, fans and other equipment when not in use, to name a few examples. Another is through conservation in which we actively reduce consumption by not using energy, for example, using transit, cycling, or walking instead of driving a car.

**The blue/green economy** is understood as an important part of the response to global climate change. If we are to achieve the dramatic reductions in greenhouse gas emissions said to be required to mitigate the advance of climate change we need to redesign our economy to use less energy, produce less waste, protect natural resources, especially water; and produce products that also help us produce “green” energy or reduce consumption of energy in general.

Although sometimes the terms “blue economy” and “green economy” are merged into a single phrase, each has a somewhat different meaning. The blue economy acknowledges the centrality of water in human life in general and in regional prosperity at this time in our history in particular. Investing in restoration of waterfronts, building “green infrastructure” for managing storm water, and protecting the quality of public water supplies are all endeavors that can redound to the economic advantage of the region. In brief, city regions that have water – and value it – will prosper in the new era while those that don’t will suffer.

The green economy encompasses these things and more – such as projects to retrofit existing buildings for energy efficiency, research and development that leads to the adoption of forms of renewable energy, products and processes that are more energy efficient. A great example of the green economy would be development of a renewable energy sector – from research and development to production and sales – in Buffalo Niagara.

**Transportation** in the United States contributes, on average, between one quarter and one third of all greenhouse gas emissions. This includes commuting by personal vehicles, use of fossil fuels in shipping and public transit, and – an especially carbon-intensive activity – travel by airplane. But it’s easy to see that a three-part strategy to make travel more efficient, conserve on travel, and replace fossil fuels with renewable fuels in vehicles is necessary to make the reductions in carbon emissions we need.

We can imagine reducing greenhouse gas emissions by driving cars that get better gasoline mileage. Smaller cars tend to get better gas mileage than big cars. Cars with hybrid engines do even better. But we can also imagine cars that run totally on electricity – a few models are already in commercial production. Better still, we might replace single-occupancy vehicle commuting with carpooling or by using public transit or walking or using a bicycle.

Ultimately, though, reducing carbon emissions from transportation also depends on the geographic structure of our cities and metropolitan areas. Cities that are spread out and were built to accommodate the automobile are difficult to navigate for those using transit, bicycles or foot transportation. More compact cities make it possible for people to get where they need to go more easily because places aren’t so far apart and more of them are well-served by public transit.

Cities that are geographically compact and have streets and neighborhoods designed for the pedestrian are not only more energy efficient, they tend to be more fair than auto-dominated places. They provide options for people who can’t afford a car. And they make it possible for children and older citizens to get around, too. You’ll learn more about all of these topics in today’s session.
Planning in Our Region

One Region Forward isn’t the beginning of planning in Buffalo Niagara. It’s an extension of a broad and growing body of work by local and regional government, community-based organizations, business and citizens to imagine a better future for our region and make it happen. The regional plan for sustainable development will build on that work and align its policies and program of action on existing regional plans that are already in place for economic development, land use, transportation, energy, environment and more.

One Region Forward took its initial direction from a careful review and analysis of more than 160 plans created by cities, towns, counties, regional authorities and others. We looked for the core values embedded in each of those plans and summarized those as a starting point for a community conversation about where we want to go as a region.

Some of the significant and current plans that are guiding our development and with which the plan for moving One Region Forward will align are featured below.


### Rust to Blue: Buffalo Niagara’s New Blue Economy - Buffalo Niagara Riverkeeper

**Description:**

Buffalo Niagara Riverkeeper (BNR) is sharpening the focus on the role of water in creating truly sustainable prosperity for Buffalo Niagara through its blue economy initiative, “Rust to Blue.” For BNR, moving from “Rust to Blue” means taking care of our region’s water as the foundation for a new and sustainable economy. Overall, Riverkeeper has spent $7 million over the past five years to leverage $250 million from partner organizations for projects that revitalize our waters and improve access. Now Riverkeeper is investigating a farther-reaching conversation with other nonprofits, government agencies, businesses, and community members about how our water can provide the foundation for a new, less wasteful, healthier, and more sustainable economy for our region.

**Type:** Sustainable Economy

**Why you should check it out...**

Water has always been at the foundation of Buffalo’s economy, first as a medium for shipping, later as a sink for industrial wastes. BNR is taking an innovative approach to how water can serve as the basis for our economy though. It is advocating for a blue economy based on preserving rather than polluting water, so that it will attract new residents, eco-tourism, advanced manufacturing industries, health and life sciences organizations, and clean waste processing facilities. The initiative supports the idea that we do not have to completely change our economy to be more sustainable, and we don’t have to sacrifice economic prosperity for sustainability. Rather, we just need to reimagine our old ways of doing things, which will result in economic as well as environmental gains.

**Link:** [http://bnriverkeeper.org/blue-economy-initiative/](http://bnriverkeeper.org/blue-economy-initiative/)

### 2014 New York State Energy Plan

**Description:**

The Draft 2014 New York State Energy Plan sets forth a vision for New York’s energy future that connects a vibrant private sector with communities and individual customers to create a dynamic, clean energy economy. The plan recognizes the progress we have made, obstacles we still face, and strategies for overcoming these barriers, towards accomplishing the goal of a clean economy. Implementation recommendations are intended to create clean, affordable and reliable power, and new jobs, among other economic and environmental benefits. The plan is also designed to be flexible, so that future insights and innovation can be incorporated into the approach.

**Type:** Sustainable Economy

**Why you should check it out...**

The State Energy Plan includes projected future energy demands, as well as strategies for achieving economic development, climate change, environmental quality, health, safety and welfare, transportation, and consumer energy cost objectives. Therefore, the energy plan is not just of interest to those passionate about energy. It covers topics and includes information that are useful to various groups. It also includes a report about the overall reliability of the State’s electric transmission and distribution system, and metrics for measuring success.

**Link:** [http://energyplan.ny.gov/](http://energyplan.ny.gov/)

**Public comment period extended through 5/30/2014**

[http://energyplan.ny.gov/Process/Comments.aspx](http://energyplan.ny.gov/Process/Comments.aspx)
Building the Blue Economy

Description:
A report from PUSH Buffalo and The Partnership for the Public Good that discusses stormwater management opportunities for community-based organizations. Discusses how non-profit groups, policy makers, and funders can address the environmental and public health issue of combined sewer overflows through green infrastructure or blue economy approaches in addition to traditional gray infrastructure techniques. The report also explains how these methods can achieve the “triple bottom line”: environmental protection, job creation, and neighborhood redevelopment. Various public, private, nonprofit, academic institutions, and residents contributed to the creation of this report.

Type: Sustainable Economy

Why you should check it out...
This report outlines practical strategies for how neighborhood organizations can take advantage of stormwater management opportunities, through advocating for green infrastructure and creating local social enterprises. It also provides several helpful case studies and recommendations for receiving funding.


Transit Options Amherst-Buffalo

Description:
The Niagara Frontier Transportation Authority and its partners have embarked on a study of public transportation options for the corridor connecting Buffalo and Amherst. This could include an extension of Metro Rail, improvements to current bus service or something else altogether, like bus rapid transit. The study is an important step in expanding public transit in the region.

Why you should check it out:
If you think expanding transit should be a priority for the region, this is an important planning process to learn about and get involved with.

Type: Transportation

Link: http://to.nfta.com/

2011-2015 Transportation Improvement Program (TIP)

Description:
The Greater Buffalo Niagara Regional Transportation Council (GBNRTC) is charged with two critically important tasks: the development and maintenance of both a 20-year Long Range Transportation Plan (LRP) and a short-term Transportation Improvement Program (TIP). The LRP looks 20+ years into the future to predict the transportation needs of the region using forecast trends and anticipated conditions. TIP is the complementary, 5-year financial program that describes the schedule for obligating federal funds to approved state and local projects that serve to accomplish the goals of the Long Range Transportation Plan. The current TIP contains funding information for the period from October 1, 2013 through September 30, 2018 and includes approved highway, transit, bicycle, pedestrian, and air quality projects, as well as studies and programs within the Greater Buffalo-Niagara Region.

The GBNRTC, in cooperation with the New York State Department of Transportation (NYSDOT), is responsible for selecting projects to be included in the TIP. Fiscal constraint remains a key component of program development and this transportation plan. Fiscally constrained means the region can only propose projects for which revenues are reasonably expected to be available through federal, state, or local resources. Every effort has been made to assure revenue forecasts are reasonable and estimated project costs balance with those financial resources. Management controls are also in place to maintain fiscal integrity as projects advance.

Type: Transportation

Why you should check it out...
The TIP is the primary way federal funding gets allocated for transportation infrastructure improvements in localities across Erie and Niagara Counties. With limited and dwindling Federal dollars to go around, only projects of highest priority based on need, local desires, and long-range plan conformity are likely to be funded. Learning about this can help you advocate for needed projects in your community.

Link: http://www.gbnrtc.org/projects/transportation-improvement-program/
Environmental Justice View (EJView)

**Description:**
EJView is a mapping tool created by the U.S. Environmental Protection Agency (EPA) that allows users to develop maps and produce detailed reports about the geographic areas and data sets they choose. The tool features demographic, health, environmental, and facility-level data, which all affect public and environmental health issues.

**Type:** Mapping Tool

**Why you should check it out...**
This tool allows you to map various types of places or areas, based on an address, ZIP code, city, county, watershed, township, or a pair of latitude and longitude coordinates. The page also offers guidance on how to use the tool, examples of maps generated with EJView, and information on the EPA's geospatial mapping program. Furthermore, information conveyed through maps is often more clear and powerful than information communicated orally or through text, especially when one is trying to communicate that certain communities disproportionately suffer from environmental justice issues. Therefore, EJView is extremely useful to environmental justice advocates.

**Link:** [http://epamap14.epa.gov/ejmap/entry.html](http://epamap14.epa.gov/ejmap/entry.html)

Environment Data Library of the Research and Innovative Technology Administration (RITA)

**Description:**
The USGS, in partnership with Oregon State University, has recently developed an innovative new site that allows users to view maps and summaries of temperature and precipitation projections for the 21st Century at the county level. This information is based on a NASA dataset that covers the contiguous U.S. that the USGS leveraged and distilled into easily understandable maps, 3-page summaries, and spreadsheet-compatible data files for each state and county in the United States. In addition to future projections, the website includes historical model simulations covering 1950–2005.

**Type:** Data and mapping

**Why you should check it out...**
This site is cutting-edge, user-friendly, and essential for determining and comprehending models of local and regional climates. Users can view the average of all of model output for each county, as well as output from individual models, in order to make comparisons. It is useful for policy makers, managers, planners, educators, and active citizens.


The U.S. Drought Portal

**Description:**
The U.S. Drought Portal is part of an interactive system to generate early warnings of emerging and expected droughts, consolidate and perform quality control on drought data and simulations, and offer a wide variety of data. Types of information provided relate to the risks and impacts of droughts, prior droughts, and how to plan for and mitigate drought impacts. The portal also acts as a forum for discussion among various stakeholders about drought-related issues.

**Type:** Forecasting, data, mapping, research, and educational materials

**Why you should check it out...**
This portal is considered the go-to source for all data, research, tools, and educational materials related to drought problems. You can also check out the drought risks and impacts for your particular community on the site.

**Link:** [http://drought.gov/drought/](http://drought.gov/drought/)

The Digital Coast

**Description:**
This NOAA-sponsored website is focused on helping communities address coastal issues and has become one of the most-used resources in the coastal management community. It provides critical data sets as well as tools and training so that information can be used to solve complicated coastal problems. The site is geared towards coastal managers, planners, decision-makers, and technical users who are interested in issues related to managing the nation's coastal and ocean resources, but it is accessible for ordinary citizens as well.

**Type:** Data, mapping, and training resource

**Why you should check it out...**
This site will give you a good idea of work happening throughout the state related to smart growth, and how your work, along with the work of One Region Forward, fits into other sustainable efforts. It also consolidates numerous useful smart growth resources.

**Link:** [http://www.csc.noaa.gov/digitalcoast/tools/list](http://www.csc.noaa.gov/digitalcoast/tools/list)
Organizations for Action

There are lots of local and national organizations who have opportunities for you to engage with issues related to sustainability. Many of these organizations are also a wealth of information and are great resources for Citizen Planners. Here are a few featured organizations to get you started...

GREEN BLUE/ECONOMY

PUSH Green

Description:
The mission of PUSH Green is to mobilize residents to create strong neighborhoods with quality, affordable housing, expand local hiring opportunities, and advance economic justice in Buffalo. It accomplishes this through reclaiming properties from neglectful public and private owners and redeveloping them for occupancy. It also organizes campaigns against corporations and government agencies whose practices contribute to high poverty rates in our communities.

Type: Affordable housing, and economic and community development

Why you should check it out...
PUSH is a local and regional leader in addressing affordable housing and community development issues. It acts as a role model for grassroots neighborhood organizing and redevelopment that can be deployed in other low-income communities throughout the Rust Belt. PUSH also offers several ways for engaged citizens to get involved in the organization’s work, including jobs, volunteer positions, internships, monthly member meetings and it’s eNewsletter.

Link: http://pushbuffalo.org/

Buffalo Niagara Riverkeeper

Description:
Riverkeeper is a community-based organization committed to preserving the quality and quantity of water, as well as fostering connections between people and water in Buffalo Niagara. It accomplishes this by cleaning up pollution from our region’s waterways, rehabilitating local fish and wildlife habitats, and increasing public access to water through advocating for greenways that enlarge parks and open space.

Type: Water preservation and public access

Why you should check it out...
Riverkeeper is leading Buffalo Niagara’s conversion from a rust belt region to a blue economy, while serving as an international model for water restoration. Get involved by volunteering, joining Restore Corps, participating in Riverwatch Water Monitoring, signing up for their River Academy, or attending river tours.

Link: http://bnriverkeeper.org/

Greenworks Buffalo Niagara

Description:
Greenworks Buffalo Niagara is a community organization committed to encouraging the growth and development of local green businesses and green business practices, through fostering connections between environmentally-minded companies and individuals, and providing them with necessary resources. It is a volunteer-based organization that coordinates networking events, workshops, and forums for environmentally conscious Western New York residents.

Type: Networking, professional development, informational

Why you should check it out...
Greenworks Buffalo Niagara is brought to you by the same group of people that organized the successful Buffalo Niagara Green Expo. Network with other environmental professionals and activists at one of their Green Drinks events, stay up-to-date on events in the local green business community through attending a Business Gets Green presentation, or join one of their local green business tours.

Link: https://www.facebook.com/pages/Greenworks-Buffalo-Niagara/418537631544691

TRANSPORTATION

Green Options Bike Buffalo (GO Bike Buffalo)

Description:
Green Options Bike Buffalo works to create healthy, environmentally sustainable, community-friendly transportation options in the City of Buffalo. It serves this mission through its Safe Routes to School, Play Streets, Complete Streets, Bicycle Benefits, and Recycle-A-Bicycle programs. GO Bike Buffalo also provides information about bicycle parking locations and a bike to work survival guide, among other resources.

Type: Non-motorized and alternative transportation

Why you should check it out...
GO Bike Buffalo is leading the way towards a more bike and environmentally friendly Buffalo. Get involved by attending one of their community workshops, signing up their newsletter and text updates, participating in their PhotoVoice program, or volunteering at The GObike Shop or one of their Bike Month Events.

Link: http://gobikebuffalo.org/
Featured Organizations Continued

**Buffalo CarShare**

**Description:**
A community-driven organization that advances affordable and environmentally friendly transportation by offering a car share service. Members reserve vehicles that are located throughout Buffalo by the hour or day for a reasonable price.

**Type:** Car share service

**Why you should check it out...**
Buffalo CarShare is making traveling by car an option for those who would normally not be able to afford this, while preserving the environment. You can get involved in Buffalo CarShare by becoming a member or partnering with them to have their services expanded to your community.

**Link:** [http://www.buffalocarshare.org/](http://www.buffalocarshare.org/)

**Citizens for Regional Transit**

**Description:**
Citizens for Regional Transit (also known as the Citizens’ Regional Transit Corporation) is committed to creating a broad base of support for the improvement and expansion of bus and rail transit for all citizens of the Niagara Frontier. The purpose of the organization is to build an understanding of the benefits of transit through outreach events, information sharing and other public participation activities.

**Type:** Transit advocacy and education

**Why you should check it out...**
This grassroots organization is committed to increasing transit access for all. The group is volunteer-based, so you can join it, attend one of their quarterly meetings, or participate in one of their engagement events.

**Link:** [http://www.citizenstransit.org/](http://www.citizenstransit.org/)

**CLIMATE CHANGE**

**WNY Sustainable Energy Association**

**Description:**
The Western New York Sustainable Energy Association is committed to increasing awareness of sustainable practices such as renewable energy and energy efficiency. It hosts the annual Western New York Solar Tour, which attracted 1500 people in 2010, as well as presentations by local sustainability activists and professionals.

**Type:** Outreach

**Why you should check it out...**
Join one of their tours to see examples of green buildings in Western New York and learn about the latest sustainability projects and issues in our region through one of their presentations.

**Link:** [http://wnysea.com/](http://wnysea.com/)

**Environmental Justice Action Group of WNY**

**Description:**
The Environmental Justice Action Group of WNY works to create vibrant communities by ensuring that people of color and/or low-income individuals meaningfully engage in the production of equitable and fair environmental health and protection policies.

**Type:** Environmental justice

**Why you should check it out...**
Environmental justice overlaps with several other advocacy areas, including clean air, affordable and equitable transit, waste and pesticides reduction, toxic free products, nutritious school food, sustainable land use, and healthy indoor environments. Thus, the work of this group appeals to a broad of range interests.

**Link:** [http://weact.org/](http://weact.org/)

**The Sierra Club**

**Description:**
The Sierra Club was started by renowned naturalist John Muir back in 1892 and is one of the oldest, largest, and most influential grassroots organizations in the U.S. It has developed local chapters, including one in Western New York. The Sierra Club Niagara Group focuses on environmental issues regarding wetland health, forests, parks and watersheds. They are leading the campaign to move away from fossil fuels that cause climate disruption and towards a cleaner economy.

**Type:** Advocacy

**Why you should check it out...**
The Sierra Club Niagara Group works on a number of local issues, including raising awareness for the problems associated with horizontal natural gas drilling (hydrofracking), protecting watershed and waterbodies, lobbying politicians for better environmental laws and policies - and endorsing politicians that support the environment. The Sierra Club also hosts Earth Day activities, school energy efficiency presentations and participates in events to educate the public about environmental issues.

**Link:** [http://www.citizenscampaign.org/](http://www.citizenscampaign.org/)
Featured Online Resources

There are many excellent resources on sustainable development online. Below, are a few resources that discuss the general concept of sustainable development that you may find useful.

GREEN BLUE/ECONOMY

Green For All

Description:
Green For All is a national organization that is dedicated to creating an inclusive and equitable green economy that will be prosperous as well as provide jobs to the impoverished. It partners with the private sector, government agencies, labor unions, and grassroots organizations to increase high quality jobs in the green industry. Green For All accomplishes this through training young members of the community to be world-class advocates for the clean energy economy, creating tools for small green enterprises, bringing together workforce development agencies, and campaigning for national legislation that encourages green job training for marginalized communities.

Why you should check it out...
Green For All has created a report about occupations related to green infrastructure operations and maintenance, organizations connecting disadvantaged communities to these jobs, and strategies for further increasing the availability of these jobs. It is a useful tool for anyone interested in promoting a green and equitable economy.

Link: http://greenforall.org

GreenBiz.com

Description:
The mission of GreenBiz.com is to provide information, resources, and educational opportunities to help a variety of companies adopt environmentally responsible practices that also result in business profits. It offers comprehensive information on green business practices, hands-on tools, expert advice, case studies, and a forum for information sharing and collaboration.

Why you should check it out...
GreenBiz.com is a main source of news and opinion on business and environment issues that is concise, clear, and unbiased. It also offers in-depth analysis of green businesses by sector and occupation function.

Link: http://www.greenbiz.com/

Organization for Economic Cooperation and Development Green Growth and Sustainable Development

Description:
Offers publications, indicators, databases, guidance on creating and evaluating policy, books, and case studies, related to topics such as fisheries, sustainable agriculture, green jobs, and much more.

Why you should check it out...
This site pulls together the best international resources on sustainable development. It is helpful for change agents that are thinking globally, as well as those that are thinking locally but want to know how their local efforts fit into the international context.

Link: http://www.oecd.org/greengrowth/

TRANSPORTATION

Federal Highway Administration (FHWA) - Bicycle and Pedestrian Program

Description:
The Bicycle & Pedestrian Program of the FHWA encourages bicycle and pedestrian transportation use, safety, and accessibility. Each State Department of Transportation has a Bicycle and Pedestrian Coordinator to advocate for and facilitate opportunities for biking and walking. Strategies include creating pedestrian and bicyclist facilities, as well as educational, promotional, and safety programs for utilizing these facilities. This site also contains guidance for how states can fulfill bicycle and pedestrian related legislation.

Why you should check it out...
This site features information about the amount of federal dollars dedicated to state pedestrian and bicycle initiatives, potential federal funding opportunities, legislation, and recommendations on how to create accessible bicycle and pedestrian designs. The site also hosts the Pedestrian and Bicycle Information Center which offers data on a broad range of topics related to bicycle and pedestrian engineering, promotion, awareness, and compliance.

Link: http://www.fhwa.dot.gov/environment/bicycle_pedestrian/index.cfm
US Government Fuel Economy Portal

Description:
The portal has several tools and information related to fuel economy, including data on miles per gallon (MPG) ratings for new and used cars, a personal MPG and fuel cost calculator, gas mileage tips, a cheap gas locater, and information on alternative vehicles (e.g. hybrids, plug-in hybrids, and electric vehicles).

Why you should check it out...
This is the official U.S. government source for fuel economy information. It consolidates several practical resources on fuel economy as well as sustainable vehicles, that help you make more informed and environmentally-minded vehicle choices.

Link: http://www.fueleconomy.gov/

Environmental Protection Agency Climate and Transportation

Description:
This page features basic information on the relationship between transportation and greenhouse gas (GHG) emissions, what actions you can take to reduce your personal emissions, regulations and standards related to transportation emissions, methods for measuring GHGs, and recommendations for decreasing transportation emissions.

Why you should check it out...
This is a good resource for comprehensive, general information on the role that transportation plays in GHG production, efforts to decrease emissions, and additional strategies we can adopt to evaluate and reduce your own emissions. It also features information on various types of fuels, vehicle technologies, and travel efficiency tips for decreasing transportation emissions.

Link: http://www.epa.gov/otaq/climate/index.htm

League of American Bicyclists

Description:
Provides information, advocacy and promotional materials related to biking in our country. Offers tools for advocates, a bicycling award database, a tool for assessing the bicycle friendliness and conditions of your community, business, or university, smart cycling tips, and biking-related legislation.

Why you should check it out...
This is a good resource for comprehensive, general information on the role that transportation plays in GHG production, efforts to decrease emissions, and additional strategies we can adopt to evaluate and reduce your own emissions. It also features information on various types of fuels, vehicle technologies, and travel efficiency tips for decreasing transportation emissions.

Link: http://www.epa.gov/otaq/climate/index.htm

CLIMATE CHANGE

350.org

Description:
350.org is coordinating a global movement to reduce the amount of carbon dioxide (CO2) in the atmosphere from its current level of 400 parts per million (ppm) to below 350 ppm, which is widely considered in the scientific community to be the level needed to sustain a healthy, livable planet. The site features educational and advocacy materials that you can print and use in your area to encourage decreased CO2 production in your area, as well as guidance on how to spread the word and organize environmental campaigns.

Why you should check it out:
This site provides a comprehensive list of climate change organizations throughout the world, pre-made as well as customizable brochures, fact sheets, posters and presentation templates to spread the word, and practical advice on how to creatively and effectively foster an advocacy movement in your area. It also features several short, informational videos about the importance of reducing our CO2 production.

Link: http://350.org/

Environmental Protection Agency Climate Change Site

Description:
Hosts information about why the climate is changing, what we can do about it, what the local impacts of climate change are, and climate change news. It includes basic explanations of climate change science and greenhouse gas emissions, how to reduce emissions, strategies for adapting to climate change, what the EPA is doing to address climate change, and what you can do.

Why you should check it out:
This site provides a broad overview of key climate change topics, interactive data tools, useful resources, and laws and regulations related to climate change.

Link: http://www.epa.gov/climatechange/

U.S. Department of Energy

Description:
The U.S. Department of Energy site provides the latest research and outlines major advancements on energy and environmental conservation. The website also provides useful methods to improve your energy consumption on an individual and community basis.

Why you should check it out: This site is a major source of information for up-to-date research and news on energy issues. Also, energy is a highly interdisciplinary field. Thus, energy issues are of importance to a wide range of interests.

Link: Energy.gov
Center for Climate Strategies

Description:
The Center for Climate Strategies page outlines how to take a multidisciplinary approach toward implementing practical climate action plans for communities. It also discusses the role of public-private partnerships in creating effective climate change policy.

Why you should check it out:
As Citizen Planners it is important to recognize the significance of collaboration in a project. This website provides numerous examples of collaborative projects at various scales, and specifies how to foster partnerships for each type of initiative. It also features “how to” guides and advice for scoping and managing planning projects.

Link: http://www.climatestrategies.us/

Climate.gov

Description:
NOAA Climate.gov is a source of timely and authoritative scientific data and information about climate. The goal of the site is to promote public understanding of climate science and climate-related events, to make data products and services easy to access and use, and to provide climate-related support to the private sector and the Nation’s economy, and to serve people making climate-related decisions with tools and resources that help them answer specific questions.

Why you should check it out:
The site features: News & Features, Maps & Data, pedagogical tools, and decision support tools and resources. All of these resources may help you learn more about the issues as well as make evidence based decisions around climate change campaigns, programming and planning efforts.

Link: www.climate.gov

Global warming

This term refers to an increase in Earth’s annual average surface air temperature. Thermometer readings are collected from thousands of land and ocean weather stations around the world and then used to produce a global average temperature each year. The resulting series of annual global temperature averages from 1880 to 2012 show that Earth has warmed by 1.5°F (0.85°C). Most of that warming occurred after 1976.


Climate variability

Is a term referring to short-term (weeks to decades) changes in certain environmental conditions at a given place and time. Climate variability is often the result of natural changes in the Earth’s climate system: such as the El Niño-Southern Oscillation (ENSO), the North Atlantic Oscillation (NAO), and the Pacific-North American Teleconnection Pattern, among others. These oscillations and other similar phenomena can influence weather and climate patterns around the globe.


Blue Economy

Refers to economic revitalization through promoting the health and integrity of a region’s water system. A blue economy takes advantage of economic growth opportunities connected with water, such as recreation, eco-tourism, fish and wildlife preservation, advanced manufacturing, waste processing, power generation, trans-shipment, and drinking water provision.


Green Economy

Describes an economy that strives to improve human well-being and social equity, while significantly reducing environmental risks. Growth is accomplished through investing in low carbon and resource efficient employment opportunities.

Green Infrastructure
Uses natural elements and processes to manage water and create healthier urban environments. Examples include rain gardens, permeable pavement, and rain barrels. Such infrastructure provides flood protection, cleaner air, cleaner water, and natural improvements to the urban landscape.


Carbon Footprint
The amount of carbon-based compounds released into the atmosphere due to the consumption of fossil fuels by an individual, organization, or other entity.


Complete Streets
Multi-modal street design approach that focuses not only on the physical attributes of a street but also the community implications of road construction. This concept promotes access for all users, such as pedestrians, bicyclists, public transit users, and private vehicle drivers.


Bikeway Network
A system of roads, streets, or paths that is designed to accommodate bicycle travel. Bikeways do not have to be separated facilities and may be shared with other travel mode infrastructure.


Transportation Mode
The type and means of transportation utilized. Walking, cycling, flying, and riding in a car, bus, or train are all different modes of transportation.


Long Range Transportation Plan
A 15 to 20 year forecast plan that identifies a broad range of social, environmental, energy and economic factors that affect transportation. This plan discusses the role of transportation in meeting regional goals and priorities in a practical and cost-effective way.


Combined Sewer Overflow (CSO)
CSO occurs when a sewer system that collects both waste as well as stormwater runoff becomes full and overflows, usually after a heavy rainfall. Consequently, the excess runoff is dumped into public waterways (e.g. rivers, lakes, streams). This results in a potential danger to human health and the natural ecosystem, since waste water contains materials that are harmful to the environment.


Gray Infrastructure
Traditional method of waste and stormwater management. Many cities and towns depend on gray infrastructure, like sewers, to carry excess water away from homes and businesses. Many of these systems have negative environmental consequences though.


Light Rail
Mode of transportation which operates on fixed rails having the right of way. This mode usually consists of one to three streetcars either separated or integrated into regular traffic. Typically used for short distances, Light Rail is a trolley type method of transporting people, drawing power from an overhead electrical line.


Heavy Rail
Mode of transportation operating on high traffic corridors. Meant for high acceleration and long distances, heavy rail is a type of rapid transit which typically draws power from an electric third rail and is separated from other vehicular and foot traffic.

Acronyms

NYSDEC: Department of Environmental Conservation
NYSDOT: Department of Transportation
NYSDOE: Department of Energy
TIP: Transportation Improvement Program
FHWA: Federal Highway Administration
USEPA: Environmental Protection Agency
WNYEA: Western NY Environmental Alliance
WNYSEA: Western NY Sustainable Energy Association
EJAG: Environmental Justice Action Group
CRT: Citizens for Regional Transit
CCE: Citizen's Campaign for the Environment
LEED: Leadership in Energy & Environmental Design
GLNPO: Great Lake National Program Office
FBNP: Friends of the Buffalo & Niagara River
BNR: Buffalo Niagara Riverkeeper
NOAA: National Oceanic & Atmospheric Association
USGS: Geological Survey