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## **Health and the environment**

### **Draft road map for an enhanced global response to the adverse health effects of air pollution**

#### **Report by the Secretariat**

1. In May 2015, the Sixty-eighth World Health Assembly adopted resolution WHA68.8, in which the Director-General was requested, *inter alia*, to propose to the Sixty-ninth World Health Assembly a road map for an enhanced global response to the adverse health effects of air pollution. In response to this request, an early version of the draft road map was considered by the Executive Board at its 138th session.<sup>1</sup> A revised and elaborated draft road map is provided in the present report (see Annex 1), and includes a proposed monitoring and reporting framework with indicators and objectives to track progress.

2. The initial period covered by the proposed road map and its related actions is 2016–2019, at the end of which the road map will be updated to incorporate results from monitoring, feedback and evaluation, and submitted to the Health Assembly by the Secretariat. In addition, it will be aligned with priorities included in the thirteenth general programme of work.<sup>2</sup>

3. In response to the urgent need that had been identified for the health sector to respond to the effects on health associated with air pollution, the Health Assembly through resolution WHA68.8, *inter alia*, noted with deep concern that indoor and outdoor air pollution are both among the leading avoidable causes of disease and death globally, and the world's largest single environmental health risk; and acknowledged that 4.3 million deaths occur each year from exposure to household (indoor) air pollution and that 3.7 million deaths each year are attributable to ambient (outdoor) air pollution, at a high cost to societies. In addition, the Health Assembly, *inter alia*, underscored that the root causes of air pollution and its adverse impacts are predominantly socioeconomic in nature, and was cognizant of the need to address the social determinants of health related to development in urban and rural settings, including poverty eradication, as an indispensable element for sustainable development and for the reduction of the health impact of air pollution. Furthermore, the Health Assembly, *inter alia*, recognized that in order to contribute to national policy choices that protect health and reduce health inequities, the health sector would need to engage in cross-sectoral approaches to health, including adopting a Health in All Policies approach.

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<sup>1</sup> See document EB138/17 and the summary record of the Executive Board at its 138th session, sixth meeting (document EB138/2016/REC/2).

<sup>2</sup> Following on from the Twelfth General Programme of Work, 2014–2019, the thirteenth general programme of work commences in 2020.

4. The two recent global developments that offer opportunities for synergies and efficiencies and that are relevant to the implementation of resolution WHA68.8 are the Paris Agreement<sup>1</sup> adopted at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change, and the selection of indicators for targets relating to the 2030 Agenda for Sustainable Development.<sup>2</sup>

5. The Paris Agreement<sup>3</sup> highlights the need to reverse drastically the current trend in the generation of climate change gases, which in turn requires the implementation of a series of policies that mitigate climate change, including clean combustion technologies and demand management mechanisms. Many of those policies also reduce health-damaging air pollutants such as particulate matter. In addition, there are pollutants, such as black carbon, that directly affect climate and human health. Reducing air pollution – and the millions of deaths every year associated with air pollution – will require the targeting of many inefficient technologies and policies that also lead to climate pollutant emissions.

6. With respect to the 2030 Agenda for Sustainable Development, agreement was reached on indicators to monitor the targets associated with the Sustainable Development Goals.<sup>2</sup> Targets and indicators for the Sustainable Development Goals in health (Goal 3), cities (Goal 11) and energy (Goal 7) are identified in resolution WHA68.8. Four of those indicators are being reported in WHO databases at the present time, and benefit from ongoing international cooperation to ensure their quality and completeness, including through the WHO-hosted Global Platform of Air Quality and Health.<sup>4</sup>

7. The proposed road map identifies and harnesses opportunities for synergies and efficiencies linked to those policies that focus on reducing climate change and monitoring progress with the relevant Sustainable Development Goals. For example, the links with the Sustainable Development Goals provide a rationale and framework for the health sector to effectively contribute to achieving some of the “non-health” Sustainable Development Goals, and can also offer a focus for early action on air pollution prevention, as relevant to, for example, cities (Goal 11) or household energy (Goal 7). One of the beneficial impacts of climate change mitigation is that the funding associated with it can be used to improve air quality. Further, the increase in public awareness stimulates the demand for policies that reduce air pollution, prevent diseases and improve health and well-being (see paragraph 18). To obtain such efficiency gains, it is crucial to identify co-benefits from different measures that

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<sup>1</sup> The Paris Agreement was adopted at the twenty-first session of the Conference of the Parties to the United Nations Framework Convention on Climate Change (Paris, 11 December 2015), see [http://unfccc.int/meetings/paris\\_nov\\_2015/meeting/8926.php](http://unfccc.int/meetings/paris_nov_2015/meeting/8926.php) (accessed 9 March 2016).

<sup>2</sup> For details on the resolution adopted by the United Nations General Assembly on 25 September 2015, see United Nations General Assembly resolution 70/1 – Transforming our world: the 2030 Agenda for Sustainable Development, at: [http://www.un.org/ga/search/view\\_doc.asp?symbol=A/RES/70/1](http://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1) (accessed 9 March 2016).

<sup>3</sup> The Paris Agreement, which reflects the ambitious target of keeping global warming well below 2 °C with an aspirational target of 1.5 °C, is legally binding, is flexible, and includes the monitoring and revising of each country’s commitments and actions every five years with a view to continually raising ambition, and also includes a commitment to adapt, including with regard to funding. In addition, it includes coverage of loss and damage, in recognition of the fact that the effects of climate change will have significant impacts on some vulnerable populations, despite the proposed measures and actions that are designed to mitigate such effects and to adapt to change. The Paris Agreement outlines differentiated responsibilities, recognizing the responsibilities of the richest countries, and includes actions by developing countries.

<sup>4</sup> For more information on the Global Platform of Air Quality and Health, see: <http://public.wmo.int/en/resources/bulletin/air-quality-and-human-health-priority-joint-action> (accessed 27 April 2016).

are outlined in the road map – to health and air pollution, and to climate change and sustainable development.

8. The proposed road map is intended as a tool to enable the health sector, including health protection authorities supported by WHO, to take a leading role in raising awareness both of the impacts of air pollution on health and of opportunities for public health. Effective interactions with relevant sectors, including public and private stakeholders, will enable such sectors to be informed with respect to sustainable solutions. In turn, that will ensure that health concerns are integrated into decision-making, evaluation processes, and national, regional and local policies.

9. The vision, rationale and mechanisms for ways in which the health sector can enhance the global response to the adverse health effects of air pollution are described below. The framework for strengthening the health sector response to air pollution health risks is provided in Annex 1. The theory of change is summarized in Annex 2.

10. The proposed road map is organized into four categories:

(a) **Expanding the knowledge base:** Building and disseminating global evidence and knowledge relating to: the impacts on health of air pollution, the effectiveness (in health terms) of policies, and interventions to address air pollution and its sources that have been undertaken by different sectors. This includes identifying knowledge gaps and the promotion of innovation and research needed to address the impacts of air pollution on health.

(b) **Monitoring and reporting:** Enhancing systems, structures and processes needed to support monitoring and reporting on health trends associated with air pollution and its sources, and fulfilling the requirements of the resolution, while contributing to the monitoring of progress with respect to the Sustainable Development Goals, in particular, targets 3.9, 7.1 and 11.6.

(c) **Global leadership and coordination:** Leveraging health sector leadership and coordinated action at the global, regional, country and city levels in order to enable an appropriate and adequate response to this major public health problem, and ensuring synergies with other global processes, such as the implementation of the Sustainable Development Goals and follow-up to the Paris Agreement.

(d) **Institutional capacity strengthening:** Building the capacity of the health sector in order to analyse and influence policy and decision-making processes in support of joint action on air pollution and health, for example, to support the development of strategies and action plans to reduce household and ambient air pollution health risks, through setting relevant policies at national level or in cities, as well as to support the implementation of recommendations from WHO air quality guidelines.

11. In general terms, a level of awareness exists with respect to the impact on health of exposure to air pollution. The health sector, however, lacks access to existing evidence. In addition, there are limited assessments of health impacts from interventions in other sectors in terms of the prevention of those diseases caused by air pollution, including in specific settings, such as in the home or in urban environments. Furthermore, there are limited assessments of related costs and benefits. A programme of activities would encourage research and analyses, and enhance access to evidence, in general as

well as in economic terms, concerning health risks and benefits of specific sector policies and of specific groups of society, and interventions to address air pollution,<sup>1</sup> Wide access to the evidence base mentioned above will be provided by a WHO public health information tool (a “one stop shop” on air pollution and health evidence using the web and other media).

12. Knowledge gaps will be identified and research strategies promoted to improve evidence, as needed, in areas including: the health impacts of sources of natural air pollution (for example, sand and dust storms); new threats such as nanomaterials, ultrafine particles, pesticides used in agriculture, including the effectiveness of control measures; and links between household and ambient air pollution and high temperature.

13. Data that inform health trends associated with exposure to air pollution and its sources are currently being collected and reported using different methodologies and procedures. In order to facilitate more harmonized data collection and reporting on air pollution exposure and associated health impacts, monitoring and reporting tools are being refined and guidance will be developed in a separate programme of work. Specific consideration will be given to monitoring key sources of human exposure to air pollution. Such sources include the home and cities, and health care facilities and rural areas. The framework for data harmonization, analysis, reporting and visualization being developed under WHO’s global platform on air quality and health, established in January 2014, will serve as the primary mechanism for ensuring reliable, valid and accessible estimates of human exposure to air pollution globally. This global platform will continue to draw on all relevant existing sources of data worldwide. It will work to improve the quality of the data and to extend geographical coverage, in close cooperation with relevant international and national agencies and research groups.

14. Synergies will be harnessed between the monitoring of targets related to the Sustainable Development Goals and air pollution and related health impacts. Strengthening the existing global WHO databases that focus on indoor air pollution, household energy fuels and technology, ambient air quality and air pollution in cities, for example, will contribute directly to the effective monitoring of the relevant Sustainable Development Goals.<sup>2</sup>

15. Prevention of diseases caused by air pollution requires effective intersectoral engagement. To enable better health sector engagement and leadership, the proposed road map includes a specific programme of work focused on strengthening the capacity of health actors to use public health evidence and arguments to contribute to and influence air pollution policy-making processes (including in the transport, agriculture, energy, industry and waste management sectors), so as to strengthen the capacity to design policies and interventions that achieve improvements in air quality and health. This will include, for example, the establishment of platforms to enable the health sector to

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<sup>1</sup> The sectors referred to include transport, energy, waste, agriculture, industry and urban planning. Similarly, experiences and insights about good practices are not widely accessible or used. Therefore, activities carried out in the first programme of work under the proposed road map will focus on building relevant knowledge and evidence, and on providing wide and easy access to it, using appropriate formats and means in order to have access to a range of target audiences (including community health workers, health sector managers, civil society organizations, development partners and the media).

<sup>2</sup> The relevant Sustainable Development Goals and targets referred to are: Goal 3 (Ensure healthy lives and promote well-being for all at all ages) target 3.9 (By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water, and soil pollution and contamination); Goal 7 (Ensure access to affordable, reliable, sustainable and modern energy for all) target 7.1 (By 2030, ensure universal access to affordable, reliable and modern energy services); and Goal 11 (Make cities and human settlements inclusive, safe, resilient and sustainable) target 11.6 (By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management).

cooperate with other sectors, to provide access to scientific information and to databases and modelling of expected impacts of policies, as well as the capacity for a health impacts assessment, cost–benefit and cost-effectiveness analysis of mitigation measures to the health sector and other relevant stakeholders. Similarly, health sector sources of air pollution should be addressed, such as the use of diesel generators to power health facilities or buildings and medical technologies that are not energy efficient.

16. The integration of air pollution mitigation strategies into wider public health prevention and health care delivery strategies, as relevant, is fundamental to an effective health sector response to air pollution. As reflected in the proposed road map, strategies to mitigate air pollution will be linked to strategies and activities relating to the prevention of noncommunicable diseases or childhood pneumonia, as well as to relevant existing health development strategies, such as the global action plan for the prevention and control of noncommunicable diseases 2013–2020,<sup>1</sup> as well as processes and conventions (such as the WHO Framework Convention on Tobacco Control).

17. Institutional strengthening efforts will also seek to enhance the capacity of health care workers (including medical practitioners, nurses and community health workers) to provide recommendations on ways of avoiding exposure to air pollution to communities and individuals, among whom there are sensitive or vulnerable populations, including children, older people and slum dwellers. Related activities will include developing curricula and conducting training, advocacy and outreach within relevant health forums, such as international professional medical and nursing associations.

18. A broad communication strategy will be developed to raise global awareness and stimulate demand for policies that reduce air pollution, prevent diseases and improve health and well-being. There is an urgent need to communicate effectively with the public and with decision-makers about health risks associated with air pollution, and in particular the substantial health benefits expected from actions to mitigate air pollution. The communication strategy will be designed to build on relevant existing efforts, such as the partnership between WHO and the Climate and Clean Air Coalition; of particular relevance is the Breathe Life campaign.<sup>2</sup> The communications strategy will cater for the needs of different groups, communication mechanisms and opportunities available in different parts of the world.

19. Institutional capacity strengthening will focus on country implementation, including in low- and middle-income countries. In this context, examples and models of good practice will be developed and tested in cooperation with countries, for example, to roll out policies and plans that ensure clean indoor air through better access and sustained adoption of clean fuels and technologies in the homes of rural and poor populations. Support will be provided to urban stakeholders to engage and make use of untapped opportunities to promote urban policies in different sectors that prevent air pollution diseases and promote well-being. Such an approach will help generate support for health, promoting actions and behaviours at the subnational level that enable the reduction of air pollution. Further, it will increase overall demand for compliance and enforcement of related national measures and it will

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<sup>1</sup> The global action plan for the prevention and control of noncommunicable diseases 2013–2020 is available at: [http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/94384/1/9789241506236_eng.pdf) (accessed 31 March 2016).

<sup>2</sup> See the website of the Climate and Clean Air Coalition, at: <http://www.unep.org/ccac/Initiatives/CCACHHealth/tabid/133348/Default.aspx> (accessed 31 March 2016). Of particular interest is the recent report published in collaboration with WHO: “Reducing global health risks through mitigation of short-lived pollutants: scoping report for policymakers”, at <http://new.ccacoalition.org/en/resources/reducing-global-health-risks-through-mitigation-short-lived-climate-pollutants-scoping> (accessed 31 March 2016).

contribute to the achievement of Sustainable Development Goals that focus on health, cities and energy.

20. Synergies with the Paris Agreement and with the Sustainable Development Goals will be identified and awareness raised with regard to the opportunities for efficiencies involved in the implementation of resolution WHA68.8. Knowledge synthesis includes, for example, identifying the type and extent of the interventions that reduce human exposure to air pollutants, that minimize climate change, and that contribute to the Sustainable Development Goals; or documenting those interventions with the most health co-benefits for vulnerable populations. Analyses of costs and benefits to health, health care and health systems can help quantify and compare the impacts of interventions that focus solely on air pollution with those that have additional co-benefits to climate and Sustainable Development Goals. Such analysis will involve strengthening the evidence base, and will furthermore raise awareness among the public, the media and policy-makers concerning the public health implications of short-lived climate pollutants, a particular form of air pollution (including black carbon). A priority is to strengthen the capacity of the health sector to engage with policies related to the Sustainable Development Goals and climate as the health sector is helping to analyse policy choices and supporting joint action on air pollution and health. This can include the development of relevant models, tools and training on the assessment of co-benefits (and risks), the increased recognition of risks posed by short-lived climate pollutants to air quality and climate change – as well as of the benefits of policies that promote healthy, sustainable, low-pollutant and low-carbon solutions in urban and rural settings.

21. It is envisaged that a global high-level and intergovernmental conference on air quality and health be considered, for example, in two years' time. The objective of such a conference would be to review progress, including in the context of the implementation of the Sustainable Development Goals and other relevant global policy priorities. An additional objective would be to provide an opportunity to discuss and agree on further action required in order to ensure an effective and appropriate response to address the health impacts of air pollution, including action related to monitoring, reporting, capacity building, reduction measures, policy experience and financing.

22. Regular evaluations of progress on activities related to the road map will be undertaken. Feedback will be used to make necessary adjustments and improvements. Regular reports will also be prepared on implementation of the road map, including the status of implementation of relevant policies for air pollution reduction and progress on diseases related to air pollution, such as noncommunicable diseases. In addition, reporting will focus on activities, on any revisions required, on resources available to support the implementation of the resolution, and on progress towards achieving the overall goals and objectives of the resolution. Important sources of information will be the relevant databases and related mechanisms, such as those strengthened by the implementation of the resolution.

23. An additional focus will be on supporting the country-level implementation of relevant WHO guidelines on air quality, including the new indoor air quality guidelines on household fuel combustion. The latter will be supported, for example, by the provision of technical advice and capacity building aimed at facilitating the development of national action plans on indoor air quality.

24. Within the programme of work on institutional capacity strengthening, reference is made to the need to build up WHO's internal technical and operational capacity to support this work, in view of current limits in staff and resources, including at regional and country levels. Additional technical staff will be needed in the regions, in some country offices, and at headquarters, including capacity in epidemiology, statistics/modelling, health economics, advocacy and research. This should enable the strengthening of capacity in countries and global engagement on intersectoral cooperation to mitigate

air pollution health impacts, while improving health and contributing to the achievement of the Sustainable Development Goals.

25. WHO will continue to work closely with other international and national agencies and strengthen its strategic partnerships, in particular within the United Nations system, including with WMO, UNEP and the United Nations Economic Commission for Europe, in order to: support the adoption of integrated strategies to tackle air pollution; ensure health is a priority; and deliver mitigation decisions related to the Sustainable Development Goals and the Conference of the Parties, building on respective competencies, mandates, responsibilities and audiences.

26. A report on the implementation of resolution WHA68.8 and its progress on mitigating the health effects of air pollution, and on other challenges to air quality will be presented to the Sixty-ninth World Health Assembly, as requested in resolution WHA68.8. The report will draw on new data on human exposure to air pollutants (such as from kerosene use in the home or in cities); describe initial efforts to strengthen capacity of the health sector to support prevention in cities and in homes, and on global health communications. The report will also identify the challenges, opportunities, the vision of the proposed road map and its scale of ambition, and clarify how the activities associated with the road map will fill gaps and the role of WHO, Member States and other stakeholders in strengthening the global response to health-related impacts of air pollution. It will make the investment case and identify the scale of investment needed to implement activities proposed in this draft road map, including resources needed to enable WHO to provide the required support to countries across the three levels of the Organization (describing the current limits in installed capacity). The report will clarify expected deliverables in terms of the prevention of air pollution and related diseases, and country commitments to Sustainable Development Goals and to climate change mitigation.

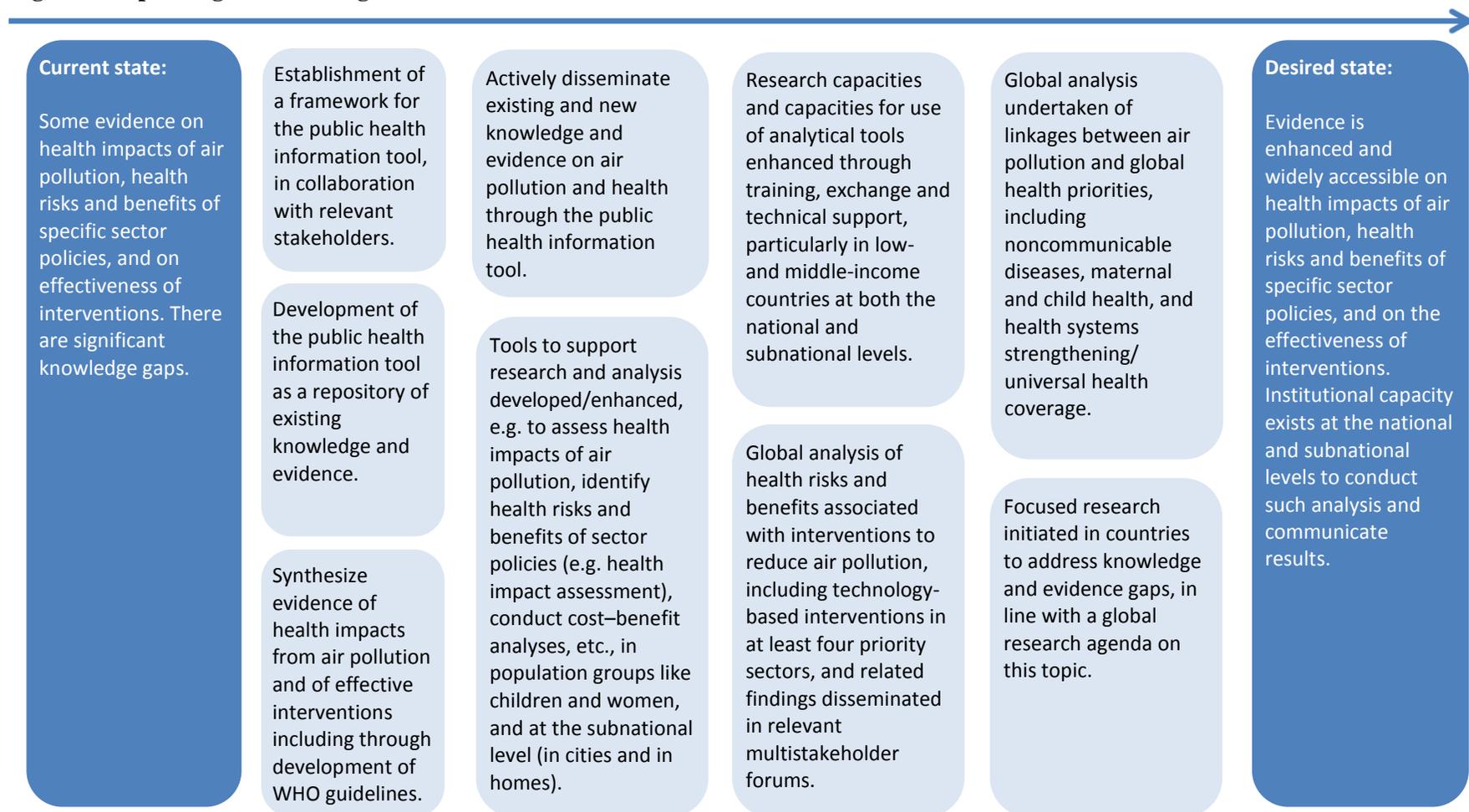
#### **ACTION BY THE HEALTH ASSEMBLY**

27. The Health Assembly is invited to endorse the road map for an enhanced global response to the adverse health effects of air pollution.

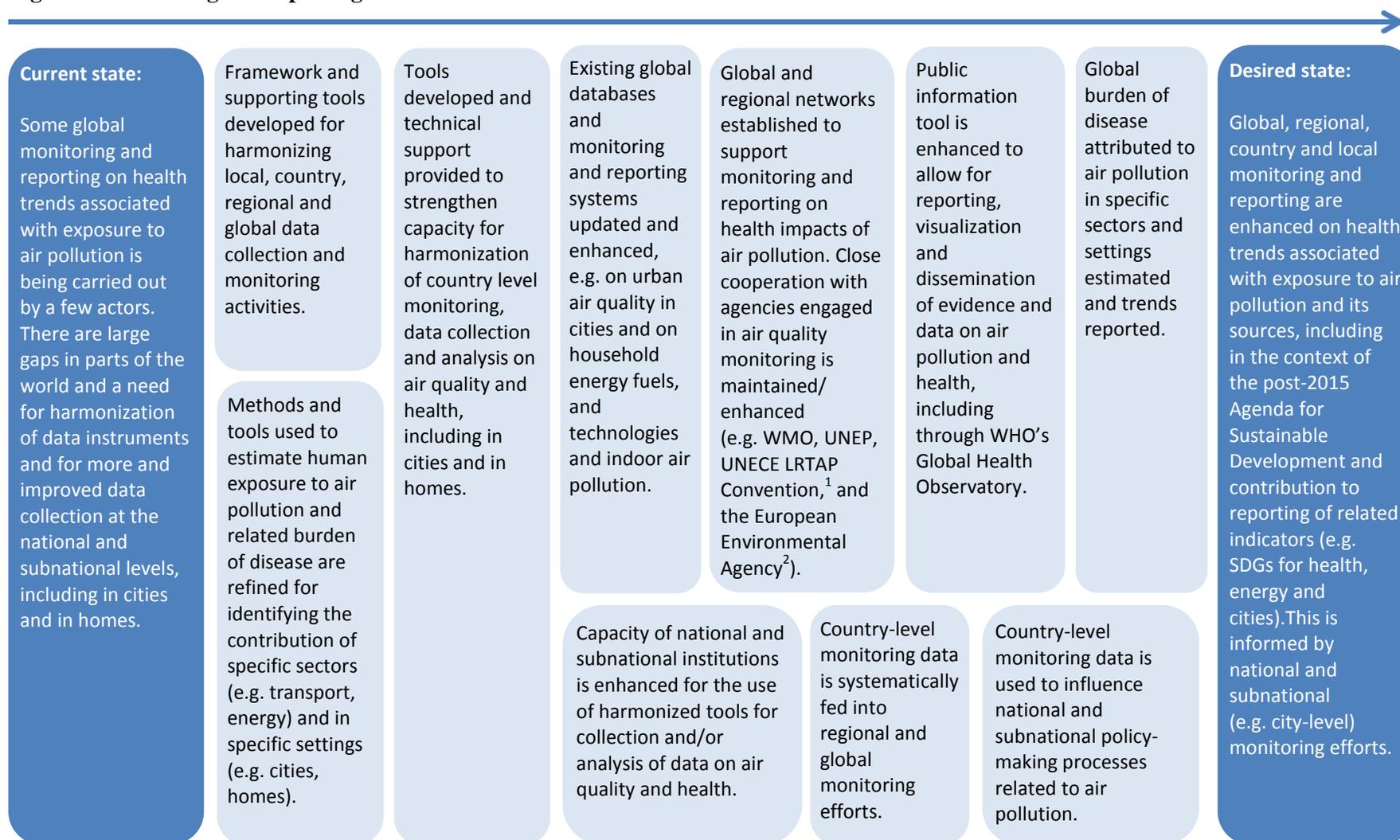
## DRAFT ROAD MAP FOR AN ENHANCED GLOBAL RESPONSE TO THE ADVERSE HEALTH EFFECTS OF AIR POLLUTION

The proposed road map for the period 2016–2019 is represented in the figures below, which depict the sequence of activities. Figures 1–4 focus, respectively, on expanding the knowledge base, monitoring and reporting, global leadership and coordination, and institutional capacity strengthening.

**Figure 1. Expanding the knowledge base**



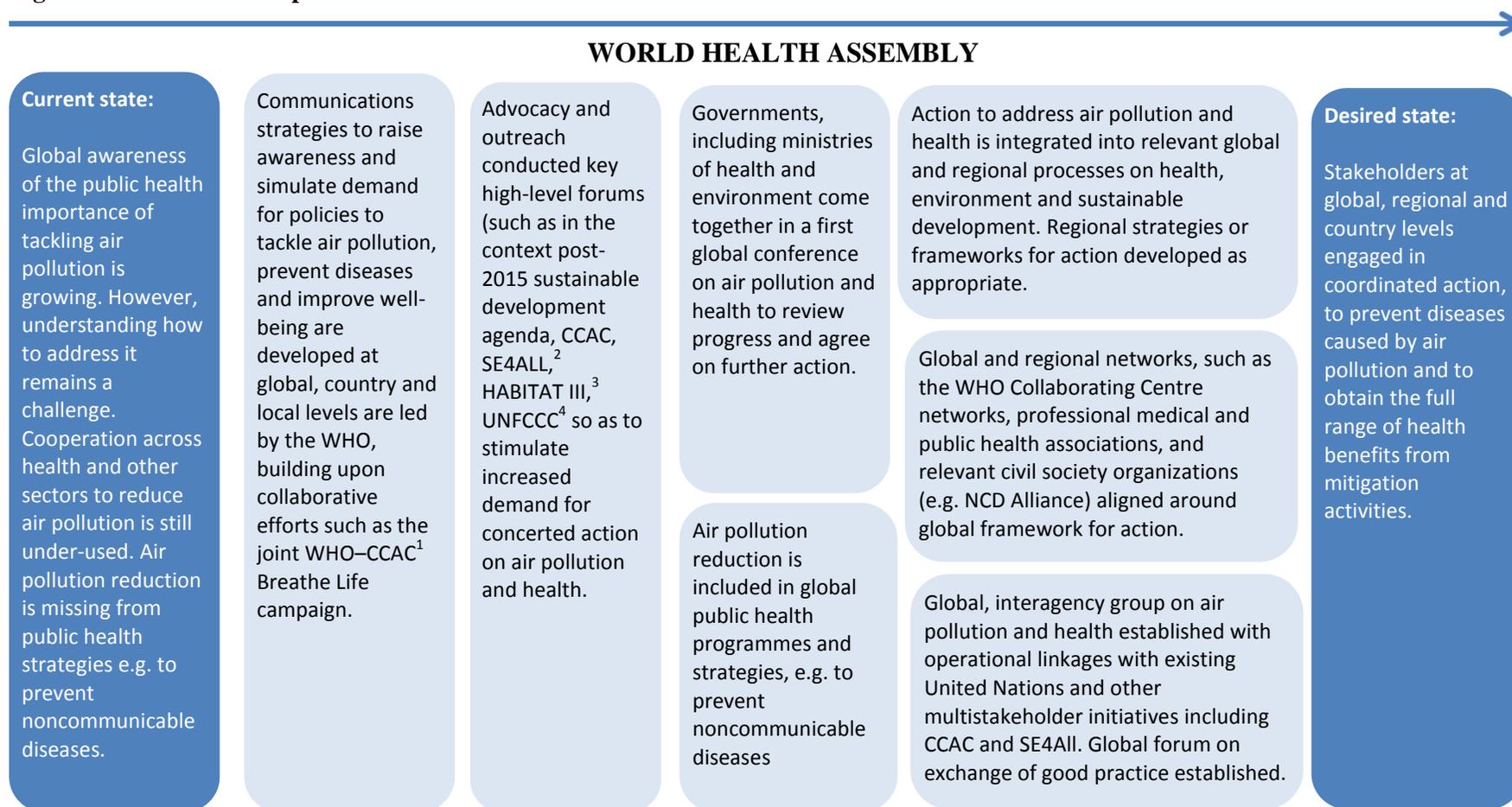
**Figure 2. Monitoring and reporting**



<sup>1</sup> LRTAP Convention refers to the United Nations Economic Convention for Europe, Convention on Long-Range Transboundary Air Pollution, see [http://www.unece.org/env/lrtap/lrtap\\_h1.html](http://www.unece.org/env/lrtap/lrtap_h1.html) (accessed 12 November 2015).

<sup>2</sup> For more information on the European Environmental Agency, see <http://www.eea.europa.eu/> (accessed 12 November 2015).

**Figure 3. Global leadership and coordination**



<sup>1</sup> CCAC refers to Climate and Clean Air Coalition.

<sup>2</sup> SE4ALL refers to Sustainable Energy for All Initiative, see <http://www.se4all.org/> (accessed 12 November 2015).

<sup>3</sup> HABITAT III refers to the HABITAT III Conference, see <http://unhabitat.org/habitat-iii-conference/> (accessed 12 November 2015).

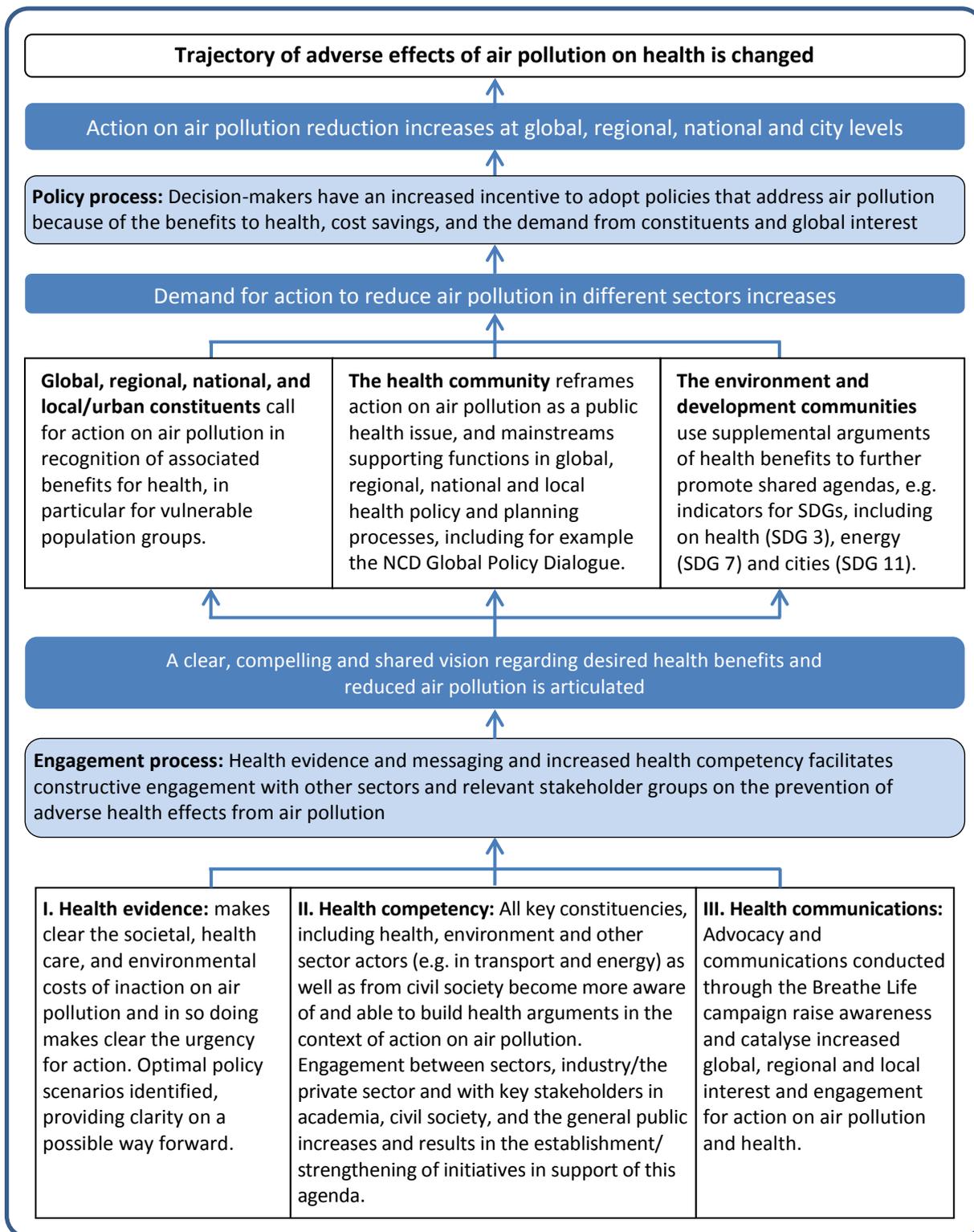
<sup>4</sup> UNFCCC refers to the United Nations Framework Convention on Climate Change.

**Figure 4. Institutional capacity strengthening**



ANNEX 2

**AN ENHANCED GLOBAL RESPONSE TO THE ADVERSE EFFECTS OF AIR POLLUTION ON HEALTH – A THEORY OF CHANGE**



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