

Non-state and subnational climate action in India

An overview of the current landscape, emission reduction potential and implementation

Authors:

Katharina Lütkehermöller, Sybrig Smit, Takeshi Kuramochi



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Authors

Katharina Lütkehermöller, Sybrig Smit, Takeshi Kuramochi

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Summary

This study aims to obtain enhanced understanding of subnational (e.g. cities and subnational regions) and non-state (e.g. companies) actors' action on GHG emissions reductions in India. Specifically, we present an overview of findings in the recent literature on (i) landscape of non-state and subnational action, (ii) interactions between Indian policy making and non-state and subnational actors, (iii) potential GHG emissions reduction additional to the reductions expected under national policies, and (iv) progress towards their own short-to mid-term targets and long-term goals. This report focuses on India, where non-state and subnational climate mitigation action is still nascent, especially at subnational level, but growing and not sufficiently disclosed and/ or not significantly captured by leading data platforms (Sastry and Michael, 2019).

The recent landscape analysis of non-state and subnational action in India show that only 9% of India's GHG emissions in 2016 have been covered by quantifiable mitigation commitments by individual non-state and subnational actors in India, mostly companies. These actors have control over their own GHG emissions; their targets might therefore have direct mitigation impact. While the global wave of net zero targets has not yet reached India, there are an increasing though still small number of in particular non-state actors that are setting ambitious mitigation and/ or net zero emissions targets. The underlying ambition of non-state and subnational net zero announcements made to date, however, varies and requires careful examination on their effectiveness.

In addition to individual non-state and subnational actors, over 90 international cooperative initiatives (ICIs), which are partnerships of non-state and subnational actors, national governments and/or national organisations, focus on GHG mitigation in India across a number of sectors, in particular the energy and industry sectors. Many ICIs have highly aspirational and ambitious targets, and ICIs active in India aim for both indirect (e.g. knowledge dissemination), and direct (e.g. on-the-ground implementation) impact.

Non-state and subnational actors interact in different ways with policymakers. In India, policymakers mostly interact with non-state and subnational actors under consultation and delegation. More recently, a hybrid multilevel climate governance framework emerged, where multiple actors interact and can thereby reinforce each other. Non-state and subnational actors are more inclined to be ambitious in their climate change mitigation efforts, if centrally mandated climate action is aligned with their broader development and adaptation objectives. Efforts can be hampered by lack of capacity and funding.

Emerging literature suggests that non-state and subnational action and in particular ICIs could make relevant contributions to GHG emission reductions in India. This mitigation potential can however not be isolated from national climate ambitions; the GHG emission reductions can only be realised in coordination with national and policies. We show that symbiosis and interaction are crucial elements for target realisation by national government actors, as well as non-state and subnational actors. Considerable uncertainty exists around the additional mitigation potential of non-state and subnational actors as the broader policy context contributes to outcomes of non-state and subnational actions, but the GHG emission reduction potential shows that there is willingness to act on the ground and that more ambition is possible. In sum, the GHG emission reduction potential symbolises the importance of enhanced collaboration and wide coordination to realise ambitious climate targets.

There is limited information about the progress of Indian non-state and subnational actors toward their targets and goals, especially in terms of GHG emissions reductions. Some outputs have been delivered by initiatives, but the result on GHG emissions is challenging to measure.

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Abbreviations

COP	Conference of Parties
GHG	Greenhouse gas
ICI	International Cooperative Initiative
NAZCA	Non-state Actor Zone for Climate Action
NDC	Nationally Determined Contribution
PAT	Perform, Achieve and Trade scheme
SBTi	Science-Based Target initiative
UNFCCC	United Nations Framework Convention on Climate Change

1 Introduction

The Paris climate agreement adopted in 2015 recognised “non-Party stakeholders” mainly comprised of non-state actors (e.g. businesses, investors and civil society organisations) and subnational actors (e.g. cities and regions) as key contributors to achieve its long-term temperature goal (UNFCCC, 2015). Previously seen more as an alternative or complementary to the UNFCCC process, non-state and subnational actors are considered today as a core element under the “catalytic and facilitative” post-Paris regime (Hale, 2016).

The universe of bottom-up climate action is already large and continues to grow. Just counting actions reported to the UNFCCC Global Climate Action Portal, there are over 18,000 non-state and subnational actors representing more than 27,000 actions as of March 2021 (UNFCCC, 2021b). Correspondingly, the literature suggests that the potential impact of non-state and subnational climate action on greenhouse gas (GHG) emissions reductions is significant, even though considerable uncertainty exists (Hsu *et al.*, 2020). The existing literature covers the potential emission reductions of a range of non-state and subnational actions (Roelfsema *et al.*, 2018; Kuramochi *et al.*, 2020; Lui *et al.*, 2020). Only a few studies available assessed the actual or expected implementation of the pledges that non-state and subnational actors made (Hsu *et al.*, 2020; Hale *et al.*, 2021). In recent months, net zero pledges from non-state and subnational actors have also increased significantly; they together cover 880 million people and 10 GtCO₂e of global annual emissions (Data-Driven EnviroLab and NewClimate Institute, 2020).

This study aims to obtain enhanced understanding of nascent but rapidly growing non-state and subnational actors’ action on GHG emissions reductions in India. Specifically, we present an overview of findings in the recent literature on (i) landscape of non-state and subnational action, (ii) interactions between Indian policy making and non-state and subnational actors (iii) potential GHG emissions reductions additional to the reductions expected under national policies, and (iv) progress towards their own short- to mid-term targets and long-term goals. The report also aims to partially fill the knowledge gaps on non-state and subnational climate action in India, which is often not sufficiently disclosed and/or not well captured by Europe- and US-based global data platforms (Sastry and Michael, 2019).

Among different non-state and subnational actors, we distinguish between individual non-state and subnational actors, e.g., cities, subnational regions, civil society, international organisations and businesses, from international cooperative initiatives (ICIs). ICIs refer to broad coalitions made up of national governments, non-state and subnational actors that are operating across national borders and outside the UNFCCC process to incentivise action by many actors (Hsu *et al.*, 2018, 2020). There are many forms of ICIs—some focus exclusively on non-state and subnational actors while others also engage national governments (Hsu *et al.*, 2020).

2 Landscape of non-state and subnational action in India

2.1 Individual cities, regions and companies

2.1.1 Short- to mid-term targets (up to 2030)

A small number of cities, regions and companies in India have set climate targets, mostly short-term (pre-2020) and mid-term targets up to 2030. Quantifiable emissions reduction commitments by individual non-state and subnational actors in India cover less than 10% of India’s 2016 total emissions (Kuramochi *et al.*, 2020).¹ Of these individual actors, companies make up the largest share by far;

¹ Including emissions from land-use, land-use change and forestry.

actions reported by individual subnational states and cities are negligible (Table 1). This is due both to a lack of explicit climate target setting at the subnational level and better and more clear reporting of corporate climate targets in India, especially of large international corporations (Hingne *et al.*, 2021). In Section 3 we discuss the challenges of subnational climate policy governance in India in detail.

Table 1: Number of non-state and subnational actors' targets by target year in India (Kuramochi *et al.*, 2020).

2016 GHG emissions coverage by non-state and subnational actors (unit: MtCO ₂ e/year)				
Country	Regions	Cities	Companies	Net total (share in national total emissions including LULUCF)
India	15.6 (n=1)	3.54 (n=3)	218 (n=392)	235 (9%)*
EU27+UK	801 (n=33)	808 (n=5707)	729 (n=4572)	1500 (38%)

* For national total GHG emissions in 2016, the average values of high and low estimates were used.

Voluntary corporate climate action by Indian companies is also in its early phase of development compared to those headquartered in Europe and North America, as shown for the participation in the Science Based Targets initiative (Figure 1). At the same time, Figure 1 indicate that Indian companies are equally, if not more, active on climate action than Chinese companies. The Science Based Targets initiative (SBTi) also suggests that India is reaching a critical mass or a 'tipping point' for mainstreaming science-based targets (Science Based Targets initiative, 2021).

Targeted government schemes, such as the Perform, Achieve and Trade (PAT) scheme, which aims at increasing energy efficiency in the industry sector, and other national government incentive schemes have led to increased corporate emission reductions (and associated targets) (Hingne *et al.*, 2021). Such schemes can have a reinforcing effect on non-state and subnational climate action (ICAT, 2020).

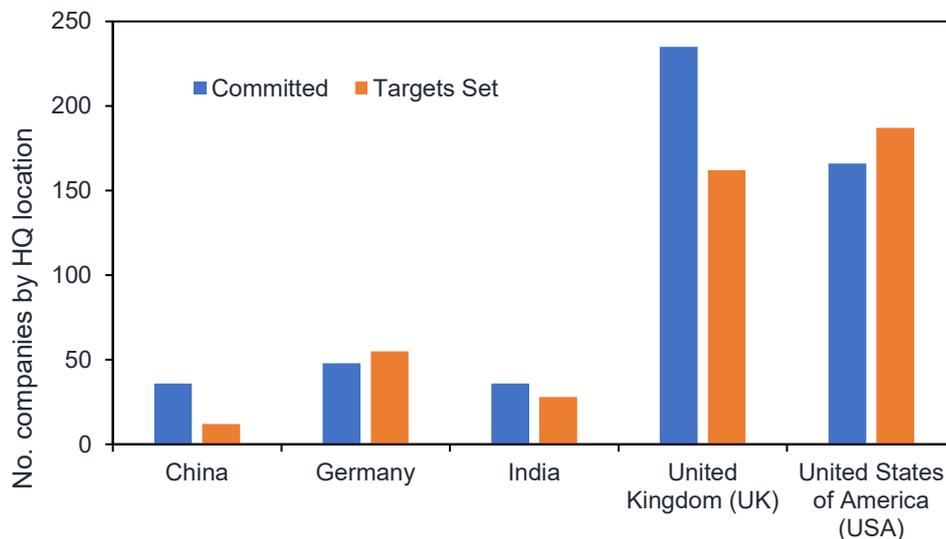


Figure 1: Number of companies committed to set science-based targets or with targets approved by the Science Based Targets initiative as of December 2021 (SBTi, 2021).

2.1.2 Long-term net zero targets

Globally, an increasing number of governments as well as non-state and subnational actors are setting net zero targets. As of November 2021, around 90% of global GHG emissions are covered by net zero targets; this includes the 2070 net zero announcement made by Indian Prime Minister Modi during the World Leaders Summit at COP26 (Climate Action Tracker, 2021).

In India, a small but growing number of non-state and subnational actors (8 cities, 35 companies and 11 organisations) have set or pledged to develop net zero emissions targets by August 2021 (UNFCCC, 2021a; CDP, 2021). The majority of net zero targets by non-state actors is made by companies in the automobiles, components and real estate sectors (CDP, 2021). There is no Indian state as of August 2021 that have set net zero emissions targets; in India, climate change mitigation actions have predominantly been formulated by the central government and state governments focused more on adaptation policies (Dubash and Jogesh, 2014; Pandey, 2021, quoting N.K. Dubash) (see Section 3 for detail).

However, the increase of net zero targets should be treated with caution. Imprecise terminology around net zero may lead to unclear target emission levels, implementation has yet to follow, and there are numerous risks related to offsetting under net zero ambitions. To illustrate, it is often unclear what share of emissions and emission scopes are covered by the net zero targets, “net zero emissions” and “carbon neutrality” are frequently used interchangeably and actors may use carbon offsetting to reach their net zero target (NewClimate Institute and Data-Driven EnviroLab, 2020).

2.2 Landscape of ICIs in India

In addition to individual non-state and subnational actors, there is a significant number of ICIs in India. ICIs originally emerged as one of complementary approaches to internationally negotiated top-down targets under the UNFCCC process to enhance global climate action and often have longer term vision consistent with global climate goals on their focus sectors (Widerberg and Pattberg, 2015). They cover a variety of sectors and have divergent targets and ambitions. India contributes to ICIs’ activities by being e.g. a signatory member and/or a convener.

Globally, among the 297 ICIs covered in the Climate Cooperative Initiative Database (C-CID), roughly 50% focus mainly on mitigation (Chan *et al.*, 2021). This trend is even more prominent for India; 83 out of 91 initiatives in which India is a participant focus on mitigation². By contrast, there are only seven ICIs that claim to focus mainly on adaptation. This finding is rather surprising, given the strong focus of many Indian non-state and in particular subnational actors on adaptation.

Of the 82 mitigation-focused ICIs, 41 focus (exclusively or partly) on the energy sector. This is followed by the industry (27 ICIs), transport (20) and human settlement and buildings sectors (21) (Figure 2). The shares of ICIs focused on industry, energy and transport are significantly higher than the global average, while the share of land-use ICIs is significantly lower.

² Includes ICIs that mainly focuses on mitigation as well as those that equally focus on both mitigation and adaptation objectives.

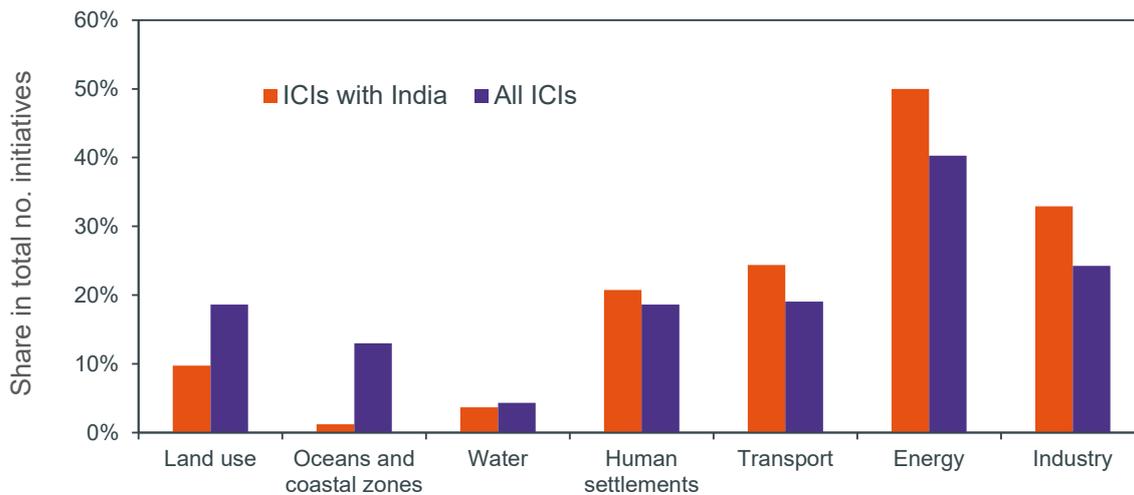


Figure 2: Mitigation-focused ICIs, with India as a member and all ICIs globally, by focus sector (Chan *et al.*, 2021).

Due to their diverse backgrounds, ICIs hold a variety of core functions. These functions can range from campaigning, to norm and standard setting (Chan *et al.*, 2018). For knowledge dissemination, for example, workshops or regular publications may be expected. In India, 43% of the 83 mitigation-focused ICIs have knowledge dissemination as one of their core functional foci, followed by technical, on-the-ground implementation and funding (Figure 3).

ICIs' functions can also relate to direct or indirect impact. On the one hand, **direct impact** may be generated by, for example, technical 'on the ground' implementation or product development. ICIs can have targets related to technical innovation that can be implemented directly, or act as a convening platform for ambitious target-setting for their members. On the other hand, ICIs may aim for **indirect impact** by, for example, lobbying, policy planning or knowledge dissemination. Members of such ICIs may not have direct control over emissions, or aim for changes in policies and need to interact with policymakers. Many ICIs are found to have more than one type of function and targeted impact (Chan *et al.*, 2018). Therefore, the additionality of the potential impact might differ. In addition, many ICIs also target more than one sector. In India, the three most common functional foci of mitigation-focused ICIs² are related to both direct and indirect impact and more than half (n=51) of the 83 mitigation-focused ICIs aim for direct impact with technical on-the-ground implementation and/or standard setting (Figure 3).

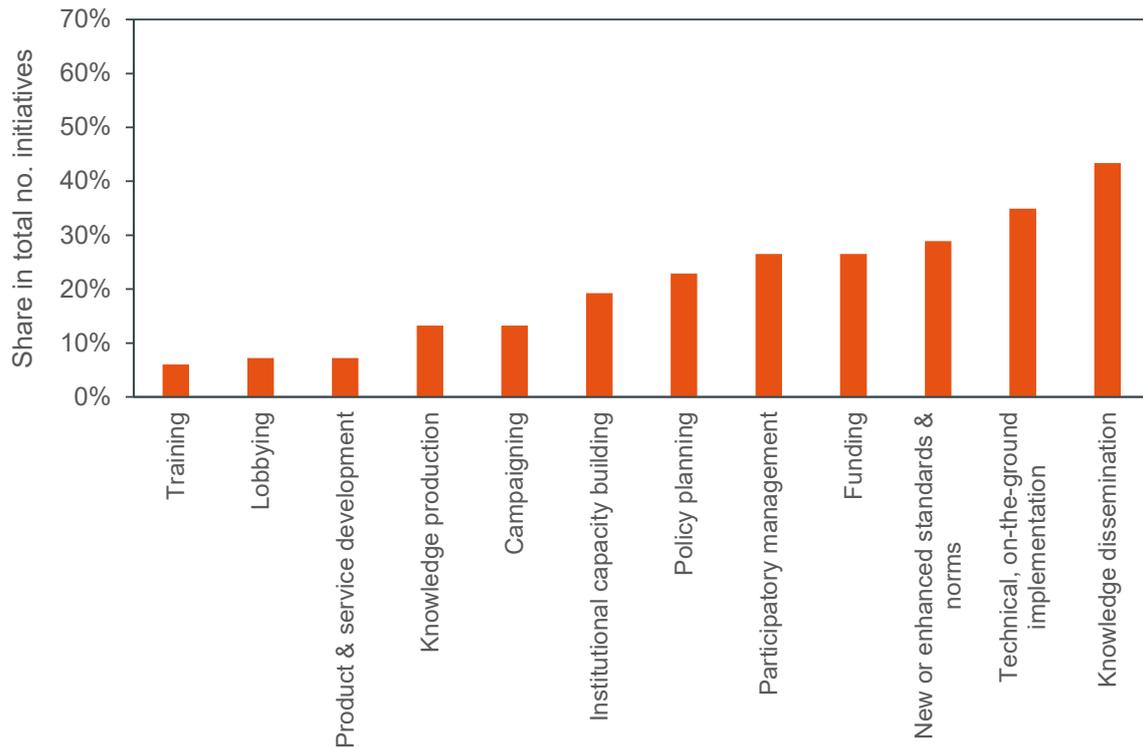


Figure 3: Functional foci of mitigation-focused international cooperative initiatives operating in India (Chan *et al.*, 2021).

Significant geographic differences in participation can be observed. Generally, most participants (actors that take part in an initiative), lead partners (actors that coordinate within an initiative) and funders (actors that fund an initiative) are based in highly developed, industrialized nations. For example, India currently leads only one ICI – the International Solar Alliance (QRIUS, 2017). This is in stark contrast to other highly developed, industrialised nations in the global North. This may be due to biases in existing records, but also to significant differences in available resources and capacities for climate action across industrialised and developing countries (NewClimate Institute *et al.*, 2021).

3 Non-state and subnational action as part of Indian climate governance

National governments interact with non-state and subnational actors in different ways. This interaction partially determines to what extent non-state and subnational action is additional to national climate policies (Hale *et al.*, 2018). In India, policymakers mostly interact with non-state and subnational actors under consultation and delegation (Figure 4). While non-state and subnational actors can be considered as implementers of central government policies under these ways of interactions, recent developments show that if centrally mandated action is aligned with development objectives of non-state and subnational actors, the latter may voluntarily increase the ambition of delegated mandates.

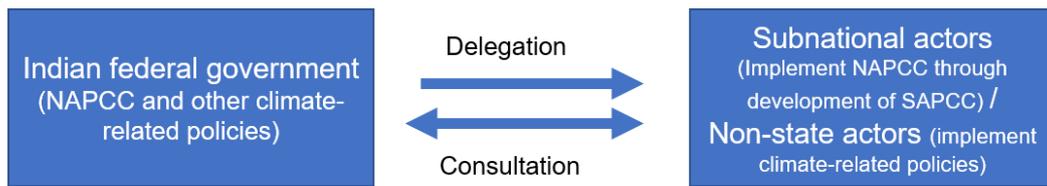


Figure 4: Ways Indian policymakers interact with non-state and subnational actors

The Indian government has a federal structure. This means that states and cities play an important role in the overall climate governance system, but targets and actions have so far mostly been mandated by the central government (Dubash and Jogesh, 2014; Gogoi, 2017; Pandey, 2021, quoting N.K. Dubash).

In India, the central government **delegates** the implementation of Indian climate policy to non-state and subnational actors, for example by tasking non-state and subnational actors to develop state-specific action plans (Hale *et al.*, 2018). Delegated non-state and subnational climate action can result in limited additional emission reductions but is often required for successful implementation.

Climate action at state level is defined by the State Action Plans on Climate Change (SAPCC) whose development was mandated by the Indian central government following the publication of the National Action Plan on Climate Change in 2008 (Sastry and Michael, 2019). Similarly, at the city-level climate policy depends on national and state-level mandates and support. Nevertheless, a number of cities voluntarily go beyond these standards in the design and implementation of those policies, especially if they align with their development objectives. In addition, a major focus for Indian non-state and subnational actors is adaptation, and the focus of the state action plans has mostly been on adaptation so far (Gogoi, 2017).

For example, the city of Rajkot was delegated to build affordable housing under the state and national “Housing for All” scheme. In the implementation of the scheme, Rajkot integrated climate change mitigation and adaptation considerations into the policy design as these aligned with the development purpose of the scheme. Specifically, the housing design includes passive ventilation and cooling as well as a rainwater harvesting system (Bhardwaj and Khosl, 2017).

Subnational actors may take the initiative to go beyond centrally mandated policy ambition on their own, but in practice this is often done in partnership with other non-state and subnational actors and initiatives (Bhardwaj and Khosl, 2017). In fact, in addition to centrally mandated climate action, informal and formal partnerships, through participation in ICIs for example, also play a significant role (Sastry and Michael, 2019). For example, an increasing number of Indian subnational actors have become members to important state and city networks such as C40 or the Under2Coalition in recent years (C40, 2021; Under2 Coalition, 2021). This indicates that the climate Indian governance system can increasingly be described as a hybrid multilevel climate governance system in which multiple agents operate and which can reinforce each other’s efforts (Ramya Mandyam Anandampillai, 2020).

For example, the state of Chhattisgarh became a member of the Under2Coalition in 2017. It prepared the SAPCC in 2014, with a focus mostly on adaptation relevant sectors such agriculture, forestry and water resources. It thereby aims to achieve inclusive growth and increase resilience to the effects of climate change. By becoming a member of the Under2Coalition, the state also commits to limiting emissions to 80-95% below 1990 levels, or to below 2 annual metric tons equivalent per capita, by 2050. Specifically, the state is currently working with representatives from identified key sectors and the Indian government to develop aspirational adaptation and mitigation targets in line with the Paris Agreement goals (The Climate Group - Under2Coalition, 2021).

The above highlighted case studies show that non-state and subnational actors can therefore strengthen the implementation of centrally mandated climate policies (Hsu et al., 2020a).

One major challenge for Indian non-state and subnational actors is capacity and finance constraints, which limits ambition and implementation of climate policies especially at the state and city-level (Sastry and Michael, 2019). In addition, since state action plans were in most cases developed based on a request by the government, buy-in and ownership by state government is often missing (Gogoi, 2017). This is especially true when climate and policy goals are not in sync (Bhardwaj and Khosl, 2017).

The Indian central government also **consults** widely with a range of stakeholders on climate policy. For example, during the NDC development process, the central government invited local stakeholders to participate in the consultation process. During a later data collection period, non-state actors were also asked to provide relevant information, e.g., on GHG emissions (Hale *et al.*, 2018). More recently, Indian policymakers started conducting detailed consultations with leading Indian non-state actors (companies) to encourage further climate action and to strengthen and enhance the cooperation with the government and private sector (CDP, 2021). Specifically, the Indian government recently set up an apex committee for the implementation of the Paris Agreement which will monitor, among others, the efforts by non-state actors and multi- and bilateral agencies to contribute to achieving the NDC and offer guidance for the alignment of non-state efforts with government priorities (CDP, 2021).

In India, non-state action is generally more prominent than subnational action, although both are still at relatively low levels. In July 2021, there were 30 city-specific actions, 8 region-specific and 255 company-specific climate actions reported on the UNFCCC's Global Climate Action Portal (UNFCCC, 2021a). Several reasons might explain this. First, this can be due to differences in recording. For example, in India there are no institutional mechanisms that gather information on subnational climate activities. While this is true also for corporates, there are some large ICIs, such as the SBTi and international organisations, such as CDP, who encourage corporate climate action and gather information on activities and GHG emissions (Hingne *et al.*, 2021). Second, the presence of a variety of national government schemes, such as PAT or Energy Savings Building Codes through their signalling and expectation of future, possibly more stringent regulation, can have a reinforcing effect on corporate climate action (ICAT, 2020). In fact, voluntary non-state climate action in India today goes beyond what is mandated through PAT and other national policies (Hingne *et al.*, 2021). Third, voluntary non-state climate action seems to be concentrated (and/ or best recorded) in large stock-listed Indian corporations. These large corporations often face public (including by (international) investors) and regulatory pressure and therefore might be more willing to engage in voluntary climate efforts (e.g. Climate Action 100+, 2021). Lastly, and related to the last point, such non-state actors often face less capacity and finance constraints than both small and medium sized enterprises but also subnational actors (SBTi, 2020).

4 Potential impact and progress of non-state and subnational action in India

Potential impact

To date, there are only a few studies published in the scientific literature that quantify the emissions reductions that could be delivered by non-state and subnational actors in addition to existing or planned national policies (Hsu *et al.*, 2020). These studies often assess a selection ICIs' targets (for example,

see Lui et al. (Lui *et al.*, 2020), Roelfsema et al. (2018) and Hsu et al. (2015)) estimate the aggregate potential of individual actors' targets (e.g. Kuramochi et al. (2020))³.

A recent study shows that, if fully implemented and not displacing action elsewhere, individual non-state and subnational actors' GHG mitigation targets could deliver emissions reductions of 220 to 250 MtCO₂/year in 2030, leading to levels of around 5.5% below the projected emissions under current Indian-level policies. Non-state actors (companies) make up the largest share and account for more than 200 MtCO₂/year in 2030 (Kuramochi *et al.*, 2020).

Compared to individual non-state and subnational actors' potential contribution, ICIs could have a substantially larger impact. It has been estimated that the latter could reduce emissions by 510 to 590 MtCO₂/year in 2030, 13% below projected emissions under current Indian policies (Lui *et al.*, 2021). Most of these reductions come from initiatives on cities and regions, non-CO₂ GHGs and appliances energy efficiency (Lui *et al.*, 2021).

This assessment by Lui et al., on the one hand, may underestimate the real potential of non-state and subnational action on GHG emissions in India, given that not all efforts are sufficiently reported on and captured by leading data platforms. On the other hand, might also overestimate its effect given caveats around additionality of efforts. First, not all non-state and subnational actors can deliver the quantified potential GHG impact on their own, given often limited capacity and funding (see Section 3). The large mitigation potential of ICIs cannot be isolated from national or Indian-level climate ambitions; the potentials can only be realised in coordination with national and Indian-level policies and support from national and international funders. Second, there is uncertainty on the quantification methods and assumptions, for example the presented studies did not distinguish baseline emissions between non-state and subnational actors with GHG targets and those without GHG targets. It is possible that non-state and subnational actors that have GHG emission reduction targets and have signed up to international networks may have already been under favourable conditions for emissions reductions (e.g. emissions already in decline, have plenty of resources, etc.) (Hsu et al., 2020a). This could mean that the real GHG emission reduction potential is lower and the targets are less additional to current policies than assumed. Third, it is uncertain whether ICIs that have high aspirational targets (in terms of membership for example) will meet those targets and whether or not they will displace other efforts elsewhere.

In sum, the calculated mitigation potential of non-state and subnational climate actors provides meaningful insights, even though with considerable uncertainty. First, the number of non-state and subnational actions is still small but continuously growing, indicating the significance of climate mitigation action and crucial willingness to act on the ground. Second, non-state and subnational action can help identify areas or sectors where more ambition is possible, by different ways of interacting with national policymakers, as shown in Section 3. Third, it can enhance Indian or national governments' confidence, by strengthening implementation of national climate policy and engaging local stakeholders. Therefore, the significance of non-state and subnational action is not in the reduction potential per se – the presented values symbolise climate policy potential of all relevant actors and underline the importance of national governments collaborating with non-state and subnational actors. A better alignment of non-state and subnational action with national policies can help realising and strengthening national targets in a timely manner (Hermwille, 2018; Hsu et al., 2020a).

³ Please see the Introduction section on the distinction between individual non-state and subnational actors and ICIs.

Reported progress

There is very limited information on the progress of non-state and subnational emission reduction efforts in India, in particular for individual actors. Below, progress of major climate initiatives is discussed in terms of their targets. We assess reported progress on targets specifically – in what way and/or to what extent these targets relate to GHG emission reductions is not part of the analysis. The selection of actions serves as a small sample of the diverse landscape of climate action in India, previously indicated as ICIs with a high potential impact on GHG emissions (Hsu et al., 2019; Lui et al., 2020; Roelfsema et al., 2018).

The **Science Based Targets initiative** (SBTi)⁴ is a global industry and business focused initiative that aims to mobilise the private sector to set GHG emission reduction targets in line with the Paris Agreement. SBTi provides sector-level details on ambitious target-setting, to encourage members to set decarbonization targets that are in line with a 1.5 °C pathway. SBTi has reported on substantial progress in membership, having reached over 2,000 companies committed to, or have already, set SBTi-approved emission reduction targets (SBTi, 2021). 64 companies committed to SBTi are from India, of which 28 have SBTi-approved 'well below 2°C' or '1.5°C' targets (SBTi, 2020). This is up from 10 Indian companies with targets (38 in total) in 2019 and 3 companies (25 in total) in 2018. Among the emerging economies, India is leading in terms of membership in the SBTi (CDP, 2021). Indian membership is particularly high in the automobile and components sector (CDP, 2021). This growing membership number and numerous outputs in terms of webinars, guidance documents, protocols etc. are promising, but SBTi rarely reports on progress of target realisation (Science Based Targets initiative, 2019). In relation to existing governmental climate actions, these outputs may however be crucial in achievement of (inter)national climate targets – SBTi offers tools to industry and business actors to reduce their ecological footprint and therefore may strengthen implementation. Moreover, also SBTi mainly operates independently from national governments.

Many signatory companies of **RE100**⁵ are on track to meet RE100's target to only buy renewable electricity, with a minimum eligibility criterion of 60% of electricity purchases being renewable by 2030. In addition, the industry and business initiatives illustrate in its most recent annual report that membership is increasing – with 263 signatory companies as of October 2020 (RE100 et al., 2019). Out of these signatories, four companies are headquartered in India. In addition, over 70 RE100 signatories operate also in India. Efforts by participating RE100 members can be partially additional to national policies, as they directly increase the share of renewable electricity generation in the electricity mix and RE100 operates independently from state governments. In 2019, the share of renewables in total electricity generation in India was 21% (IEA, 2020).

In sum, numbers and types of non-state and subnational actors in India are expanding. The findings of this report suggest that non-state and subnational actors could contribute to Indian climate action by both implementing India's climate targets and increasingly also exceeding the ambition of central government policies.

5 Conclusion

Non-state and subnational climate action in India is still in a relatively early stage of development. Nevertheless, momentum is growing, and an increasing number of especially large stock-listed Indian companies have committed to ambitious climate targets. In the future, it will become increasingly important to better and more explicitly cover a wider range of non-state and subnational actors. International organisations and international initiatives have proved valuable in encouraging both

⁴ <https://sciencebasedtargets.org/>

⁵ <https://www.there100.org/>

increased non-state and subnational climate efforts but also in helping collect data. Further participation in those initiatives could be encouraged by the Indian central government.

While conclusions from this report suggest that non-state and subnational actors climate efforts could contribute and enhance Indian climate objectives, more research on a number of issues is needed.

First, it will be important to assess the impact of actions not currently covered by leading data platforms. To do this, it might be useful to work with local institutions that have better knowledge and overview of non-state and subnational actions on the ground.

Second, the GHG impact quantification of non-state and subnational climate action could consider individual national policies more explicitly. While Hingne et al. (2021) have explicitly included the PAT scheme in their modelling, this assessment should be extended to other relevant government schemes if possible. This can also help to better assess overlaps between Indian climate policies and non-state and subnational climate targets.

Lastly, it will be important to also assess progress of non-state and subnational climate action in terms of GHG emissions reductions delivered. There has been strong momentum for enhanced tracking of non-state and subnational action - the COP19 decision in 2019 requested to enhance the effectiveness of the UNFCCC Non-State Actor Zone for Climate Action (NAZCA/ now also known as Global Climate Action Portal – GCAP) by e.g. tracking non-state and subnational climate action.

References

- Bhardwaj, A. and Khosl, R. (2017) *Can Indian cities lead on climate action as they go about their development goals?* Scroll.in. Available at: <https://scroll.in/article/841788/can-indian-cities-lead-on-climate-action-as-they-go-about-their-development-goals> (Accessed: 10 December 2021).
- C40 (2021) *C40 cities*. C40 Cities. Available at: <https://www.c40.org/cities> (Accessed: 10 September 2021).
- CDP (2021) *BUILDING BACK GREENER. India Inc. Demonstrates Climate Resilience. CDP India Annual Report 2020*.
- Chan, S., Falkner, R., Goldberg, M. and van Asselt, H. (2018) 'Effective and geographically balanced? An output-based assessment of non-state climate actions', *Climate Policy*, 18(1), pp. 24–35. doi:10.1080/14693062.2016.1248343.
- Chan, S., Hale, T., Mbeva, K.L. and Shrivastava, M.K. (2021) *Climate Cooperative Initiative Database (C-CID)*. German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE), Blavatnik School of Government (BSG) at the University of Oxford, African Center for Technology Studies (ACTS), TERI School of Advanced Studies.
- Climate Action 100+ (2021) *Climate Action 100+. The Business Case*. Available at: <https://www.climateaction100.org/business-case/> (Accessed: 16 July 2021).
- Climate Action Tracker (2021) *Glasgow's 2030 credibility gap: net zero's lip service to climate action. Warming Projections Global Update. November 2021*. Climate Analytics, NewClimate Institute. Available at: <https://climateactiontracker.org/publications/glasgows-2030-credibility-gap-net-zeros-lip-service-to-climate-action/>.
- Data-Driven EnviroLab and NewClimate Institute (2020) *Accelerating net-zero: Exploring Cities, Regions, and Companies' Pledges to Decarbonise*. Available at: <https://newclimate.org/2020/09/21/accelerating-net-zero-exploring-cities-regions-and-companies-pledges-to-decarbonise/> (Accessed: 6 November 2020).
- Dubash, N.K. and Jogesh, A. (2014) 'From Margins to Mainstream? State Climate Change Planning in India as a "Door Opener" to a Sustainable Future', *Economic & Political Weekly*, 49(48), pp. 86–95. doi:10.2139/ssrn.2474518.
- Gogoi, E. (2017) *In depth: India's State Action Plans on Climate Change: towards meaningful action*. Oxford Policy Management. Available at: <https://www.opml.co.uk/files/Publications/corporate-publications/briefing-notes/id-state-action-plan-climate-india.pdf?noredirect=1>.
- Hale, T. (2016) "All Hands on Deck": The Paris Agreement and Nonstate Climate Action', *Global Environmental Politics*, 16(3), pp. 12–22. doi:10.1162/GLEP_a_00362.
- Hale, T., Waud, A., Axelsson, K., et al. (2018) *Stepping up climate action at home. How local governments, the private sector, and civil society can work domestically help deliver NDCs and raise ambition. September 2018*. Galvanizing the Groundswell of Climate Actions.
- Hale, T.N., Chan, S., Hsu, A., et al. (2021) 'Sub- and non-state climate action: a framework to assess progress, implementation and impact', *Climate Policy*, 21(3), pp. 406–420. doi:10.1080/14693062.2020.1828796.
- Hingne, A., Sheikh, A., Agarwal, V. and Adhia, V. (2021) *Potential Impact of Corporate Climate Action in India. Working Paper*. Washington D.C., USA: World Resources Institute. doi:10.46830/wriwp.19.00067.
- Hsu, A., Moffat, A.S., Weinfurter, A.J. and Schwartz, J.D. (2015) 'Towards a new climate diplomacy', *Nature Climate Change*, 5(6), pp. 501–503. doi:10.1038/nclimate2594.
- Hsu, A., Widerberg, O., Chan, S., et al. (2018) 'Chapter 5. Bridging the GHG mitigation gap: Non-state and subnational actors', in *UNEP Emissions Gap Report 2018*. Nairobi, Kenya: United Nations Environment Programme.

- Hsu, A., Höhne, N., Kuramochi, T., *et al.* (2020) 'Beyond states: Harnessing sub-national actors for the deep decarbonisation of cities, regions, and businesses', *Energy Research and Social Science*, 70(May), p. 101738. doi:10.1016/j.erss.2020.101738.
- ICAT (2020) *Non-State and Subnational Action Guide: Integrating the Impact of Non-State and Subnational Mitigation Actions into National Greenhouse Gas Projections, Targets and Planning*. Berlin: NewClimate Institute; Washington, D.C.: World Resources Institute: NewClimate Institute and World Resources Institute for Initiative for Climate Action Transparency. Available at: <https://climateactiontransparency.org/wp-content/uploads/2020/04/Non-State-and-Subnational-Action-Assessment-Guide.pdf>.
- IEA (2020) 'World Energy Balances (2020 edition)'. International Energy Agency. Available at: <https://www.iea.org/reports/world-energy-balances-overview>.
- Kuramochi, T., Roelfsema, M., Hsu, A., *et al.* (2020) 'Beyond national climate action: the impact of region, city, and business commitments on global greenhouse gas emissions', *Climate Policy*, 20(3), pp. 275–291. doi:10.1080/14693062.2020.1740150.
- Lui, S., Kuramochi, T., Smit, S., *et al.* (2020) 'Correcting course: how international cooperative initiatives can build on national action to steer the climate back towards Paris temperature goals', *Climate Policy* [Preprint]. doi:10.1080/14693062.2020.1806021.
- Lui, S., Kuramochi, T., Smit, S., *et al.* (2021) 'Correcting course: the emission reduction potential of international cooperative initiatives', *Climate Policy*, 21(2), pp. 232–250. doi:10.1080/14693062.2020.1806021.
- NewClimate Institute, Data-Driven EnviroLab, Utrecht University, *et al.* (2021) *Global climate action from cities, regions and businesses. 2021 edition, Research report prepared by the team of: Takeshi Kuramochi, Sybrig Smit, Frederic Hans, Julia Horn, Katharina Lütkehermöller, Leonardo Nascimento, Julie Emmrich, Niklas Höhne, Angel Hsu, Brendan Mapes, Xuewei Wang, Mark Roelfsema, Sander Chan, Andrew Dene*. Available at: https://newclimate.org/wp-content/uploads/2021/06/NewClimate_GCC_June21_2.pdf.
- NewClimate Institute and Data-Driven EnviroLab (2020) *Navigating the nuances of net-zero targets*. Thomas Day, Silke Mooldijk and Takeshi Kuramochi (NewClimate Institute) and Angel Hsu, Zhi Yi Yeo, Amy Weinfurter, Yin Xi Tan, Ian French, Vasu Namdeo, Odele Tan, Sowmya Raghavan, Elwin Lim, and Ajay Nair (Data-Driven EnviroLab). Available at: <https://newclimate.org/2020/10/22/navigating-the-nuances-of-net-zero-targets/>.
- Pandey, K. (2021) *Net zero debate: Where do Indian states stand on the decarbonisation pathway? 11 May 2021*. Mongabay. Available at: <https://india.mongabay.com/2021/05/where-are-indian-states-participating-in-net-zero-debate/> (Accessed: 18 August 2021).
- QRIUS (2017) *International Solar Alliance: How India is leading the world in reducing carbon emissions*.
- Ramya Mandyam Anandampillai (2020) *Multilevel governance for local climate action Examining multilevel climate governance in the Indian cities of Rajkot, Thane and Nagpur*. Lund University. Available at: <http://lup.lub.lu.se/luur/download?func=downloadFile&recordId=9020482&fileId=9020483>.
- Roelfsema, M., Harmsen, M., Olivier, J.J.G., *et al.* (2018) 'Integrated assessment of international climate mitigation commitments outside the UNFCCC', *Global Environmental Change*, 48, pp. 67–75. doi:10.1016/j.gloenvcha.2017.11.001.
- Sastry, M. and Michael, K. (2019) *Drivers of Climate Action in Indian Cities*. The Energy and Resources Institute (TERI). Available at: <https://www.teriin.org/sites/default/files/files/Drivers-Climate-Action-Report.pdf>.
- SBTi (2020) *Smoothing the way for small and medium-sized businesses to set science-based climate targets*. Available at: <https://sciencebasedtargets.org/blog/smoothing-the-way-for-small-and-medium-sized-businesses-to-set-science-based-climate-targets> (Accessed: 16 July 2021).
- SBTi (2021) *Companies Taking Action, December 2021*. Science Based Targets initiative. Available at: <https://sciencebasedtargets.org/companies-taking-action> (Accessed: 14 December 2021).

Science Based Targets initiative (2021) *From Ambition To Impact : How Companies Are Reducing Emissions at Scale with Science-Based Targets*. Science Based Targets initiative Annual Progress Report, 2020. Science Based Targets initiative. Available at: <https://sciencebasedtargets.org/resources/files/SBTiProgressReport2020.pdf>.

The Climate Group - Under2Coalition (2021) *Chhattisgarh*. Available at: <https://www.theclimategroup.org/sites/default/files/2020-10/Chhattisgarh-Appendix.pdf> (Accessed: 15 March 2021).

Under2 Coalition (2021) *Under2Coalition: Our members*. The Climate Group. Available at: <https://www.theclimategroup.org/our-work/states-and-regions-under2-coalition> (Accessed: 15 March 2021).

UNFCCC (2015) *Adoption of the Paris Agreement*. FCCC/CP/2015/L.9/Rev.1. Paris, France: United Nations Framework Conventions on Climate Change. Available at: <http://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>.

UNFCCC (2021a) *Global Climate Action - India profile*. Available at: <https://climateaction.unfccc.int/#IN> (Accessed: 16 July 2021).

UNFCCC (2021b) *Global Climate Action (NAZCA)*.

Widerberg, O. and Pattberg, P. (2015) 'International cooperative initiatives in global climate governance: Raising the ambition level or delegitimizing the UNFCCC?', *Global Policy*, 6(1), pp. 45–56. doi:10.1111/1758-5899.12184.



NewClimate – Institute for Climate Policy and Global Sustainability gmbH

Cologne Office
Waidmarkt 11a
50676 Cologne
Germany

T +49 (0) 221 999833-00
F +49 (0) 221 999833-19

Berlin Office
Schönhauser Allee 10-11
10119 Berlin
Germany

E info@newclimate.org
www.newclimate.org