Croton100 is a direct response to the urgent need for rapid and far-reaching action to reduce greenhouse gas (GHG) emissions. The name reflects the local focus of the group: Croton-on-Hudson (zip code 10520, population 12,810). The 100 in the name evokes our ambitious but achievable goal: to draw down net GHG emissions by 100% (to net zero) by the year 2040. The 100 also implies involving 100% of residents, 100% of buildings and 100% of local businesses and public spaces.

The organization was created in October 2019 by a coalition of Croton organizations and residents to work as a public/private partnership to galvanize residents and businesses to immediately begin reducing the approximately 700 tons per day of carbon emissions our Village contributes to the problem of climate change. We began by reaching out to another local non-profit (Bedford 2020) with a successful private/public partnership pursuing a parallel mission, and have learned from their decade of experience as we developed our plan.

## **ACTIVITIES**

We have made significant progress in a very short period of time, and have begun a number of activities that will help in achieving our goal. In order to continue apace we need to raise funds to support specific elements of this effort, and to continue to build momentum.

The basic idea is to reach every resident and business and organization in Croton and encourage emission-reducing action. The "master plan" currently available on the Croton100 website is an evolving document, and a testament to the transparency and the constant response to feedback that is at the heart of this project. The plan outlines the goal, and specific ways to encourage action and reduce carbon output. A structure for the organization is laid out, as are four broad methods volunteers are using to achieve this goal.

Croton100 is a pioneering project, the first (as far as we know) to commit a small community – economy wide – to the goal so urgently presented to us all by the United Nations' panel of hundreds of scientists. Each element is designed to be shared and further developed in collaboration with others, and replicated beyond Croton. Environmental advocates in other towns have already begun to take our master plan as a model to spark immediate action.

The first method we are using to reduce emissions is neighbor-to-neighbor encouragement, via a pledge and a playbook. On the Croton100 website the first request is that residents sign a simple but profound pledge to commit to reducing emissions. Once a resident has pledged, regular check-in messages and reminders will be sent, together with invitations to sustainability-focused events organized by Croton100 and others. Distinct pledges are currently being developed by and for students, and by and for local businesses and institutions.

Personal neighbor-to-neighbor education is the key – done by committed volunteers, trained and educated by other local volunteers with expertise in engineering, climate science, software development, and more. Residents who express an interest, often through pledging on the website, are engaged in an initial discussion based on a script, or playbook. The "playbook"

has been drafted (see the "Documents" section of Croton100.org) laying out, step by step, how an individual can assess their own carbon footprint, and for each of five categories — transportation, heating, electricity, waste, and goods and services —what specific actions can be taken to reduce that footprint. We are completing the playbook, have begun testing it on local households, and will continue testing, refining and expanding it in the coming months.

Like the master plan, each new version of the playbook incorporates feedback from a wide variety of residents and is posted on the website. Training for volunteers involves engaging them in improving the playbook as well. The recruitment and training of volunteers, and the need to engage them and sustain their interest in this enormous undertaking will be a long-term effort. Education is only one step – changing behavior is the real challenge. We are learning as we go how to best encourage and support the small behavior changes in daily life that can reduce emissions.

A website with easily available resources is the second key method. The Croton100.org site, developed by volunteer residents with expertise, continues to expand with information about things like hybrid and electric vehicles, a plant based diet, or the carbon footprint of an oil furnace compared to heat pumps, for instance. The site is moving toward being a comprehensive resource on questions about how to live more sustainably. It is being developed in conjunction with organizations in neighboring towns, and is intended to be widely shared. It includes a directory of upcoming events and an organized list of resources and information.

The nameCroton100 itself signifies the goal of expanding beyond Croton. We envision an Ossining100, for instance, and any number of others, all working in coalition, sharing resources, and sharing the structure of the app discussed below.

The third piece of the puzzle is a website-based app. Without measuring carbon emissions we cannot effectively evaluate our progress toward reducing them. Therefore we are developing an app that will provide a detailed method for each resident to calculate their carbon footprint. This is a way to measure progress on reducing emissions in the five major categories of emissions noted earlier, and a way to see both individual and town- wide progress. The carbon inventory portion of the app will mirror the playbook described above.

The app is the key to motivating people and keeping them focused on the problem over the long term. By making it into a game (just like some families compete to get more steps on their Fitbits), the app will engage individuals and inspire competition to live more sustainably. It will be provided to every resident for free, and offer a secure method for logging personal and household progress. Using spreadsheets and graphs in the initial round of visiting households and encouraging measuring and reducing carbon, volunteers are developing the foundation for the app. The first version will be simple, offering a carbon footprint calculator and ways to log progress in four areas – transportation, heating, electricity and waste/recycling. For the fifth category (goods and services), an average number is used at present, though a method to calculate this usage is being developed. As data is collected and functionality developed it will grow into something more precise and more comprehensive – constantly improving with use.

Partnerships are another key to this endeavor, and form the fourth method volunteers are actively working to develop. The meetings leading up to the founding of Croton100 included representatives from local climate action groups (Croton Climate Initiative, Mothers Out Front, Pollinator Pathways, Teatown Nature Preserve) local advisory groups (Sustainability Committee, Conservation Advisory Council), individuals from the school district and the village government, and local scientists and engineers. Once Croton100 was formed (October 2019), we quickly received a resolution of support from the Croton Village Board of Trustees. The school district is also enthusiastically on board, and is likely to host a large public event announcing the project, to be held in early 2020. The local business council has invited Croton100 to partner on projects to reduce emissions. Four neighboring towns have been talking with Croton100 about ways to collaborate and possibly duplicate our structure. All of these partnerships are in their infancy, but the fact that the initial effort is both transparent and extremely collaborative at every step speaks well about the potential for developing strength in numbers.

## **FUNDING**

Although this is an entirely volunteer effort – people will voluntarily reduce emissions, volunteers are doing the education and the web development and the app design – there is none-the-less a need for funding. There are a variety of hard costs, and without financial resources the speed that is essential to this endeavor cannot be achieved.

Daily organizational expenses include insurance, web hosting, publicity (banner, printing handouts and flyers, signage), and event support (food, sound system, video). Once we grow the number of volunteers from the 40+ we already have to a number in the 100s, some part time staffing will be essential to coordinate and keep records and communications running smoothly. The largest expense will be the app — volunteer experts are currently designing a basic form — they could probably do the whole job, in a year or two. But climate science is overwhelmingly demonstrating that we don't have the luxury of time, so we need to raise the funds to pay for professional assistance to ramp up with all due speed.

## **RESULTS**

Measurement is at the heart of the Croton100 idea – as the name reflects. We recognize that we can only achieve what we measure in an objective and transparent manner. Residents are inspired to focus on doing something about a problem that often seems too large to address. Instead, we engage them in counting points from their reductions in emissions-producing activities, while providing education and encouragement along the way. We already have results to show totaling 12 tons of annual emission reductions, even in the development and testing stages. Numbers demonstrating our progress will be available at each step of the way.

The actual benefits of Croton100 are already emerging. They are poised to be significant. Reducing emissions will contribute to human health (primarily in the form of reduced particulate emissions), and to local environmental sustainability. Reducing emissions will also help us save money. All of the emission reduction techniques proposed above will provide savings to Croton residents, businesses and our municipality.