

# STATE OF PLAY: CONTEXTUALIZING NON-STATE AND SUB-NATIONAL ACTORS CLIMATE PLEDGES THROUGH NAZCA AND THE LPAA

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[tinyurl.com/yale-NAZCA](http://tinyurl.com/yale-NAZCA)

## Overview - Key Findings

*Cities, regions, businesses and investors are taking action to address climate change. The Non-State Actor Zone for Climate Actions (NAZCA) Platform, highlighting the 12 action areas of the Lima-Paris Action Agenda (LPAA), showcases over 10,000<sup>2</sup> global commitments that span almost every sector.*

*Cities and Regions are the most active NAZCA participants, representing 50 percent of all NAZCA pledges. In total, the cities and regions on NAZCA cover **17 percent of the global population**.<sup>3</sup> NAZCA includes climate action commitments from 2,449 companies, which make up 39 percent of the pledges on the site. **The total revenue of almost half of these companies and investors (994 in total) is \$22.06 trillion** - an amount equivalent to the United States and Japan's combined GDPs.<sup>4</sup> Sixty-one percent of these 994 companies are listed as Forbes 2000 companies, totaling \$19.2 trillion USD in revenue. Sixty percent of the CDP Global 500<sup>5</sup> companies with the world's largest market capitalizations have made commitments on NAZCA.*

***Fifteen of the world's 20 largest banks by market capitalization have made commitments, totaling close to \$2 trillion USD in market share. Green bonds worth \$47 billion USD** - an amount equivalent to 75 percent of global climate finance flows in 2014<sup>6</sup> - are financing climate projects.*

***In all, 1,268 commitments from 1,192 cities and regions contribute 2.7 gigatons of carbon dioxide equivalent (Gt CO<sub>2</sub>e) in emission reductions.**<sup>7</sup> **One-hundred and eleven Global***

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<sup>1</sup> Angel Hsu, Yaping Cheng, Kaiyang Xu, Amy Weinfurter, and Cameron Yick. Yale Data-Driven Environmental Solutions Group. 2015. [www.tinyurl.com/yale-NAZCA](http://www.tinyurl.com/yale-NAZCA).

<sup>2</sup> As of December 2, 2015, the total number of commitments reported on NAZCA was 10,773 commitments. The rest of the memo reflects the data that was available on NAZCA on Friday, November 20, 2015.

<sup>3</sup> Cities and regions making individual commitments plus those making commitments through the Covenant of Mayors are included in this 17 percent global population statistic.

<sup>4</sup> World Bank. (2014). National GDP data. Retrieved from: <http://databank.worldbank.org/data/download/GDP.pdf>.

<sup>5</sup> CDP Global 500 (the largest 500 companies in the world by market capitalization in the FTSE Global Equity Index Series, CDP 2013), 482 out of the 500 report to CDP.

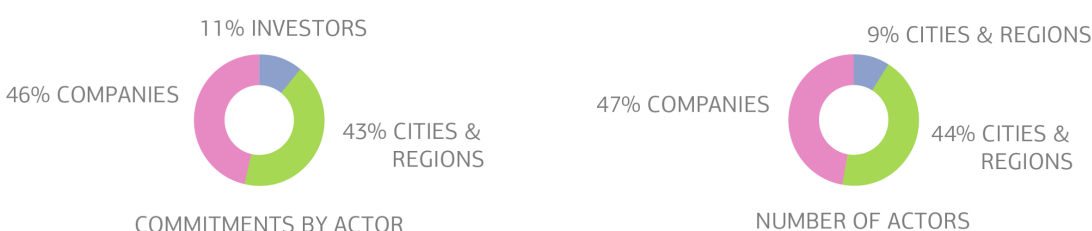
<sup>6</sup> Developed countries mobilized US \$61.8 billion of public and private climate finance in 2014, according to the OECD. (Economic Co-operation and Development (OECD) & Climate Policy Initiative (CPI). (2015). Climate finance in 2013-14 and the USD 100 billion goal. Retrieved from: <http://www.oecd.org/env/cc/oecd-cpi-climate-finance-report.htm>.)

<sup>7</sup> Calculated from only those commitments labeled 'community-wide' and not limited to a specific sector.

**500<sup>8</sup> companies with a \$6.7 trillion market capitalization** are making reduction pledges on NAZCA, contributing nearly **80 Million tons of Scope 1 and 2<sup>9</sup> CO<sub>2</sub>e reductions**, and the total mitigation potential of all of NAZCA's private sector actions (1,790 commitments) could be 10 times greater. The combined emission reductions from recorded cities, regions, and company climate actions are more than the total global emissions from the iron and steel sector.

These efforts represent only a fraction of the diverse range of climate actions undertaken by groups across the world. NAZCA represents a snapshot in time, and is continuously expanding the breadth of action it captures. NAZCA recently created more opportunities for civil society organizations to submit pledges, one among many efforts to more fully capture the vast range of climate actions and actors. Together, climate actions both outside of and within NAZCA bring a potent package of solutions to support a successful COP-21 Paris outcome.

## A. Actor Analysis



**Figure 1.** Overview of actors and commitments in NAZCA.

### 1. Cities and Regions

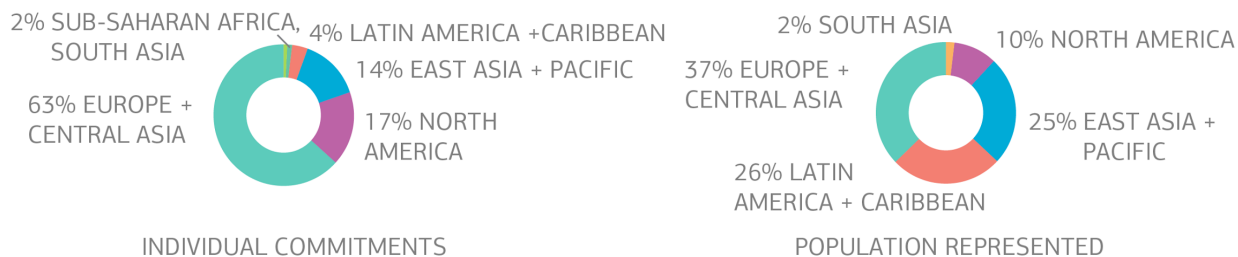
City and region actors, all those making individual commitments plus 23 percent of Covenant of Mayors' cities, representing **17 percent (1.26 billion)** of the global population.

**2,044 cities and 116 regions, including all those making individual commitments plus the 23 percent of the Covenant of Mayors' cities represented on NAZCA, represent about 17 percent (1.26 billion) of the global population.** 97 out of the top 300 global cities by GDP PPP, totaling \$20 trillion, are making 343 individual commitments on NAZCA. 613 cities and regions, representing 5.34 million people, have exclusively joined cooperative commitments. The city of Oslo alone has made 14 individual commitments, the highest among all cities. Sub-national governments in the United States have made 121 individual commitments, the most to come from any country.

<sup>8</sup> CDP Global 500 Emissions and Response Status. (2013). Retrieved from: <https://data.cdp.net/Climate-Change/Global-500-Emissions-and-Response-Status-2013/marp-zazk>.

<sup>9</sup> Scope 1 (direct emissions resulting from fuel combustion) and Scope 2 (indirect emissions resulting from purchase of electricity, heat or steam) according to the Greenhouse Gas Protocol Corporate Accounting and Reporting Standard.

Cities that take climate actions range in population size from 175 (Sora, Spain) to 60 million (Antalya Metropolitan Municipality, Turkey). **Italy has the most cities and regions on NAZCA, with a total of 658 different areas included, leading the United States, Spain and Japan.**



**Figure 2.** Geographic representation of individual city and region commitments and population by region.

## 2. Companies

NAZCA includes 2,687 individual commitments, drawn from 1,404 companies that span 20 industry groups. Over a third of these individual commitments are from companies in the high-emitting materials (397 commitments), capital goods (376 commitments), and utilities (217 commitments) sectors. **Sixty percent of the CDP Global 500<sup>10</sup> companies (298 out of 500 companies) with the world’s largest market capitalizations have made commitments on NAZCA.**

Over 85 percent (2,287 commitments) of companies’ individual commitments include a specific timeframe, and more than half of these time frames (1,427 commitments) commit to pre-2020 action. Around 70 percent (997 commitments) of these pre-2020 commitments focus on emissions reductions, and over half of these emissions reduction actions (583 commitments) focus on energy access and efficiency activities. Companies make up the bulk of NAZCA commitments to climate action in the **transport and energy access and efficiency** action areas, accounting for **82 percent of transport commitments and 45 percent of energy access and efficiency commitments.**

Private investment commitments, made primarily through green bonds, stand out among companies’ climate actions. **Thirty-three firms, primarily utility companies, are investing close to \$30 billion on climate actions.** Two Dutch companies, two American firms and 1 French company are making investment greater than \$1 billion, all for renewable energy projects.

## 3. Investors

<sup>10</sup> CDP Global 500 (the largest 500 companies in the world by market capitalization in the FTSE Global Equity Index Series, CDP 2013), 482 out of the 500 report to CDP.

Investors are also pledging significant climate actions on NAZCA. **296 investors from 5 industry groups have made 646 individual commitments.** Around 40 percent of these individual commitments (252) are made by 72 institutional investors, such as asset management firms and pension funds from 11 countries.

**15 of the world's 20 banks with the largest market capitalization are featured on NAZCA, with an aggregate market capitalization over \$2 trillion.** The five largest banks<sup>11</sup> not included in NAZCA are from Asia; four in China and one in Japan. About 90 percent of the 204 individual commitments made by banks and diversified financial institutions refer to emissions reductions from their own business operations, as opposed to investments in climate mitigation or adaptation. Less than one-tenth of these commitments (13) issue green bonds for climate projects.<sup>12</sup>

**Nearly 90 percent (252) of NAZCA's 286 investment commitments are made by institutional investors.** Almost all the 60 commitments that specified an investment amount relate to issuing green bonds for climate projects. In aggregate, **25 institutional investors, 14 banks and other private investors are issuing green bonds worth a total of \$21.6 billion.**

The 226 investment commitments are diverse. NAZCA includes a range of \$24 billion - \$55 billion committed to investment in renewable energy facilities (87), green buildings (26), forest (17), energy access & efficiency (17), green bonds (10), etc.

#### 4. Civil Society Organizations

The climate actions of 235 civil society organizations are now being reflected in NAZCA. In the Divest-Invest Global Movement, 30 cities, 8 investors, 3 companies, 86 organizations (84 civil society organization, and 2 organizations) are participating, committing to ensure that a minimum of 5 percent of investment portfolios are made up of renewables and clean technology through divesting and moving assets into clean energy investments.

#### B. Highlighted Themes

##### *Cooperative Commitments*

Not only are actors making individual commitments, but **3,859** are also acting in coordination, pledging **35 total cooperative initiatives** reflected on NAZCA and the LPAA. **2,044 cities and 116 regions, 1,298 companies, and 242 civil society organizations across 128 countries** are participating in cooperative commitments. These cooperatives initiatives focus on cross-cutting issues that fall into 12 action areas identified by the LPAA, such as transportation, agriculture and energy access and efficiency.

**The largest cooperative initiative is the Covenant of Mayors, with a total of 6,642 city signatories, representing 211,558,597 inhabitants, where only a portion (23 percent) of the**

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<sup>11</sup> See Annex III for further information on the largest banks, many of which are not included in NAZCA.

<sup>12</sup> See Annex I.

**commitments have been processed and published on NAZCA.**<sup>13</sup> Largely due to the large number of participants included in the Covenant of Mayors, the LPAA category of cities and sub-nationals engages the largest number of participants, followed by businesses, transport, and forests. Many initiatives grew out of the New York Climate Summit held by United Nations Secretary-General Ban Ki-moon in October 2014. The Compact of States and Regions, for instance, has added actors and further specified its emissions impacts since its formation at the New York Climate Summit.

### *Potential for Narrowing the Emissions Gap*

**NAZCA commitments have the potential to help narrow the global emissions gap.** Seventy percent of NAZCA individual commitments (3,986 out of 5,797) directly target emissions reductions. Of these, 97.5 percent include a quantifiable reduction target, establishing a foundation for measuring progress. The scope, level of detail and confidence in these emissions targets vary. City and regional commitments account for approximately half of the emissions reductions commitments; pledges from companies and investors make up the remaining half.

**Cities and regions are making the most significant quantifiable emission reduction contributions on NAZCA.** Cities and regions describe the vast majority of their emission reduction targets in terms of a percentage reduction; yet 21 of the 1,960 city and region emissions reduction commitments are made in terms of absolute targets. Perth, Australia, for example, pledges to reduce carbon dioxide emissions from government operations 20 percent from 2011 to 2020.

The total emissions released by cities and regions represented in NAZCA is estimated to be 17.3 Gt. When considering only community-wide climate actions (that is, commitments that cover all of a city's or region's sectors), the total emission reductions contributions of 1,192 cities and regions is 2.7 Gt CO<sub>2</sub>e.<sup>14</sup> This number represents the total reductions of cities making community-wide commitments, across various target and base years. Most cities and regions commit to mid-range emissions reduction targets (with a target date ranging from mid-2020 to 2030). Seven cities and regions in five countries have adopted carbon neutrality targets.

**Companies and investors are also contributing towards global carbon emission reductions.** Emissions reductions goals from companies and investors are split fairly evenly between targets based on a per-unit basis (i.e., reductions of the emissions intensity of a produced good or service) and targets aiming to reduce emissions from an organization's overall operations. These targets range from an 0.3 percent reduction pledged by a utilities company, to the Danish Lego Group's pledge to cut 100 percent of its operational emissions through renewable energy procurement. The sector-wide targets from the 20 industries represented on NAZCA range from 31.7 percent to 14.4 percent.

**One hundred and eleven Global 500 companies, with a combined revenue of \$6.7 trillion, have made emission reduction pledges that would 80 million tons of CO<sub>2</sub>e from their scope 1 and 2 emissions.** The 111 emissions reductions commitments that these companies have made represent less than one-tenth of the 1,790 emissions reduction commitments companies have put forward, meaning the private sector's potential emissions impact is likely 10 times greater.

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<sup>13</sup> The Covenant of Mayors. (2015, December 2). Retrieved from: [http://covenantofmayors.eu/index\\_en.html](http://covenantofmayors.eu/index_en.html). Some of these signatories are not yet captured by the NAZCA platform.

<sup>14</sup> This emissions reduction number was estimated using national per capita emissions data from the IEA and World Bank.

*Use of a Carbon Price*

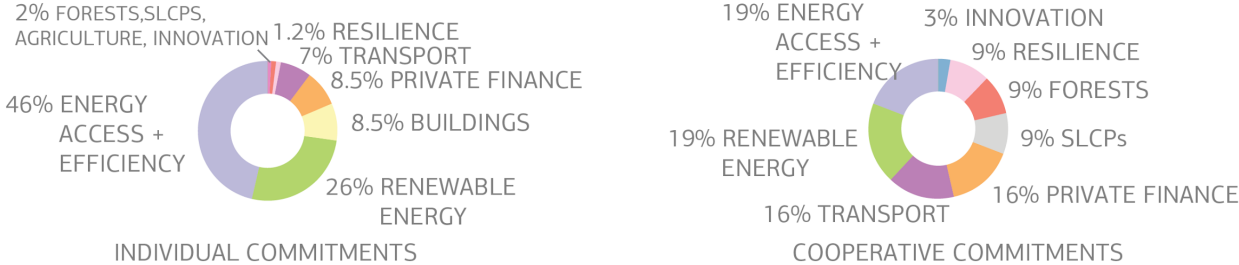
Sub-national and non-state actors play an increasingly crucial role in pioneering carbon prices, a trend reflected in the NAZCA platform. Companies and investors lead efforts to set a price on carbon, accounting for 767 out of 770 of these commitments. The remaining three commitments represent the emissions trading systems of California, Ontario and Quebec. While almost half of the companies on NAZCA have made individual commitments to deploy carbon prices, only 10 percent of these companies specify the price or price range they will use. The price specified by companies ranges from a low of \$0.95 USD to a high of \$357.37 USD per ton of carbon, with an average of \$28.60 USD per ton of carbon. Only 12 of 104 carbon pricing commitments made by investors include a specific price, which averages \$16.13 USD per ton of carbon.

Many of the most-emitting sectors are among those committed to implementing a carbon price. Over half of the companies that specified a carbon price are from the materials sector (27 companies with an average carbon price at \$27.50 USD) and the utilities sector (20 companies with an average carbon price at \$20.90 USD).

*Green Bonds*

Green bonds, which create funds to support projects with positive climate or environmental benefits, have emerged as a significant financial force on the NAZCA platform. In total, **16 cities and regions, 33 companies and 56 investors have issued green bonds worth \$47 billion USD. Utilities** account for the majority (over **70 percent**) of companies issuing green bonds, funding over **\$13 billion** of green bonds to support renewable energy projects. **Cities and regions focus their \$6.24 billion** of green bonds on infrastructure development, supporting projects on low carbon transport, renewable energy, energy efficiency, water and waste management, sustainable land use (forestry) and climate adaptation and resilience.

**C. LPAA Action Areas**

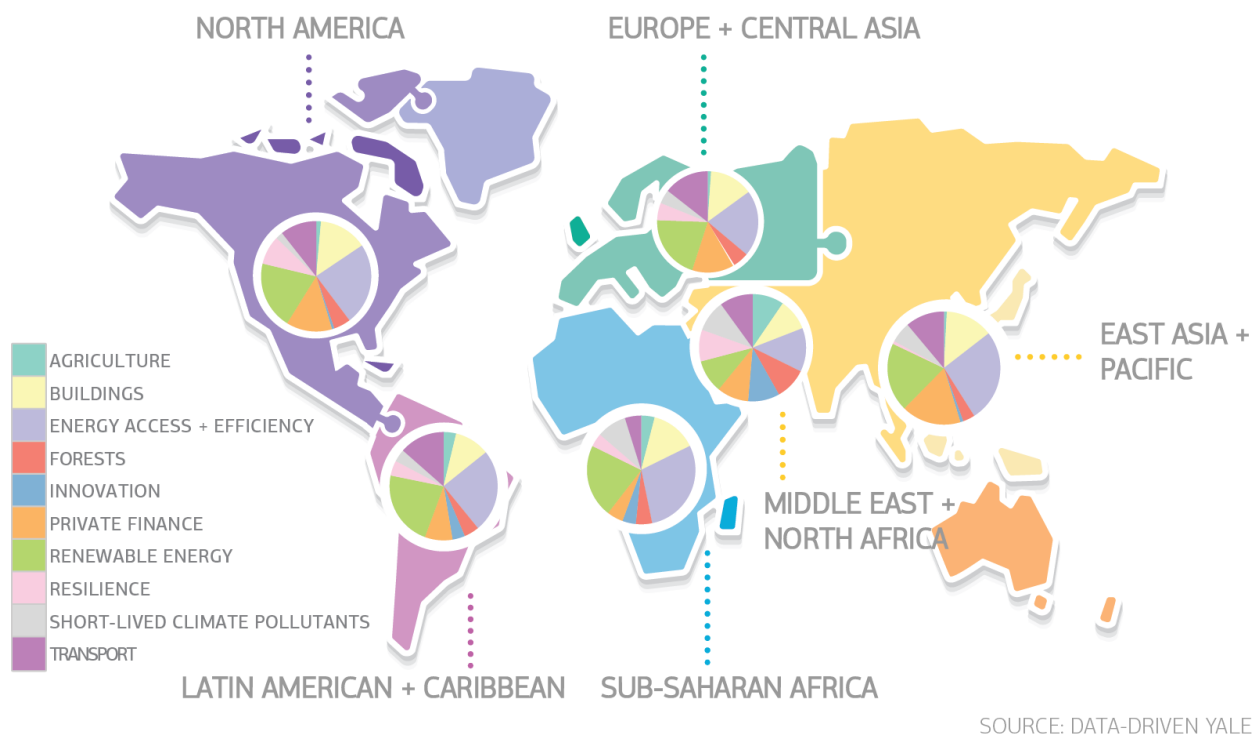


**Figure 3.** Commitments in the LPAA by sector, for both individual and cooperative commitments.

The LPAA identifies 12 key action areas for climate actions, such as transport, energy efficiency, and resilience. The NAZCA platform tags commitments with the action area(s) relevant to their

goals. (The platform lists 10 action areas, instead of 12, because two of the LPAA action categories, city and subnational climate action and business climate action, are reflected in NAZCA's climate actor categories).

Of the 10 LPAA action areas represented on the NAZCA platform, most commitments are categorized as energy access and efficiency and renewable energy actions. By contrast, no individual commitments currently fall under the innovation category. LPAA areas also often occur in concert with each other. Many commitments, for instance, fall under both the energy access and efficiency and renewable energy categories, which reflects the fact that many renewable energy projects also improve energy efficiency.<sup>15</sup> Some action areas are also driven by specific kinds of actors. Companies, for example, account for 82 percent of transport commitments and 45 percent of energy access and efficiency commitments.



**Figure 4.** LPAA thematic areas distributed across six global regions.

#### D. Additional contributions of other climate actions

While NAZCA and the LPAA capture a growing number of commitments, these initiatives do not encompass the full extent of sub-national and non-state climate actions. Recently announced commitments, as well as pledges made outside of the seven data providers that feed the NAZCA platform, fall outside its current scope, but will also drive climate action forward.

<sup>15</sup> The conversion factors of fossil fuels from primary energy to final energy typically range from 30-40 percent, while the conversion factors of renewable energy can be as high as 100 percent. (Energy Primer. Chapter 1. Retrieved from: <http://www.iiasa.ac.at/web/home/research/researchPrograms/TransitionstoNewTechnologies/energyprimer/energyprimer.html>)



In September 2015, for instance, cities, states and provinces from the United States and China announced a joint pledge to reduce their carbon emissions. The participating **Chinese cities and provinces represent approximately 1.2 Gt of annual CO<sub>2</sub> emissions, an amount equivalent to about 25% of China's urban emissions, or the carbon dioxide emissions produced by Japan or Brazil.**<sup>16</sup> Adding these 11 participating Chinese cities, the total global population covered by city and regional climate actions totals 1.4 billion or 19 percent. A number of these cities in the “Alliance of Peaking Pioneer Cities,” commit to meet or exceed China’s goal of peaking emissions by 2030.

The United States has launched several climate action platforms to capture commitments not currently recorded in NAZCA. These efforts include:

- **The Paris Pledge**,<sup>17</sup> which includes 165 churches and interfaith organizations that commit to reduce emissions 50 percent by 2030 and 100 percent by 2050;
- **The American Campuses Act on Climate Change**,<sup>18</sup> which covers 218 campuses representing over 3.3 million students across the United States;
- **The American Business Act on Climate Pledge (ABAC)**,<sup>19</sup> which has 81 companies operating in all 50 U.S. states, employing over 9 million people and representing more than \$3 trillion in annual revenue.<sup>20</sup> Some of these companies are already represented in NAZCA.

**There is potential to capture an even greater representation of companies' climate actions.** Twenty-three out of the 85 companies in the We Mean Business<sup>21</sup> Coalition are not included on NAZCA. Three of these companies are members of the Forbes 2000, and represent a total revenue of \$80.7 billion USD. **Combined with ABAC and NAZCA's total revenue numbers, these companies taking climate actions represent \$25.14 trillion USD in total revenue.**

Similarly significant climate commitments occur across the investor categories as well. The Netherlands National Civil Pension Fund, Stichting Pensioenfond ABP, announced in October that they would reduce their greenhouse gas emissions 25 percent by 2020. They also committed to

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<sup>16</sup> The United States Government, Office of the Press Secretary. (2015). Fact Sheet: U.S. - China Climate Leaders Summit. Retrieved from: <https://www.whitehouse.gov/the-press-office/2015/09/15/fact-sheet-us-%E2%80%93-china-climate-leaders-summit>.

<sup>17</sup> The Paris Pledge. (2015). Faith models deep CO<sub>2</sub> cuts for COP21. Retrieved from: [www.parispledge.org](http://www.parispledge.org).

<sup>18</sup> White House. (2015). FACT SHEET: White House Announces Commitments to the American Business Act on Climate Pledge. Retrieved from: <https://www.whitehouse.gov/the-press-office/2015/10/19/fact-sheet-white-house-announces-commitments-american-business-act>

<sup>19</sup> White House. (2015). FACT SHEET: White House Launches American Business Act on Climate Pledge. Retrieved from: <https://www.whitehouse.gov/the-press-office/2015/07/27/fact-sheet-white-house-launches-american-business-act-climate-pledge>.

<sup>20</sup> FACT SHEET: White House Announces Commitments to the American Business Act on Climate Pledge. <https://www.whitehouse.gov/the-press-office/2015/10/19/fact-sheet-white-house-announces-commitments-american-business-act>. Note: Some of the 81 companies are represented in NAZCA.

<sup>21</sup> We Mean Business Coalition. Retrieved from: <http://www.wemeanbusinesscoalition.org/content/low-carbon-technology-partnerships-initiative>.



doubling their assets in renewable and environmentally friendly-technology, to €58 billion by the same timeline.

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