

## Non-State and Subnational Action Guidance

*Guidance for integrating the impact of non-state and subnational mitigation actions into national greenhouse gas projections, targets and planning*

*July 2018*

### Overview of databases and studies

#### APPENDIX A: OVERVIEW OF DATABASES AND STUDIES

*The appendix provides an overview of the most comprehensive global databases on non-state and subnational action as well as an overview of literature (methodologies) on the quantification of non-state and subnational action, including their approach to overlaps that users may want to consult in support of applying the guidance.*

*Table A.1: Overview of databases for non-state and subnational action*

Name of data source	Type of actors covered	Geographic focus	Sectors covered	Targets covered	Data sources	Is action tracked/how?	Frequency of updating	Link to database
Non-state Action Zone for Climate Action (NAZCA)	Companies, cities, regions, investors, CSOs, cooperative initiatives	World	All sectors and major themes	Broad (Emissions reduction, energy access & efficiency, renewable energy, resilience, use of carbon price, private finance, transport, buildings, forest, short	CDP, carbonn Climate Registry, The Climate Group, Covenant of Mayors, UN Global Compact, Investors on Climate Change, Climate Bonds	Actors are encouraged to report on progress themselves through voluntary disclosure. NAZCA considers itself a platform that	Ongoing basis, frequency unclear	<a href="http://climateaction.unfccc.int/">http://climateaction.unfccc.int/</a>

				term pollutants, innovation, agriculture, other - 12,000+ commitments/actions)	Initiative, Climate Initiatives Platform	tracks non-state and subnational action.		
Global Covenant of Mayors for Climate and Energy Action plans	Cities	World	All sectors	Broad (Emissions reduction, adaptation, secure and sustainable and affordable energy to implement EU climate and energy objectives)	Covenant of Mayors Monitoring and Reporting Framework	Cities need to report every two years on implementation progress to the Covenant of Mayors	Ongoing basis, frequency unclear	<a href="http://www.covenantofmayors.eu/actions/monitoring-action-plans_en.html">http://www.covenantofmayors.eu/actions/monitoring-action-plans_en.html</a>
Climate Initiatives Platform	International Climate Initiatives (ICI)	World	Finance, Transport, Agriculture and Forestry, Cities and Regions, Waste, Industry, Emissions, Energy, Adaptation, Other	Broad (from specific emissions reductions to implementation/capacity building initiatives, in total 20+ initiatives, over 70 of which are on NAZCA)	UNEP/UNEP DTU	Specific monitoring and reporting section (self-reported) – though often information is (not yet) available	Ongoing basis, continuously (ICI focal points able to update information themselves)	<a href="http://climateinitiativesplatform.org/index.php/Welcome">http://climateinitiativesplatform.org/index.php/Welcome</a>
Portal on Cooperative Initiatives	International Cooperative Initiatives	World	Agriculture, Buildings, Cities, EE, Energy Supply, Finance, Forestry, Industry, Int. Aviation, Int. Mar. Transport, Land Use, SLCP, Transport, Waste, other	Broad (from capacity building, to research, to technological transfer)	UNFCCC	No	Ongoing basis, frequency unclear	<a href="http://unfccc.int/focus/mitigation/items/7785.php">http://unfccc.int/focus/mitigation/items/7785.php</a>
Global Aggregator for Climate Actions (GAFCA)	Non-state and subnational	World (most are global initiatives)	Agriculture, Cities, Energy Finance, Forests, Industry,	Broad (from reduced emissions, to people affected, knowledge dissemination to fundraising) Almost 200 initiatives or	DIE, LSE	Ex-post output effectiveness: analysis of “function-output-fit” to measure whether produced outputs are consistent	Ongoing project– GAFCA is designed to be extendable	<a href="https://www.die-gdi.de/uploads/media/Workin">https://www.die-gdi.de/uploads/media/Workin</a>

			Resilience, Transport	climate actions and initiatives, e.g., those launched at the 2014 UN Climate Summit, and mobilised under the Lima-Paris Action Agenda)		with (self-) declared functions.	to a large range of climate actions, both addressing mitigation and adaptation.	<a href="http://www.tandfonline.com/doi/pdf/10.1080/14693062.2016.1248343">g-Paper-216-Chan-et-al.pdf</a>  <a href="http://www.tandfonline.com/doi/pdf/10.1080/14693062.2016.1248343">http://www.tandfonline.com/doi/pdf/10.1080/14693062.2016.1248343</a>
Investor platform for climate action	Investors	World	Finance	Broad but along the following themes: Measure, engage, reallocate, reinforce	PRI, IIGCC, CDP, INCR (Ceres), IGCC, UNEP FI, Asia Investor Group on CC	Not directly on the database although many of the actions track progress	Unclear	<a href="http://investors.onclimatechange.org/initiatives/">http://investors.onclimatechange.org/initiatives/</a>
CDP website	Companies, cities	World	Consumer discretionary, consumer staples, energy, financials, health care, industrials, IT, materials, telecoms, utilities	Absolute and intensity emission reduction targets	Self-reported data from companies and cities; CDP reporting frameworks	Not directly in the database, but often incl. in single responses from cities/companies and in CDP specific reports	Regularly (depending on programme/initiative)	<a href="https://data.cdp.net/">https://data.cdp.net/</a> and <a href="https://cdp.net">https://cdp.net</a>
carbons Climate registry	Cities, States and Regions	World	Renewable Energy, Transportation, Green Infrastructure, Buildings, Waste,	Broad (from environmental education, to emissions reductions to energy intensity improvements (600+ reporting entities)	ICLEI, Local government climate roadmap, dac, Plan de Accion Climatica Municipal, carbons Japan Project, EcoMobility Alliance, Earth Hour City Challenge	Reporting entities are encouraged to submit 'Status' updates on their mitigation & adaptations actions	Regularly, frequency unclear	<a href="http://carbons.org/">http://carbons.org/</a>

Table A.2: Overview of literature on the quantification of non-state and subnational action, including approach to overlaps

Source	Approach	Type of actors covered	Types of sectors covered	Impact on emissions (MtCO <sub>2</sub> e)	Target year	Approach to overlaps	Reference Scenario/baseline	Geographic focus	Link to source
Climate commitments of subnational	Select most ambitious initiatives,	Cities, regions, companies	EE, efficient cook stoves, methane and	2,500 – 3,300	2020	Calculated (between different	Relative to a business-as-usual scenario	World (focusing on	<a href="http://apps.unep.org/redirect.php?file=/publications/">http://apps.unep.org/redirect.php?file=/publications/</a>

actors and businesses (UNEP 2015)	calculate emissions reductions that they will deliver, consider overlap between initiatives and with pledges made by nat. governments		other SLCPs, reduced deforestation & afforestation, agriculture			initiatives, both between sectors and within same sectors)	that takes account of current government policies	major initiatives)	<a href="http://pmtdocuments/-Climate_Compmitments_of_Subnational_Actors_and_Business-2015CCSA_2015.pdf.pdf">pmtdocuments/-Climate_Compmitments_of_Subnational_Actors_and_Business-2015CCSA_2015.pdf.pdf</a>
Towards a new climate diplomacy (Hsu, Moffat, et al. 2015)	Look at individual commitments; tailor methodology to calculate emissions reduction impact, estimate double counting; compare with BAU from IPCC	Cities, regions, companies, NGOs, IOs and CSOs	EE, RE, reduced deforestation and afforestation	2,540	2020	Not calculated (exclude international cooperative initiatives because of concerns about double counting; otherwise case-by-case basis)	Relative to BAU from 5th assessment report of IPCC	World (drawing on commitments made at the New York Climate Summit 2014)	<a href="http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2594.html">http://www.nature.com/nclimate/journal/v5/n6/full/nclimate2594.html</a>
Better partnerships (CISL & Ecofys 2015)	Select five international cooperative initiatives; apply three different scenarios to analyse potential impact and carry out interviews with stakeholders from the different initiatives to support analysis.	Companies	EE, fluorinated gases	No total	2020	Not calculated (because of case study approach)	Tailored to initiative	World (drawing on Climate Initiatives Platform)	<a href="http://www.ecofys.com/files/files/ecofys-cisl-2015-wtg-better-partnerships.pdf">http://www.ecofys.com/files/files/ecofys-cisl-2015-wtg-better-partnerships.pdf</a>
Climate action outside the UNFCCC (Roelfsema et al. 2015)	Select international cooperative initiatives, calculate emissions reduction using a	Cities, companies	Transport, methane and other SLCPs, fluorinated gases, shipping & aviation	2,500 (2020), 5,500 (2030)	2020/2030	Calculated (between initiatives, which is assumed to occur with initiatives	IMAGE 3.0 (PBL) baseline scenario, based on population and GDP assumptions	World (international initiatives)	<a href="http://www.pbl.nl/sites/default/files/cms/pbl-2015-climate-action-outside-the-">http://www.pbl.nl/sites/default/files/cms/pbl-2015-climate-action-outside-the-</a>

	tailored methodology for each initiative; Comparing projected emissions of the initiatives to the emission levels pledged by parties under the UNFCCC					aimed at the same sector in the same country)	from the SSP2 scenario (IIASA, 2015), and harmonised to the 2010 global emission level from the UNEP Gap Report		<a href="#">unfccc_01188.pdf</a>
International climate initiatives – A way forward to close the emission gap? (Graichen et al. 2016)	Screen 174 initiatives, select those suitable for further quantitative & qualitative analysis. Assess mitigation impact of selected initiatives and break down impact on a nat. level; add impact of initiatives to estimate emission reduction beyond current pledges	Cities, regions, companies	EE, Efficient cook stoves, RE, transport, methane and other SLCPs, fluorinated gases, reduced deforestation and afforestation	5,000 – 11,000	2020/2030	Calculated (overlaps with other initiatives in the same sector, across sectors, and any specific policy or INDC elements in the country not considered in the global INDC scenarios before)	Reference scenario based on the full implementation of all INDCs	World (international initiatives)	<a href="https://www.umweltbundesamt.de/sites/default/files/medien/1968/publikationen/2016-11-29_discussion_paper_clean_version_final.pdf">https://www.umweltbundesamt.de/sites/default/files/medien/1968/publikationen/2016-11-29_discussion_paper_clean_version_final.pdf</a>
The business end of climate change (CDP & We Mean Business 2016)	Based on five international initiatives (chosen on a set of predefined criteria), estimate impact of each of those, calculate overlaps	Companies	All sectors covered by the five initiatives	3,200 – 4,200	2030	Calculated (overlap across the five different initiatives)	IPCC Fifth Assessment Report (2014)	World (global initiatives)	<a href="https://newclimateinstitute.files.wordpress.com/2016/06/business-end-of-climate-change.pdf">https://newclimateinstitute.files.wordpress.com/2016/06/business-end-of-climate-change.pdf</a>
Global Aggregation of City Climate Commitments	Look at 228 cities. Establish rules for standardising	Cities	Overall emissions	454 (2020) – 402 (2030)	2020/2030	Not calculated	Relative to BAU (align emissions with population)	World (drawing from the set of	<a href="http://www.c4o.org/researches/global-aggregation-of-city-climate-">http://www.c4o.org/researches/global-aggregation-of-city-climate-</a>

(ARUP & C40 Cities 2014)	reporting of GHG reductions; collect GHG emission target and inventory data where available; Combine the results for all cities to provide an estimate of total city committed reduction						growth, assume emissions per capita remain constant after the study baseline year, allocate emissions equally per person as the population increases)	predefined cities)	<a href="#">commitments-methodology</a>
Climate Leadership at the Local Level: Global Impact of the Compact of Mayors (Compact of Mayors 2015)	Based on self-reported data by 360 Compact of Mayors cities, calculate the difference between BAU scenario and target scenario in a given year.	Cities	Overall emissions reduction per year	500 (2020) – 740 (2030) – 950 (2050) per year	2020/2030	Not calculated	Relative to INDCs published in advance of COP21	World (member of Compact of Mayors)	<a href="https://data.bloomberg.com/mayors/sites/14/2016/01/BR_AggregationReport_Final_SinglePages-FINAL-2016.pdf">https://data.bloomberg.com/mayors/sites/14/2016/01/BR_AggregationReport_Final_SinglePages-FINAL-2016.pdf</a>
Compact of States and Regions Disclosure Report 2015 (The Climate Group, CDP 2015)	Based on self-reported data by 44 regions to the Compact of States and Regions. 'Target' GHG emissions were projected based on reported GHG targets reported up to 2050. Actual GHG emissions and interim targets were included where available. Then calculate the cumulative	Regions	Overall emissions	1,200	2030	Not calculated	Relative to BAU – based on per capita GHG emission (2010) and official population projections to 2050. For years where population projections were not available, population was estimated using a compound annual growth	World (joined the Compact of States and Regions)	<a href="https://www.theclimategroup.org/sites/default/files/archive/files/Compact-of-States-and-Regions-Disclosure-Report-2015.pdf">https://www.theclimategroup.org/sites/default/files/archive/files/Compact-of-States-and-Regions-Disclosure-Report-2015.pdf</a>

	difference between BAU emissions and 'target' emissions for each reporting government from 2010 to the date indicated (i.e., 2020 and 2030).						for the related period.		
Compact of States and Regions Disclosure Report 2016 (The Climate Group & CDP 2016)	Based on self-reported data from 62 states, provinces and regions around the world	Regions	Overall emissions	210 (2020) 760 (2030) 2,510 (2050)	2020/2030/ 2050	Calculated using data and analysis from the International Energy Agency's (IEA) Energy Technologies Perspectives 2014 (ETP 2014) report. The ETP 2014's 4 Degrees Scenario (4DS) reflects pre-2012 intentions by countries to cut GHG emissions and boost energy efficiency	Cumulative savings are estimated by adopting a common base year, in this case 2010, and by projecting the level of GHG emissions savings that could be achieved by the disclosing governments (Compact Target Scenario) against two reference scenarios. Scenarios are calculated using data and analysis from the IEA's Energy Technologies Perspectives 2014 (ETP 2014) report that refers to the 4 Degrees Scenario	World (joined the Compact of States and Regions)	<a href="https://www.theclimategroup.org/sites/default/files/downloads/compact_report_2016_.pdf">https://www.theclimategroup.org/sites/default/files/downloads/compact_report_2016_.pdf</a>

							(4DS) and 6 Degrees Scenario (6DS).		
Annual Disclosure – 2017 update	Based on self-reported data from 101 states, provinces and regions around the world	Regions	Overall emissions	2190	2050	Calculated (between neighboring states).	Calculated – Compared to the IEA's 2017 Reference Technology Scenario (RTS). The RTS considers current commitments by countries to limit emissions, including Nationally Determined Contributions (NDCs	World	<a href="https://www.theclimategroup.org/sites/default/files/disclosure_update_2017_digital.pdf">https://www.theclimategroup.org/sites/default/files/disclosure_update_2017_digital.pdf</a>
Scaling up: From local to global action. (Hsu, Xu, et al. 2015)	Nine city and regional climate action case studies; estimate impact for each of the cases and compare to BAU model of the country where the specific city/region sits in.	Cities & Region	Carbon tax, industry, transportation, forestry and land use, EE, waste, RE, emission trading	1,090	2020	Calculated (None)	Relative to BAU emission pathway (assuming linear pathway) of the relevant country	Canada, Brazil, US, South Africa, Germany, China, India, Algeria	<a href="http://www.stanleyfoundation.org/publications/report/WhitePaperScalingUp12-2015.pdf">http://www.stanleyfoundation.org/publications/report/WhitePaperScalingUp12-2015.pdf</a>
The business end of climate change (CDP & We Mean Business 2016)	Same as above, but calculating what would happen if every relevant business that could join in these initiatives actually did so.	Businesses	Economy wide, systemic	10,000	2030	Considering but not calculated	IPCC Fifth Assessment Report (2014)	World (global initiatives)	<a href="https://newclimateinstitute.files.wordpress.com/2016/06/business-end-of-climate-change.pdf">https://newclimateinstitute.files.wordpress.com/2016/06/business-end-of-climate-change.pdf</a>

<p>Advancing Climate Ambition: How city-scale actions can contribute to global climate goals (Erickson &amp; Tempest 2014)</p>	<p>Select all cities considered by the UN's World Urbanization Prospects. Calculate abatement potential in each year as difference in emissions between reference scenario and urban action scenario.</p>	<p>Cities</p>	<p>All, systemic impact</p>	<p>3,700</p>	<p>2030</p>	<p>Not calculated</p>	<p>Relative to reference scenario (RS), based on IEA's Energy Technology Perspectives 4DS scenario/ New Policies Scenario.  RS: multiply urban population by activity drivers by energy-intensity by GHG-intensity of energy. From this scenario, the urban action scenario departs: apply technologies and practices in urban areas to reduce GHG emissions, e.g. transportation.</p>	<p>World</p>	<p><a href="https://www.sei-international.org/mediamanager/documents/Publications/Climate/S-EI-WP-2014-06-C40-Cities-mitigation.pdf">https://www.sei-international.org/mediamanager/documents/Publications/Climate/S-EI-WP-2014-06-C40-Cities-mitigation.pdf</a></p>
<p>Implementing circular economy globally makes Paris targets achievable. (Circle Economy &amp; Ecofys 2016)</p>	<p>No information</p>	<p>All</p>	<p>Circular economy, systemic</p>	<p>6,500 – 7,500</p>	<p>2030</p>	<p>Not calculated</p>	<p>Relative to BAU if all INDCs are implemented</p>	<p>World</p>	<p><a href="http://www.ecofys.com/files/files/circle-economy-ecofys-2016-circular-economy-white-paper.pdf">http://www.ecofys.com/files/files/circle-economy-ecofys-2016-circular-economy-white-paper.pdf</a></p>