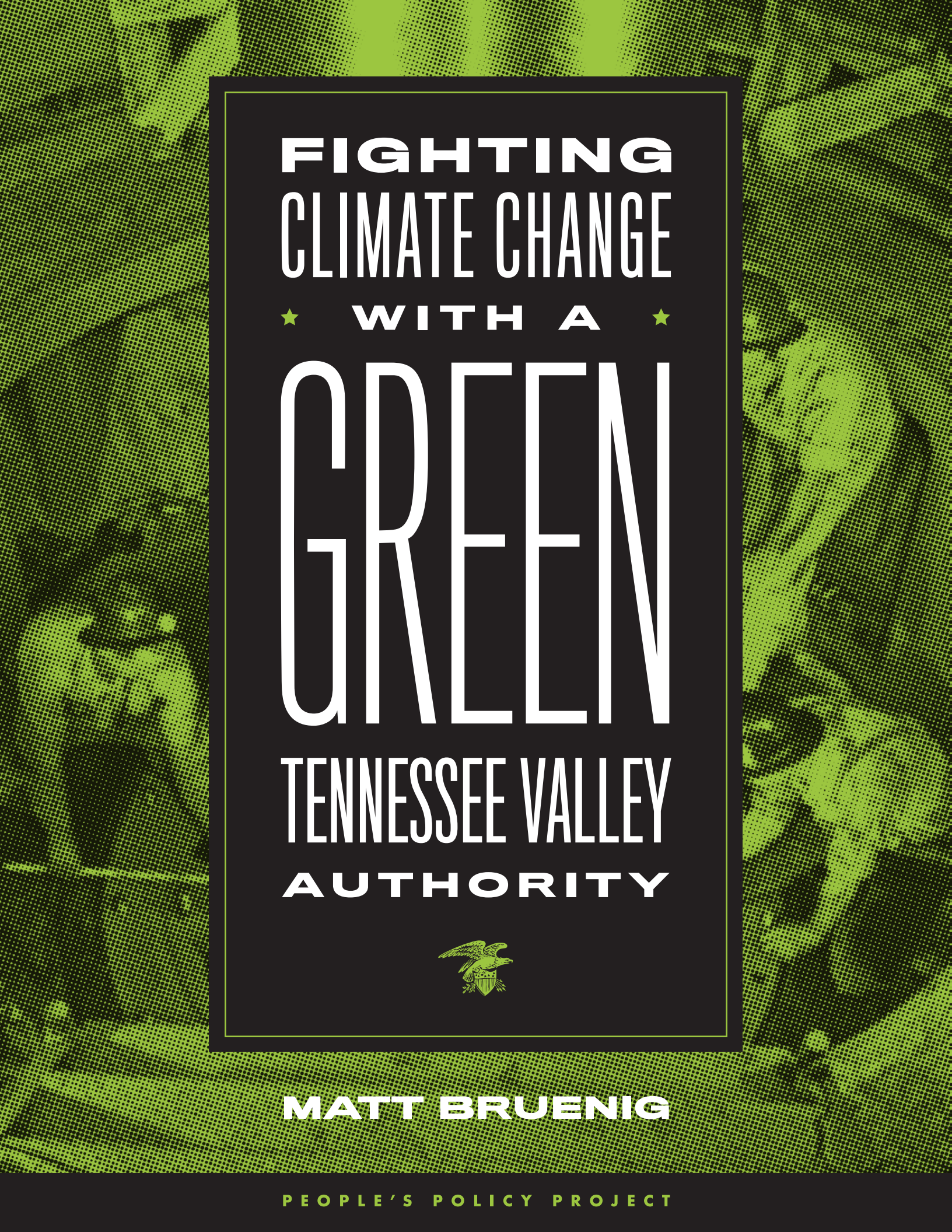
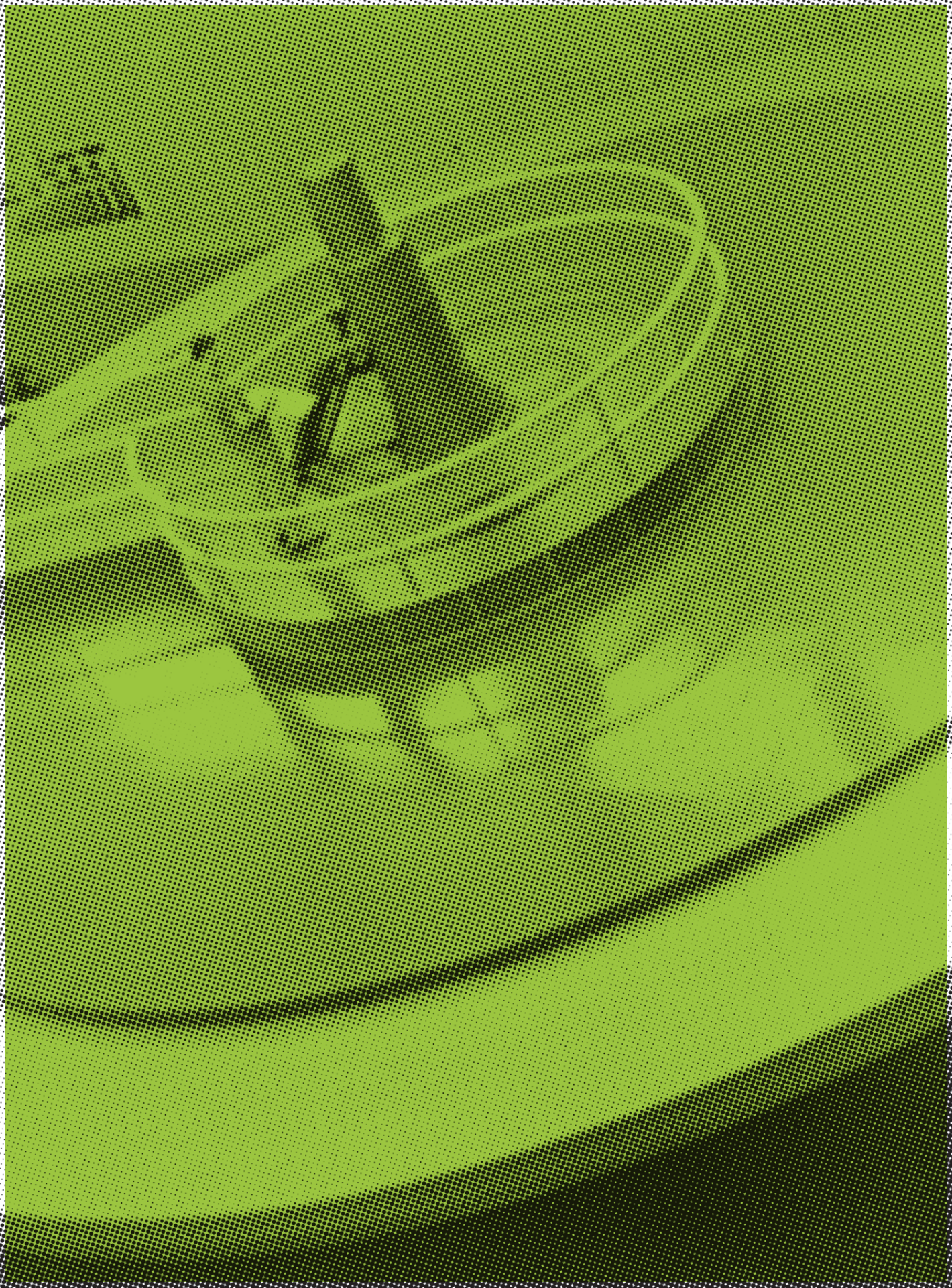


FIGHTING CLIMATE CHANGE WITH A GREEN TENNESSEE VALLEY AUTHORITY

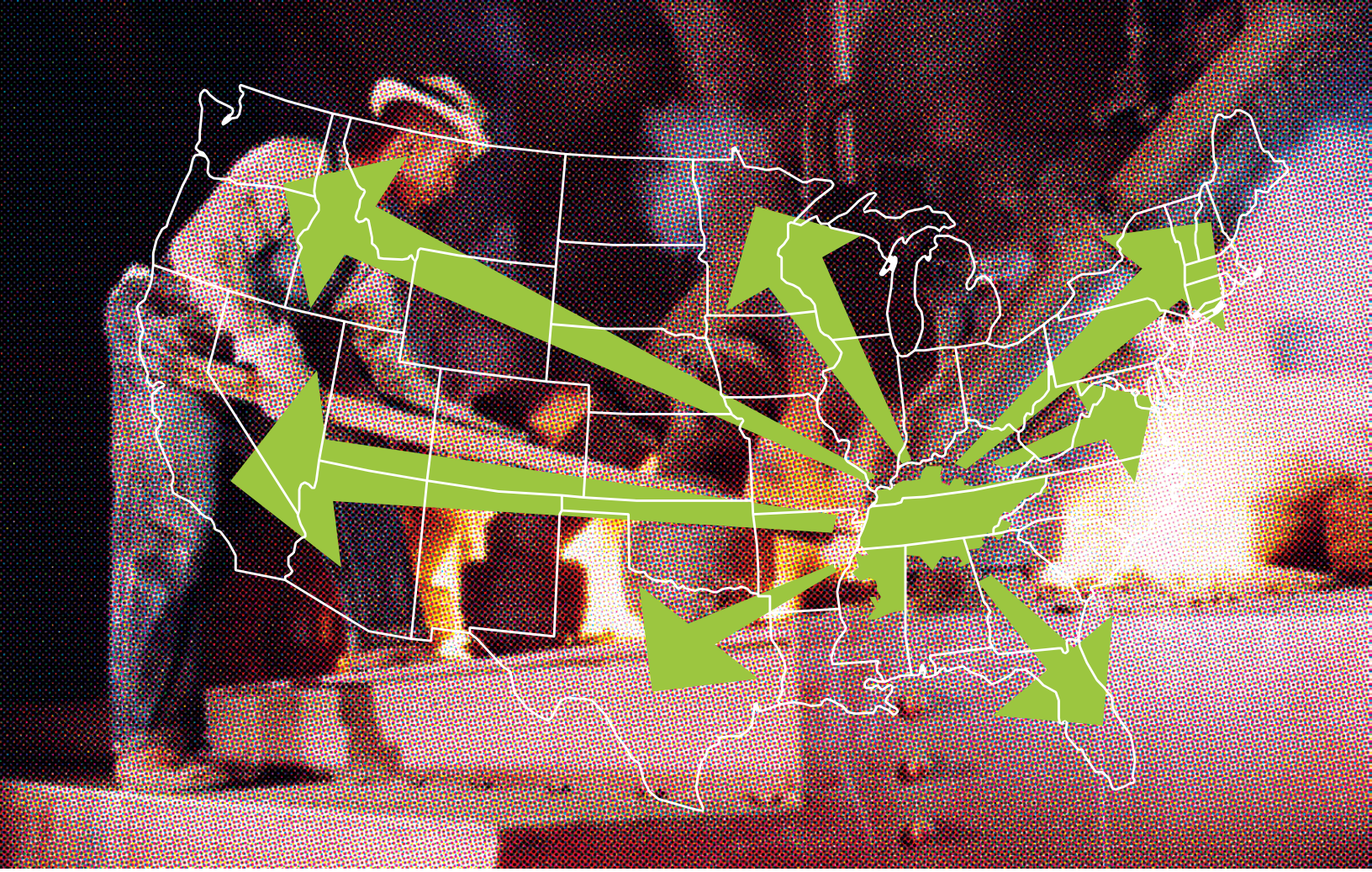
MATT BRUENIG

PEOPLE'S POLICY PROJECT



Human activities have increased global temperatures by around 1°c over the last 150 years and are currently increasing global temperatures by around 0.2°c per decade.[1] If this warming trend is not stopped, the earth will undergo a climate change that is enormously harmful to life on the planet. Among other things, climate change will flood coastlines with rising seas, acidify the oceans, and barrage the land with droughts, heat waves, hurricanes, and other forms of extreme weather. The impacts on infrastructure, crop yields, and water access will destabilize society, sparking mass migration and intensified competition over scarce resources.

In the United States, the climate movement has recently coalesced around the idea of a Green New Deal. Variations on this proposal have been in development for decades, but today it is most associated with Alexandria Ocasio-Cortez, who recently called for the creation of a Select Committee for a Green New Deal to be formed in the House of Representatives.[2] Under Ocasio-Cortez's construction, a Green New Deal consists of a "detailed national, industrial, economic mobilization plan for the transition of the United States economy to become carbon neutral and to significantly draw down and capture greenhouse gases from the atmosphere and oceans and to promote economic and environmental justice and equality."



In this policy brief, People's Policy Project proposes that the Green New Deal include a major overhaul of the **Tennessee Valley Authority** (the TVA), the nation's largest public power system. Specifically, we propose that the government 1 require the TVA to rapidly decarbonize its power generation by replacing their carbon-emitting plants with non-carbon energy production and 2 authorize the TVA to install and operate clean energy capacity all across the country, not just in its currently-defined service area.

A Green TVA should be one of the government's primary approaches to increasing the supply of clean energy. Because it is a federally-owned corporation, it can be used directly by the government to achieve energy transition goals. This differs from other approaches that rely upon subsidies and mandates to indirectly modify private sector behavior. Additionally, the TVA has been in the business of electricity generation since the first New Deal, which means it has built up the competencies necessary to take on these challenges.

1

THE TENNESSEE VALLEY AUTHORITY IN BRIEF

The TVA was created in 1933 as part of Franklin Roosevelt's New Deal.[3] Its purpose was to improve farming, provide flood control, create nitrate and phosphorus plants, and to "produce, distribute, and sell electric power."

The TVA began producing hydroelectricity almost immediately in the 1930s and then ramped up hydro installations in the 1940s as part of the war effort.[4] When demand for electricity began to surpass the TVA's hydroelectricity capacity in the 1950s, the TVA started building coal-fired power plants.[5] In the 1960s, the TVA built its first nuclear power plant and continued to build such plants into the 2000s.[6] Today, the TVA is the largest public power system in the country, providing electricity to "49 large industrial customers, seven federal agency customers, and 154 local power company customers of the TVA that serve nearly 10 million people in parts of seven southeastern states."[7] Its power-generating assets include nuclear plants, coal-fired plants, natural gas plants, oil-fired plants, hydroelectric plants, a diesel generator site, 15 solar energy sites, and 1 wind energy site.[8]

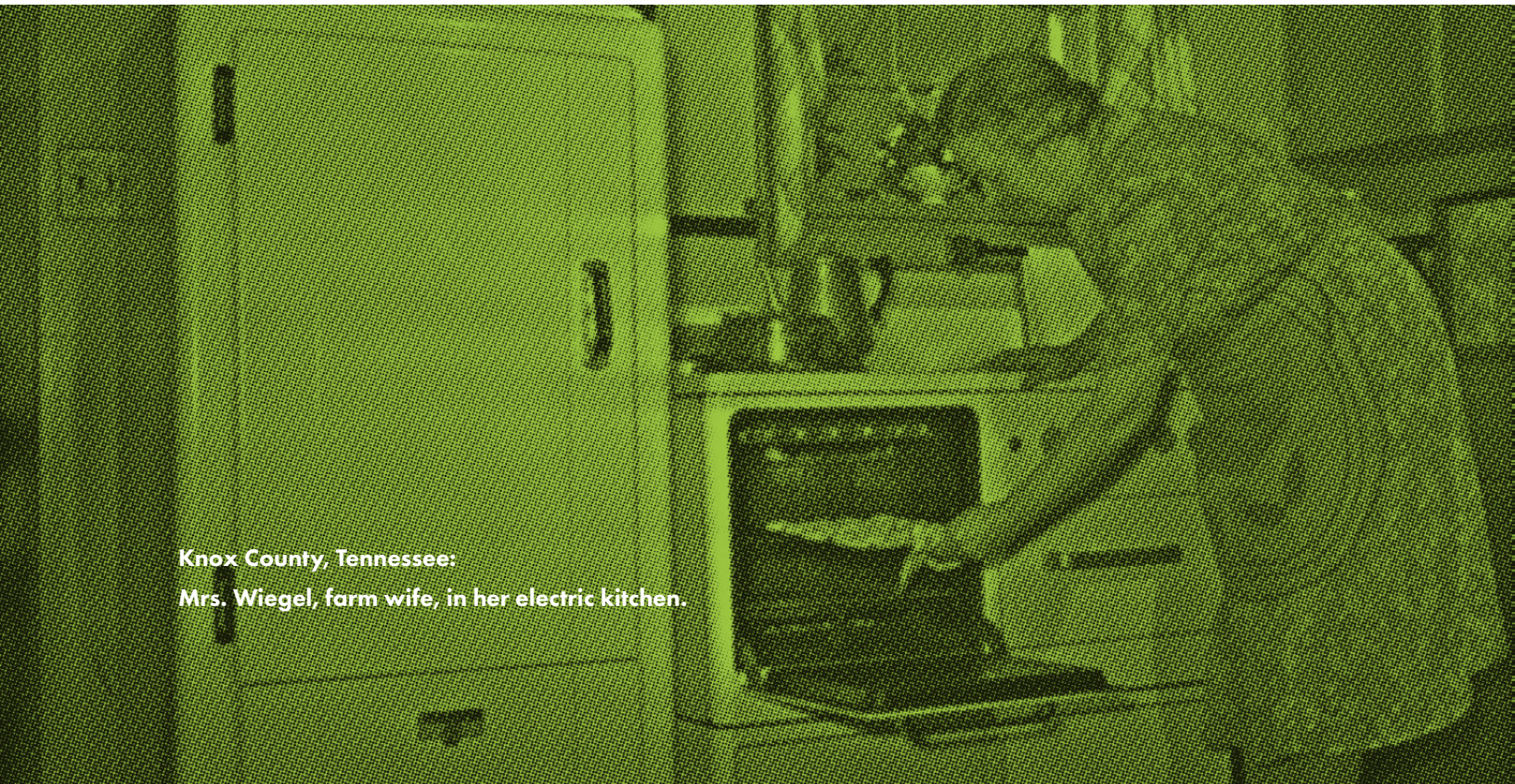
The TVA has made significant strides towards decarbonizing its energy sources in recent years.[9] In 2007, coal and gas made up 68 percent of the TVA's energy portfolio. That number was down to 46 percent by 2018, primarily due to growth in nuclear power. Despite this recent progress, the TVA does not currently

believe that it will transition away from carbon energy sources any time soon, projecting that 41 percent of its energy generation will come from coal and gas in 2027.

The TVA's operations were primarily funded by federal appropriations when it was first created. Since 1999, however, the TVA has been a completely self-financing enterprise, meaning that it funds its operations through electricity sales.[10] In 2018, the TVA sold 160 billion kWh of power, which generated operating revenues of $11.2 billion and a profit of $1.1 billion.

Because the TVA is wholly owned by the federal government, it cannot sell equity stakes in the enterprise. Thus, when it needs to raise cash to finance capital expenditures, it issues power bonds and discount notes. These debt instruments are sold to investors on the open market and are not guaranteed by the federal government. Section 15D of the TVA Act prevents the TVA from issuing more than $30 billion of these debt instruments.[11] The TVA currently has $23.6 billion of power bonds and discount notes outstanding.[12]

The TVA serves customers in virtually all of Tennessee and in parts of six bordering states. Section 15D of the TVA Act prohibits it from expanding beyond its current service area, specifically stating that the TVA "shall make no contracts for the sale or delivery of power which would have the effect of making the Corporation or its distributors, directly or indirectly, a source of power supply outside the area for which the Corporation or its distributors were the primary source of power supply on July 1, 1957."[13] This restriction has sharply limited the TVA's growth opportunities and relegated it to merely servicing the same area for the last 60 years.



Knox County, Tennessee:
Mrs. Wiegel, farm wife, in her electric kitchen.

2

A GREEN TENNESSEE VALLEY AUTHORITY

Just as the TVA was used to achieve the electrification goals of the first New Deal, it should be used to achieve the (carbon-free) electrification goals of the Green New Deal. The Green TVA should be assigned two tasks:

1. Decarbonizing the energy it supplies to its current service area by replacing its **carbon-emitting plants** with **zero-emissions alternatives** like solar, wind, hydro, and nuclear.

2. Installing zero-emissions power plants **across the country** so that it can wholesale electricity to local power companies beyond those in its current service area.

The precise details of legislation to create a Green TVA will have to be worked out with TVA leaders and other stakeholders through Congressional heaings and consultation. As an initial matter, however, People's Policy Project proposes the following reforms to make the Green TVA vision a reality:

The **TVA Act** should be amended to mandate that the TVA decarbonize all of its energy production by a certain date, e.g. 2027. TVA workers displaced by these decarbonization efforts should be given first priority for new jobs in the TVA's clean energy installations.

The **TVA Act** should be amended to permit the TVA to issue a new class of green power bonds to finance the capital expenditures required by its green energy buildout. These bonds, unlike those currently issued by the TVA, should be guaranteed by the full faith and credit of the federal government and there should be no limit on how many green power bonds the TVA can issue.

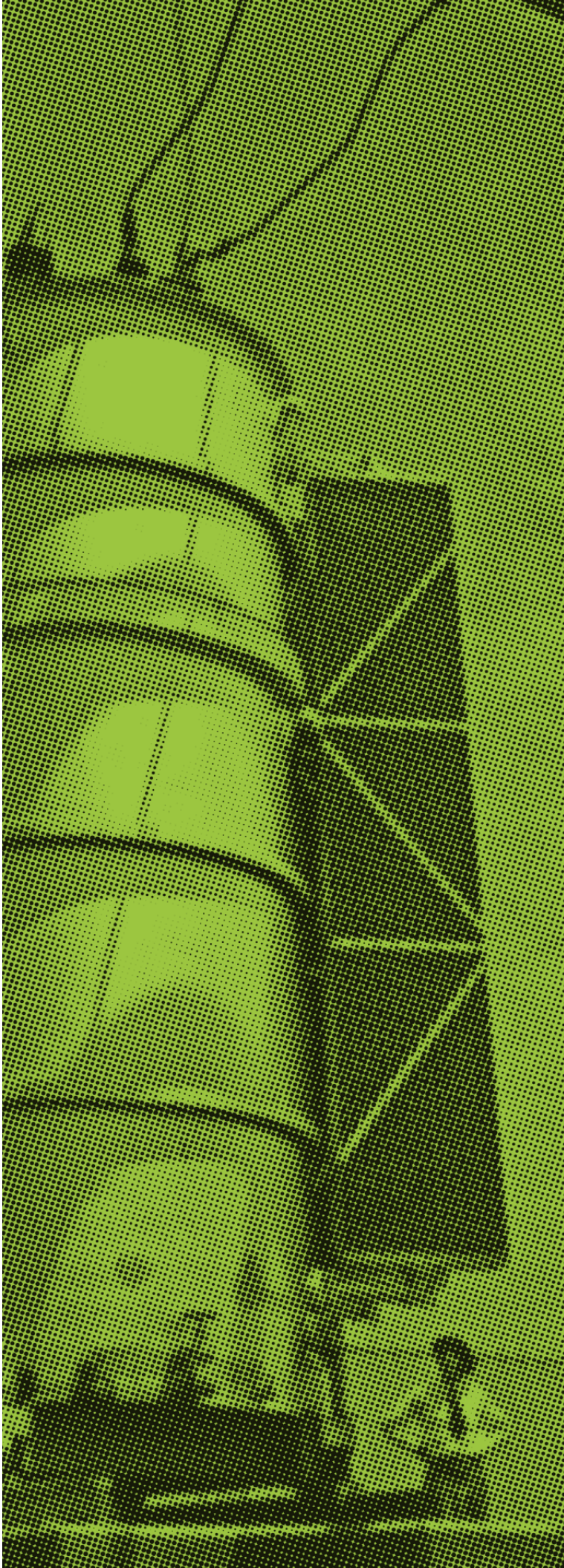
The **TVA Act** should be amended to authorize the TVA to operate all over the country, not just in its current service area.

The **TVA Act** should be amended to establish that the installation of clean energy production across the country is one of the main objectives of the TVA.

Congress should authorize and appropriate funds to the TVA to subsidize the price of the TVA's clean energy so that it is competitive with carbon alternatives. The goal of this appropriation would be to ensure that electricity ratepayers serviced by the TVA do not see a significant increase in their electricity rates.

If managed well, the Green TVA could be a renewable energy juggernaut that pushes at every margin to install as much clean energy capacity as possible across the country. This will require the TVA to pull off enormous logistical and management feats, but it has experience doing exactly that during the Great Depression and World War II. Even after its mid-century heyday, the TVA continued to operate successfully and recently installed some solar and wind sites, meaning that it has the institutional competency to take on this challenge.

A Green TVA will not be able to head off climate change on its own, but it could and should be a significant piece of that project. The TVA is the federal government's power company and the federal government should use its direct authority to make it into the kind of power company the country and the earth needs.



NOTES

1 United Nations (UN) Intergovernmental Panel on Climate Change (IPCC). Special Report: Global Warming of 1.5°C. https://www.ipcc.ch/sr15/chapter/summary-for-policy-makers/.

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4 The 1940s. https://www.tva.gov/About-TVA/Our-History/The-1940s.

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7 Form 10-K for FY 2018. https://www.sec.gov/Archives/edgar/data/1376986/000137698618000046/tve- 10xk09302018.htm.

8 Our Power System. https://www.tva.gov/Energy/Our-Power-System.

9 Our Power System. https://www.tva.gov/Energy/Our-Power-System.

10 Form 10-K for FY 2018. https://www.sec.gov/Archives/edgar/data/1376986/000137698618000046/tve- 10xk09302018.htm.

11 16 U.S. Code § 831n–4.

12 Form 10-K for FY 2018. https://www.sec.gov/Archives/edgar/data/1376986/000137698618000046/tve- 10xk09302018.htm.

13 16 U.S. Code § 831n–4.

Archival TVA photographs from The Library of Congress' digital collections: Flickr Commons and loc.gov

Alexandria Ocasio-Cortez photograph from the congresswoman's Instagram page: https://www.instagram.com/p/BqStlVGhMH3/

"Coal" and "Hydroelectricity" icons by Georgiana Ionescu