



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

MEETING REPORT

SEVENTH MEETING OF THE WORKING GROUP ON HEALTH IN CLIMATE CHANGE (HIC)

**OF THE EUROPEAN ENVIRONMENT
AND HEALTH TASK FORCE**

BONN, GERMANY 11-12 SEPTEMBER 2019

euro.who.int



**World Health
Organization**

REGIONAL OFFICE FOR **Europe**

**Seventh meeting of
the Working Group on Health
in Climate Change (HIC)
of the European Environment and
Health Task Force**

Meeting report

**11–12 September 2019
Bonn, Germany**

ABSTRACT

On 11 and 12 September 2019, the Working Group on Health in Climate Change (HIC) of the European Environment and Health Task Force held its seventh annual meeting in Bonn, Germany. The main purpose of the meeting was to support the work of Member States from the WHO European Region in developing and implementing their national portfolios of action in the area of climate change and health, as outlined in the Ostrava Declaration.

In addition, the meeting provided updates on global and European Region policy developments and progress on climate change and health; new regional evidence for the health impacts of climate change; recent relevant publications and tools; Member State activities addressing climate change and health; and the new heat–health action planning guidance from the WHO Regional Office for Europe.

Keywords

CLIMATE CHANGE
ENVIRONMENT AND PUBLIC HEALTH
ENVIRONMENTAL HEALTH
HEALTH POLICY
PUBLIC HEALTH

Address requests about publications of the WHO Regional Office for Europe to:

Publications
WHO Regional Office for Europe
UN City, Marmorvej 51
DK-2100 Copenhagen Ø, Denmark

Alternatively, complete an online request form for documentation, health information, or for permission to quote or translate, on the Regional Office website (<http://euro.who.int/pubrequest>).

© World Health Organization 2020

All rights reserved. The Regional Office for Europe of the World Health Organization welcomes requests for permission to reproduce or translate its publications, in part or in full.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate borderlines for which there may not yet be full agreement.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by the World Health Organization in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by the World Health Organization to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either express or implied. The responsibility for the interpretation and use of the material lies with the reader. In no event shall the World Health Organization be liable for damages arising from its use. The views expressed by authors, editors, or expert groups do not necessarily represent the decisions or the stated policy of the World Health Organization.

This meeting report was written by Misha Hoekstra.

CONTENTS

	<i>Page</i>
Executive summary	2
Introduction.....	8
Opening session. Welcome and opening.....	8
Session 1. Procedural matters.....	9
Session 2. Setting the stage in policy and science.....	10
Session 3. Updates by partners	13
Session 4. How countries in the European Region can prioritize policies and actions to protect health in a changing climate.....	15
Session 5. World café on Member State experiences with climate change and health.....	18
Session 6. Specific aspects of climate change and health.....	19
Session 7. Heat–health action plans (HHAPs)	21
Session 8. Developing and implementing national portfolios of action on climate change and health	22
Session 9. Conclusions	24
Annex 1. List of participants.....	26
Annex 2. Meeting agenda	35
Annex 3. Meeting programme	36

Executive summary

Meeting scope and purpose

The Working Group on Health in Climate Change (HIC) of the European Environment and Health Task Force supports Member States of the WHO European Region in developing their national portfolios of action in the area of climate change and health, as stipulated by the 2017 [Declaration of the Sixth Ministerial Conference on Environment and Health](#) (the Ostrava Declaration). Progress in implementing these actions is tracked within the European Environment and Health Process, using the same indicators that Member States use to report on the implementation of Sustainable Development Goal (SDG) targets.

The overarching purpose of the present meeting was to further support and guide Member States in developing and implementing their national portfolios of action in the area of climate change and health. The meeting had several specific objectives:

- to follow up on global and regional policy developments and progress on climate change and health;
- to provide an update on evidence, publications and tools addressing the health impacts of climate change in the Region, particularly with respect to vector-borne diseases, cold spells, water and sanitation, and urban green and blue spaces;
- to facilitate the exchange among Member States of experiences in implementing the Ostrava Declaration in the area of climate change and health, including the role of the health sector in national climate change adaptation efforts;
- to help Member States identify priority themes and actions to consider in implementing their national portfolios;
- to provide a status update on the revision of the guidance on heat–health action planning for the European Region, including evidence and preliminary survey results; and
- to share the outcomes of the joint WHO and European Commission project to address the public health and climate change adaptation policies in the European Union (EU).

HIC provides a platform for the exchange of knowledge and country experiences in the area of climate change and health. The present meeting was designed to offer a comprehensive look at relevant global initiatives led by WHO and their implications for the European Region. The year that passed since the sixth meeting of HIC saw the publication of two resources that facilitate national efforts in this area. At the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) in 2018, WHO launched the global COP24 special report: health and climate change. This report represents a significant contribution from the international public health community to support the negotiations of the United Nations Framework Convention on Climate Change (UNFCCC). It synthesizes current knowledge on the interconnections between climate change and health and provides recommendations to policymakers on how to maximize the health benefits of tackling climate change. In addition, the 2019 WHO global strategy on health, environment and climate change provides a new framework through 2030 to address persisting and emerging environmental health risks, including climate change.

The chief expected outcome of the meeting was an increased awareness and understanding among participants of the latest available evidence on climate change and health, countries' priorities and activities in this area, and their progress in implementing their related commitments under the Ostrava Declaration.

Meeting programme

The meeting consisted of ten sessions during the course of two days.

- The [opening session](#) provided an overview of the meeting's background, objectives and expected outcomes.
- [Session 1](#) was devoted to the election of HIC co-chairs.
- [Session 2](#) examined various aspects of the current evidence update and policy response, both globally and in the WHO European and Eastern Mediterranean regions, to scientific findings on the health effects of climate change.
- [Session 3](#) featured updates by partners on their work in climate change and health: the United Nations Development Programme, the European Commission Directorate-General for Climate Action, the European Commission Directorate-General for Research and Innovation, the European Centre for Disease Prevention and Control and the European Environment Agency.
- [Session 4](#) focused on how countries can identify and prioritize actions in health and other sectors to better protect human health in a changing climate.
- [Session 5](#) consisted of a series of brief case studies on Member State initiatives, followed by small group discussions on how the initiatives might be improved and adapted elsewhere in the Region.
- [Session 6](#) explored specific aspects of several key issues in climate change and health: communicable diseases, cold spells, water and sanitation, blue and green spaces, and the prioritization of risks to health posed by climate change.
- [Session 7](#) addressed heat-health action plans (HHAPs), including two case studies and preliminary findings from the revised HHAP guidance being prepared for the Region.
- [Session 8](#) looked at the progress being made on the in the development of national portfolios of action on climate change and health in the European Region and highlighted some specific country experiences with them.
- [Session 9](#) featured selected conclusions drawn from the meeting, as summarized below.

Conclusions

- Recent evidence confirms the negative health impacts of climate change.
- Because carbon emissions are an enormous source of air pollution, mitigation efforts will confer tremendous health co-benefits – a powerful argument for reducing emissions that needs to be emphasized to both decision-makers and the general public.
- The economic benefits of adaptation and mitigation efforts – including the savings on healthcare and preventable deaths – outweigh the costs. Recent calculation tools can help make this argument persuasively.
- The speed of reducing emissions will define our adaptation ambitions.
- Meeting global mitigation targets will require large-scale transitions to renewable energy and to low-meat diets. Despite the major health co-benefits that would result, political and popular resistance to both remains entrenched.

- Local initiatives are essential to effective action on climate change and health, but they tend to be overshadowed by the focus on national action.
- The field of climate change and health is growing in global stature, as indicated by the current United Nations secretary-general's leadership in this area; the presentation of the first health report on climate change by WHO, at COP in 2018; the endorsement of the new WHO global strategy on health, environment and climate change by the World Health Assembly; and the growing chorus of physicians' initiatives and civil society voices calling for action; and the growing chorus of civil society voices calling for political action.
- Meeting participants repeatedly stressed the need for the health sector to lead on climate change and health, both globally and in countries, politically and by example.
- The health sector should also take on a more prominent role in the broader debate on climate change, which is usually led by the environmental sector, and make the health argument for mitigation – including co-benefits – and adaptation more forcefully. While the health sector enjoys the broad trust of the public, it has been hesitant to raise its voice on climate change.
- People working on climate change and health often hesitate to collaborate with other sectors, other organizations or – within WHO, for instance – other programmes. Yet such collaboration is necessary to fully address the health impacts of climate change. Because health concerns need to inform other sectoral policies to a much greater degree, intersectoral coordination should be strengthened, and it may be appropriate to make health sector involvement mandatory. In particular, the health sector should assess the health impacts of all climate adaptation and mitigation measures – and not only the health co-benefits, but also negative health consequences, which may otherwise be overlooked.
- The Ostrava Declaration policy framework appears to be encouraging Member States in the WHO European Region to commit to concrete actions on health and climate change. Countries have initiated a broad variety of such actions, notably in educating the health workforce, improving surveillance, making water supplies more resilient, incorporating climate change in risk assessments and improving heat–health action planning.
- Unfamiliar infectious diseases continue to emerge in parts of the Region where they have not been observed before. Surveillance of and response to these diseases has been quite good, but the disease picture keeps changing, and vigilance is called for.
- The health sector needs to ensure that health systems and healthcare facilities are climate-resilient and -smart.
- More research is needed on the effectiveness of specific health adaptation interventions in order to obtain the best results.

Резюме

Цели и задачи совещания

Рабочая группа по вопросам охраны здоровья в условиях изменения климата (HIC), образованная при Европейской целевой группе по окружающей среде и здоровью, оказывает поддержку государствам-членам в Европейском регионе ВОЗ в разработке национальных комплексов мероприятий в области охраны здоровья в условиях изменения климата, которая предусмотрена в [Декларации Шестой министерской конференции по окружающей среде и охране здоровья](#) (Оставской декларации) 2017 года. Прогресс в осуществлении этих мероприятий отслеживается в рамках Европейского процесса "Окружающая среда и здоровье", и для этого используются те же показатели, которые государства-члены используют для представления отчетности о реализации задач, предусмотренных в Целях в области устойчивого развития (ЦУР).

Общей целью данного совещания было обеспечение продолжения поддержки и методической помощи государствам-членам в разработке и осуществлении национальных комплексов мероприятий в области охраны здоровья в условиях изменения климата. Перед совещанием было поставлено несколько конкретных целей:

- рассмотреть дальнейшие действия в свете последних событий в сфере политики и достигаемого прогресса в области охраны здоровья в условиях изменения климата на глобальном и региональном уровне;
- представить последнюю информацию о новых фактических данных, публикациях и методических разработках, касающихся влияния изменения климата на здоровье в Регионе, в частности, применительно к трансмиссивным заболеваниям, периодам резкого похолодания, ситуации в области водоснабжения и санитарии и городским зеленым и голубым зонам;
- дать возможность государствам-членам обменяться опытом реализации положений Оставской декларации, касающихся охраны здоровья в условиях изменения климата, включая роль сектора здравоохранения в принимаемых на уровне страны мерах по адаптации к изменению климата;
- оказать помощь государствам-членам в определении первоочередных тем и мер, которые должны быть приняты во внимание при реализации их национальных комплексов мероприятий;
- представить последнюю информацию о статусе пересмотра методического руководства ВОЗ по разработке планов действий по защите здоровья населения от воздействия аномальной жары в Европейском регионе, включая новейшие фактические данные и предварительные результаты опроса;
- проинформировать об итогах совместного проекта ВОЗ и Европейской комиссии по анализу стратегий в области общественного здравоохранения и адаптации к изменению климата в Европейском союзе (ЕС).

HIC служит платформой для обмена знаниями и накопленным в странах опытом в области охраны здоровья в условиях изменения климата. Данное совещание было предназначено для того, чтобы провести всеобъемлющий обзор глобальных инициатив в этой области, осуществляемых под руководством ВОЗ, и показать их значение для Европейского региона. За год, прошедший после Шестого совещания HIC, было опубликовано два важных документа, которые улучшают условия для принятия странами мер в данной области. На 24-й Конференции Сторон Рамочной конвенции Организации Объединенных Наций об изменении климата (COP24), прошедшей в 2018 г., ВОЗ официально

представила глобальный Специальный доклад для COP24 "Здоровье и изменение климата". Этот доклад представляет собой значительный вклад международного сообщества общественного здравоохранения в обеспечение успеха переговоров, касающихся Рамочной конвенции Организации Объединенных Наций об изменении климата (РКИК ООН). В нем обобщены имеющиеся на сегодняшний день знания о взаимосвязи между изменением климата и здоровьем и содержатся рекомендации для лиц, определяющих политику, о том, как добиться максимальной пользы для здоровья от мер по противодействию последствиям изменения климата. Кроме того, новой рамочной основой для принятия мер вплоть до 2030 г. по преодолению сохраняющихся и возникающих в окружающей среде рисков для здоровья, включая изменение климата, служит принятая в 2019 г. Глобальная стратегия ВОЗ в области здоровья, окружающей среды и изменения климата.

Главным ожидаемым итогом совещания стало повышение у его участников уровня осведомленности и понимания в отношении последних имеющихся данных об изменении климата и его влиянии на здоровье, приоритетов для стран и проводимых в странах мероприятий в этой области и достигнутого странами прогресса в реализации принятых ими обязательств, вытекающих из Оставской декларации.

Программа совещания

Совещание состояло из десяти заседаний, проходивших в течение двух дней.

- На [заседании, посвященном открытию](#) совещания, были представлены обзор общей ситуации при подготовке совещания, его цели и ожидаемые итоги.
- [Заседание 1](#) было посвящено выборам сопредседателей НИС.
- На [заседании 2](#) были рассмотрены различные аспекты последней информации об имеющихся на сегодняшний день фактических данных и ответных мер в области политики, предпринимаемых как на глобальном уровне, так и на уровне Европейского региона ВОЗ и Региона Восточного Средиземноморья в связи с данными научных исследований, касающихся влияния изменения климата на здоровье населения.
- На [заседании 3](#) были заслушаны сообщения о проводимой работе в области охраны здоровья в условиях изменения климата от партнеров – Программы развития ООН, Генерального директората Европейской комиссии по мерам в связи с изменением климата, Генерального директората Европейской комиссии по научным исследованиям и инновациям, Европейского центра профилактики и контроля заболеваний и Европейского агентства по окружающей среде.
- [Заседание 4](#) было посвящено вопросу о том, как страны могут определить практические меры в секторе здравоохранения и в других секторах для улучшения охраны здоровья людей в условиях изменяющегося климата и установить приоритетность этих мер.
- [Заседание 5](#) состояло из заслушивания серии коротких примеров из практики осуществления государствами-членами своих инициатив, после чего состоялись дискуссии в небольших группах о том, как можно было бы улучшить эти инициативы и адаптировать их в других странах Региона.
- На [заседании 6](#) рассматривались специфические аспекты нескольких ключевых проблем в области изменения климата и охраны здоровья, таких как инфекционные болезни, периоды резкого похолодания, водоснабжение и санитария, голубые и зеленые зоны и придание высокой приоритетности рискам для здоровья, создаваемым изменением климата.

- На [заседании 7](#) были рассмотрены планы действий по защите здоровья населения от воздействия аномальной жары (ПДЗЗАЖ), включая два примера из практики и предварительные результаты пересмотра методического руководства по ПДЗЗАЖ, которое в настоящее время готовится для Региона.
- На [заседании 8](#) был рассмотрен прогресс, достигаемый в разработке национальных комплексов мероприятий в области охраны здоровья в условиях изменения климата в странах Европейского региона, и были заслушаны сообщения некоторых стран об их опыте разработки и реализации планов.
- На [заседании 9](#) были сделаны некоторые выводы из работы совещания, которые кратко изложены ниже.

Выводы

- Последние данные подтверждают негативные последствия изменения климата для здоровья.
- Поскольку колоссальным источником загрязнения воздуха являются углеродные выбросы, предпринимаемые меры по смягчению последствий будут приносить огромные сопутствующие выгоды для здоровья: это убедительный аргумент в пользу снижения выбросов, который нужно всячески подчеркивать при общении с лицами, принимающими решения, и с населением в целом.
- Экономические выгоды от мер по адаптации и смягчению последствий изменения климата – включая экономию затрат в связи с медико-санитарной помощью и предотвратимой смертностью – перевешивают издержки. Более убедительно представить этот аргумент могут помочь недавно разработанные методики расчетов.
- Наши планы и цели относительно адаптации будут определяться темпами снижения выбросов.
- Достижение глобальных целей в области смягчения последствий изменения климата потребует широкомасштабного перехода на возобновляемые источники энергии и рационы питания с низким потреблением мяса. Несмотря на значительные сопутствующие выгоды для здоровья, которые могут быть получены при этом, сохраняется укоренившееся сопротивление переходу на то и другое.
- Для принятия действенных мер по охране здоровья в условиях изменения климата большое значение имеют инициативы на местном уровне, однако они, как правило, остаются в тени из-за того, что все усилия сосредоточены на мерах общенационального уровня.

Охрана здоровья в условиях изменения климата приобретает все большую важность в глобальных масштабах, свидетельством чего являются роль Генерального секретаря Организации Объединенных Наций как лидера в этой области, представление ВОЗ первого доклада о последствиях изменения климата для здоровья на COP24 в 2018 г., принятие Всемирной ассамблеей здравоохранения новой Глобальной стратегии ВОЗ в области здоровья, окружающей среды и изменения климата, инициативы врачей и крепнувший хор голосов гражданского общества, требующих принятия политических мер.

Introduction

The seventh meeting of the Working Group on Health in Climate Change (HIC) was organized by the European Centre for Environment and Health of the WHO Regional Office for Europe, acting in its role as secretariat of HIC. It took place on the United Nations Campus in Bonn, Germany, on 11–12 June 2018.

The 71 participants in the two-day meeting represented 29 Member States of the WHO European Region, WHO and a variety of European and global organizations addressing issues of climate change and health. See [Annex 1](#) for a full list of participants.

The meeting was financially supported by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety of Germany.

Opening session. Welcome and opening

Piroska Östlin, Acting Regional Director of the Regional Office, opened the meeting by welcoming participants, underscoring the gravity of climate change and noting that the development of health policies to respond to it is lagging – something that HIC is working hard to address. Francesca Rapioppi, Head of Office at the European Centre for Environment and Health, then urged participants to take advantage of the meeting to share recent information and national experiences in addressing the health impacts of climate change.

They were followed by Oliver Schmol, Programme Manager for Water and Climate at the Centre, who provided an overview of the meeting's **background, objectives and expected outcomes**.

HIC was established under the European Environment and Health Task Force. One of its chief responsibilities is to support Member States of the European Region in developing their national portfolios of action in the area of climate change and health, as stipulated by the 2017 [Declaration of the Sixth Ministerial Conference on Environment and Health](#) (the Ostrava Declaration). Progress in implementing the actions is tracked within the European Environment and Health Process, using the same indicators that Member States use to report on the implementation of Sustainable Development Goal (SDG) targets.

The year that passed since the sixth meeting of HIC saw the publication of two resources that facilitate national efforts in this area. At the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (COP24) in 2018, WHO launched [COP24 special report: health and climate change](#). This report represents a significant contribution from the international public health community to support the negotiations of the United Nations Framework Convention on Climate Change (UNFCCC). It synthesizes current knowledge on the interconnections between climate change and health and provides recommendations to policymakers on how to maximize the health benefits of tackling climate change. In addition, the 2019 [WHO global strategy on health, environment and climate change](#) provides a new framework through 2030 to address persisting and emerging environmental health risks, including climate change.

The overarching purpose of the present meeting was to further support and guide Member States in developing and implementing their national portfolios of action in the area of climate change and health. The meeting had several specific objectives:

- to follow up on global and regional policy developments and progress on climate change and health;
- to provide an update on evidence, publications and tools addressing the health impacts of climate change in the Region, particularly with respect to vector-borne diseases, cold spells, water and sanitation, and urban green and blue spaces;
- to facilitate among Member States the exchange of experiences in implementing the Ostrava Declaration in the area of climate change and health, including the role of the health sector in national climate change adaptation efforts;
- to help Member States identify priority themes and actions to consider in implementing their national portfolios;
- to provide a status update on the revision of the guidance on heat–health action planning for the European Region, including evidence and preliminary survey results; and
- to share the outcomes of the joint WHO and European Commission project to address the public health and climate change adaptation policies in the European Union.

HIC provides a platform for the exchange of knowledge and country experiences in the area of climate change and health. The present meeting was designed to offer a comprehensive look at relevant global initiatives led by WHO and their implications for the European Region. The chief expected outcome of the meeting was an increased awareness and understanding among participants of the latest available evidence on climate change and health, countries' priorities and activities in this area, and their progress in implementing their related commitments under the Ostrava Declaration.

The participants approved the agenda for the meeting (see [Annex 2](#)) and heard about the programme for both days (see [Annex 3](#)). Georgy Pygnastyy and Andrey Tarkin served as Russian–English interpreters and Misha Hoekstra as rapporteur.

Session 1. Procedural matters

The first regular session was devoted to **the election of HIC co-chairs**.

According to HIC's scope and objectives, one co-chair should represent the health sector and the other the environmental sector. The co-chair from the environmental sector – Jutta Litvinovitch, of the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety – confirmed that she would continue in that position until the next HIC meeting. The co-chair from the health sector – Luc Tsachoua – had moved on from the Belgian Ministry of Health, necessitating the election of a new co-chair. The Belgian HIC representative proposed Inge Heim from the Croatian Academy of Medical Sciences for this position. Dr Heim accepted the nomination, and in the absence of other nominations, she was elected to the position by acclamation. **The HIC co-chairs until the next meeting are thus Jutta Litvinovitch and Inge Heim.**

Session 2. Setting the stage in policy and science

The second session examined various aspects of the current policy response to scientific findings on the health impacts of climate change, including climate change in global WHO policy, health in the UNFCCC, the health impacts of climate change and the health benefits of mitigation, progress of the policy response, the health adaptation gap, the Ostrava Declaration, recent activities of the HIC secretariat and lessons from the WHO Eastern Mediterranean Region.

The session commenced with recent developments in the **WHO global policy approach to climate change and health** – in particular, the ways in which WHO is reframing the case for action. It was mentioned that the WHO global strategy on health, environment and climate change was endorsed by the World Health Assembly in May 2019 to support a strengthened health sector, adequate governance mechanisms, and enhanced communications to foster greater demand for healthy environments. The new strategy is timely – it responds to and is in line with the 2030 Sustainable Development Agenda and WHO’s Thirteenth General Programme of Work (GPW). Furthermore, the publication – and title – of *COP24 special report: health and climate change* demonstrates WHO’s increased emphasis on the central role of health concerns in arguing for climate change mitigation and adaptation. This intensified focus on health was also reflected in the preparations for United Nations Climate Action Summit 2019, which the secretary-general would be convening two weeks after the present meeting. WHO would be asking countries to make two commitments at the Summit – to adopt WHO recommendations for air quality standards and to invest more resources in health sector mitigation. The first recommendation recognizes that the greatest drivers of air pollution, which is responsible for 7 million deaths each year worldwide, are also the greatest drivers of climate change – most notably the burning of fossil fuels. Fortunately, health protection is a powerful argument, and one that addresses universal concerns. Calling renewable energy “healthy energy” can help to underscore the health benefits of transitioning to green energy sources. In advocating for more action, it is also crucial to quantify the health benefits of climate change interventions – and the health costs of inaction. How many deaths are acceptable? Similarly, it makes sense to take the financial costs of inaction into account when discussing the economic costs of mitigation. For instance, the COP24 report shows how savings on the costs of hospitalizations and premature deaths can greatly outweigh the costs of the mitigation efforts that will prevent them.

In the same vein, participants turned their attention to **linkages between climate change and health under the UNFCCC**. Not only has the climate crisis been raising awareness about the serious threat that air pollution poses to human health, but the [Paris Agreement](#) of the UNFCCC also explicitly encourages climate mitigation strategies that will yield health co-benefits. For the health sector, the biggest mitigation priorities are the promotion of alternative fuels, mass transit and bicycles. Health priorities for adaptation efforts include hygiene promotion; the prevention, monitoring and control of climate-sensitive diseases; and investment in resilient health system infrastructure. Under the Paris Agreement, nationally determined contributions (NDCs) and national adaptation plans (NAPs) can – and should – incorporate health considerations. The UNFCCC also addresses health through the Warsaw International Mechanism for Loss and Damage, which is designed to help countries to deal with the adverse effects of climate change, and which supports some health projects in developing countries. Finally, the UNFCCC collaborates with WHO on a variety of events, meetings and forms of technical support, and the WHO is now in serious discussions with the UNFCCC’s Green Climate Fund about developing more of a formal partnership.

The session then took a broad look at **the health impacts of climate change and the health benefits of mitigation**, as identified by the European Academies Science Advisory Council (EASAC). An EASAC working group has surveyed the various physical and mental health impacts of global warming. Increasing concentrations of carbon dioxide and short-lived climate pollutants are causing rising temperatures, rising sea levels, and a greater frequency and intensity of heat waves, cold snaps and other extreme weather events – all of which have serious consequences for health. In addition, these changes adversely affect water quality and quantity, the frequency and extent of wildfires and flooding, crop productivity and safety, and the distribution and ecology of disease vectors, as well as increasing the levels of violent conflict and forced migration. In terms of emerging infectious diseases due to climate change, the ones posing the highest risks to the European Region are projected to be Lyme disease, *Vibrio* infections, visceral leishmaniasis, dengue fever and tick-borne encephalitis. Unfortunately, at current emission levels, the best estimates give us less than 30 years before global temperatures increase by 2 °C, which many climate scientists consider to be a catastrophic tipping point – and which underscores the urgent need for decarbonization. On the other hand, the health co-benefits of mitigation are striking. Phasing out fossil fuels would prevent 430 000 deaths a year in the European Union (EU) alone. Moreover, if United Kingdom residents changed their diet to satisfy WHO recommendations, their dietary greenhouse gas emissions would fall by 17% – and their life expectancy would increase by eight months.

The EASAC working group also identified several research priorities to inform policy development, including quantifying the health impacts of climate change and the health co-benefits of mitigation; understanding the determinants of individual and institutional behaviour; researching vulnerable groups, climate and pollution linkages, and exposure–response relationships; and modelling non-linearities, tipping points and cost–effectiveness. In addition, it recommended clarifying the relationship between EU and national responsibilities in adaptation plans, making health a focus of the EU adaptation strategy and incorporating health impact assessments in all sectoral initiatives.

One important effort to monitor developments is **the Lancet Countdown**, which tracks progress on climate change and health. An independent research collaboration, it has been tracking 41 indicators in domains ranging from exposure to political engagement. According to [the most recent Countdown report](#), the health impact of climate change is substantial. In 2017, for instance, 157 million more people were exposed to heat waves than in 2000. The European Region is the WHO region that is most vulnerable to heat waves, due to its ageing population, urbanization and high prevalence of chronic diseases. While some governments have begun to react to climate change, annual adaptation spending under the UNFCCC remains well under the US \$100 billion committed under the Paris Agreement, and less than 4% of this spending has been on health. Meanwhile, the carbon intensity of the primary energy supply is the same as it was in 1990, and coal consumption is actually increasing. Nonetheless, there are some signs of hope. Research on climate change and health has tripled in the past decade, and in 2017, the growth in new renewable energy capacity was more than double the growth in new fossil fuel capacity. The Countdown identified several priorities for the Region: to build commitment for achieving zero emissions by 2050, to reduce PM2.5 pollution through cross-sectoral efforts and to implement adaptation measures that protect the elderly.

Next, the delegates heard about **the health adaptation gap**, as outlined in [The adaptation gap report 2018](#), produced by the United Nations Environment Programme (UNEP). The report focuses specifically on the climate adaptation gap in health, which it defines as the difference between actual health outcomes and those that would result if the level of adaptation efforts met

societally established goals. The gap is notoriously difficult to measure, however, given not only the lack of well-defined goals, but also the breadth and complexity of the health impacts of climate change, the patchy data on adaptation interventions and uncertainty about the effectiveness of these interventions. Nonetheless, it is evident that actions to address the increasingly large burden of preventable climate-related morbidity and mortality are systematically underfunded, even in high-profile areas such as malaria control. As a consequence, the health adaptation gap is substantial and growing.

Areas where the gap is notable include extreme weather, climate-sensitive infections, and nutrition and food security. In the past 20 years, an estimated 2 billion people have been affected by flooding and 700 million by extreme wind events. There are more than 200 million cases of both malaria and schistosomiasis annually, while for dengue fever, even surveillance has proven beyond current capacity. Even if the world managed to keep global warming to 1.5 °C, climate change is still projected to result in an additional 500 million people who are undernourished by 2050. Yet though the health costs of climate change are expected to exceed €100 billion by 2041 in the EU alone, international funding for health adaptation is almost negligible. Among the broad interventions that make the most sense are accelerated action on basic climate-sensitive determinants of health, such as safe water, sanitation and nutrition; early warning systems and disaster risk reduction; the development of national health adaptation strategies and plans, including vulnerability assessments; and investment in the climate resilience of health systems. Narrowing the health adaptation gap will require political will and substantial investment. Securing these things will require that the health sector become much more vocal in the climate change debate. It is telling that among country delegates to the last 20 COPs, only 0.25% represented the health sector, in contrast to 54% from environment, forestry and agriculture. Yet to effectively advocate for health adaptation internationally, the health sector first needs to take on a more prominent role within countries, and participants were exhorted to get their health ministries involved in national negotiations on climate change.

The rest of the session was devoted to WHO activities, starting with a brief look at **climate change on the global and regional WHO agendas**. As articulated in its [Thirteenth General Programme of Work, 2019–2023](#), WHO has recently embraced a triple mission that focuses on its impact on people at the country level: to promote health, to protect people from health emergencies and to serve the vulnerable. In May, the World Health Assembly endorsed a new health and environment strategy that explicitly recognizes the importance of addressing climate change: the [WHO Global Strategy on Health, Environment and Climate Change](#). In the European Region, the WHO Regional Office for Europe serves as the secretariat for the European Process on Environmental Health. In this role, it has convened a series of ministerial conferences, at which Member State environment and health ministers have developed a response to climate change and health over the past 30 years. The 2017 conference in Ostrava prioritized the strengthening of climate adaptation and mitigation efforts, identifying 12 actions that would support such strengthening and committed to developing national action portfolios that would reinforce the conference's environment and health priorities.

The focus then shifted to some **core activities of the European Centre for Environment and Health** in Bonn since the sixth HIC meeting in June 2018. As already noted, the Centre serves as the HIC secretariat for the Regional Office. At several key meetings – including a cross-sectoral regional forum convened by the United Nations Economic Commission for Europe (UNECE) on sustainable development in March 2019 and a high-level meeting of the WHO small country initiative in June – the Centre made a persuasive case for addressing climate change and health in the final recommendations. Major Centre publications during the previous year included

[*Achieving health benefits from carbon reductions*](#), a manual for the CaRBonH tool, which enables stakeholders to estimate the health and, importantly, the economic co-benefits of mitigation interventions. Another important publication was [*Public health and climate change adaptation policies in the European Union*](#), an analysis of health adaptation efforts in the EU that was supplemented by a survey and good practice case studies. This report shows that despite having adaptation programmes in place, awareness of the health implications of climate change is often suboptimal, and more work needs to be done to assess the effectiveness of particular adaptation measures and to train the health workforce in responding to the health risks of climate change. The Bonn office also began a thorough revision of European Region guidance for heat–health action planning, including a comprehensive evidence review, as described during [Session 7](#). In addition, the Centre has been contributing to the WHO/UNFCCC country profiles on climate change and health, which track progress and can be used for national advocacy; 24 profiles from the Region should be ready by March 2020. Finally, the Bonn office continued to provide individual countries with technical, networking and advocacy support, including concrete assistance to Croatia, Montenegro, the Russian Federation, Turkmenistan and Ukraine during the previous year.

To round out the session, delegates heard a candid presentation about the experiences of the WHO Regional Office for the Eastern Mediterranean in **integrating climate change considerations into public health programming**. While WHO headquarters and the Regional Office have made great strides in putting health at the centre of climate change discussions, health agencies in the WHO Eastern Mediterranean Region have been slow to incorporate climate change into their programmes, largely because WHO health programmes have not incorporated it in their guidances. Within the Regional Office, the prevailing attitudes toward adaptation have been that climate change will simply amplify existing stressors on health, and that – as long as there is additional investment and greater attention to vulnerable groups – existing public health practices should suffice, while other sectors can undertake their own adaptation efforts themselves. The catastrophic floods in March 2019, which affected more than 1000 health facilities and half of Iran’s 83 million inhabitants, served as a wake-up call, prompting reconsideration of this approach. The floods made it clear that climate change is causing extreme events that will threaten health system infrastructure and may trigger large population movements, overwhelming health systems. There is a growing recognition within the Regional Office that climate change preparedness requires multisectoral action and investment, not just expansion of programmes already in place. While regional strategies are starting to include climate change considerations, there is an urgent need for WHO technical guidances, which are lacking in areas other than heat–health action planning. Ideally, such guidances should be developed by the relevant WHO programmes with input from the climate change team. In addition, the health sector needs to engage and collaborate actively with other sectors, which are often more active on climate change and health than the health sector.

Session 3. Updates by partners

The third session consisted of short updates from representatives of the United Nations Development Programme (UNDP), two European Commission directorates-general and two EU agencies on their recent activities in climate change and health.

UNDP is broadly involved in climate change adaptation and mitigation efforts. Notable activities include planetary health investments; funding of national healthcare waste assessments; and promotion of sustainable procurement in the health sector. Healthcare's climate footprint is 4.4%

of the global total; meaning if it were a country, it would be the fifth largest emitter on the planet. [With a footprint of this size](#), it becomes clear that healthcare can play a vital role in mitigating mankind's climate impact. The UNDP climate portfolio has provided US \$4.6 billion in grants to help 140 countries implement climate action, including support for 50 countries to develop or update their NDCs, which lie at the centre of UNDP climate programming. The agency's work on health and resilience prioritizes the mainstreaming of climate change in health policymaking and planning, and it is collaborating with WHO on several major projects on climate change and health. It also contributes to early warning systems and to climate risk management and energy efficiency in health systems.

The **European Commission Directorate-General for Climate Action** (DG CLIMA) continues to be very active in the area of health, and its work is based largely on the EU climate adaptation strategy. The EU aims to cut emissions by 40% from its 1990 baseline by 2030 and to achieve carbon neutrality by 2050 – a goal supported by more than 90% of its citizenry, which also strongly endorses adaptation efforts. Health concerns inform all of the European Commission's political guidelines for in 2019–2024, which include a cross-cutting strategy to protect citizens' health from environmental degradation and pollution. The next EU budget period, which starts in 2021, includes climate mainstreaming targets. The EU climate adaptation strategy, which promotes country action and climate-proofing of EU activities, is a good start, though it could be more ambitious. Areas for future action include a sustainable food policy, increased engagement of subnational regions and municipalities, better surveillance, and research and innovation.

That last item is, of course, the focus of the **European Commission Directorate-General for Research and Innovation** (DG RTD). The Commission has spent €1.8 billion on more than 500 research projects on environment and health over the last 20 years, primarily to support policymaking. This research commitment is driven by strong public support; WHO global and regional policy frameworks, including the SDGs and the European Environment and Health Process; the EU's own strategies and action plans; and questions raised by previous research. Funding of research on climate change and health will have grown to nearly €100 million under the current research and innovation framework, including major projects on air quality, urban issues, intersectional interventions, health co-benefits and the impact of heat on workers. It is expected to increase substantially under the new framework that commences in 2021, Horizon Europe, in which four of the five framework missions relate directly to climate change and health.

From the **European Centres for Disease Prevention and Control** (ECDC), meeting participants heard about recent research on the climate change-related spread of tropical vector-borne diseases in the EU and neighbouring countries. While the changing climate has expanded the extent of the geographical areas that are hospitable to these disease vectors, the greatest driver of disease outbreaks in recent years has been air travel. Among the many vector-borne diseases whose spread is expected to increase due to climate change, ECDC has been conducting surveillance of dengue fever, chikungunya, West Nile fever and *Vibrio* infections. By improving their core capacities to detect, assess and report public health events under the International Health Regulations (IHR), countries can help reduce the incidence and severity of these and other cross-border disease threats.

The session concluded with an update from the **European Environment Agency** (EEA). In February, the EEA published [Unequal impacts, unequal exposure](#), a report on social vulnerability to air pollution, noise and extreme temperatures in the EU. It found that disadvantaged groups tend to be the most exposed to these environmental hazards; for instance,

the highest temperatures are correlated with areas that have the greatest proportion of unemployed and elderly inhabitants. The EEA and DG CLIMA also redesigned the [European Climate Adaptation Platform](#) (Climate-ADAPT), an online resource that enables users to access and share information on climate adaptation in the EU and neighbouring countries. It includes a [section devoted to health](#), including data on health impacts, policy resources and case studies. EEA publications in the works include *Urban adaptation to climate change in Europe*, which will quantify the impact and effectiveness of some adaptation measures and include case studies, and a report on environment and well-being.

Session 4. How countries in the European Region can prioritize policies and actions to protect health in a changing climate

Session 4 focused on ways that countries can identify and prioritize actions to protect human health in a changing climate. After hearing case studies from Austria and Ireland, participants shared their own experiences with and suggestions for identifying and prioritizing such actions across other sectors.

The session started with a look at recommendations for **how Austrian policymakers should respond to climate change and health**, based on [a special report](#) from the Austrian Panel on Climate Change. The recommended response addresses the health impacts of climate change, promotes climate-related health literacy to reduce vulnerability and favours policies to maximize the health and social co-benefits of mitigation efforts. The report has prioritized climate change threats to health through an assessment of both the magnitude of each threat and the potential for improving health through individual and government actions. Extreme heat emerged as the top priority, while the second-tier priorities concerned air quality and precipitation patterns. Climate-related health literacy – which is designed to improve adaptation behaviour and promote healthy low-carbon lifestyles – is especially important for health workers and vulnerable populations, including children. While expanding public transport and shifting to electric vehicles would provide the greatest emission reductions, encouraging cycling and walking would provide significant health benefits and allow for the greening of city centres. The report's housing recommendations include involving climatologists and health experts in planning processes; promoting high-quality refurbishment to save energy, reduce heat stress and reduce social inequality; and discouraging the construction of one- and two-family homes, which are resource-intensive and increase transport distances. Switching to a diet based on fruits and vegetables could reduce food production emissions by 70% and the risk of premature death due to nutritional diseases by 20%. Finally, the Austrian health sector has a substantial carbon footprint, almost half of it due to pharmaceuticals and medical goods and services; investing more in prevention would reduce this footprint while creating significant health gains.

Turning west, the session considered **Ireland's all-of-government approach to climate change**. The approach is grounded in the Climate Action and Low Carbon Development Act of 2015, which informs the country's climate action plan, adaptation framework and mitigation plan. Climate disruption is now a fast part of the national risk assessment, and in the latest assessment, climate change was the public's top priority. Three bodies oversee the government response: a national climate action delivery board, under the Taoiseach (prime minister); an oversight committee in Parliament; and the independent Climate Action Council. The government has adopted a health-in-all-policies approach, and in addressing climate change, it considers health impacts to be a cross-cutting issue that involves all sectors. All local authorities

are required to have adaptation plans, which are supported regionally. The research arm of the Irish Environmental Protection Agency (EPA) – notably charged with “protecting health, ecosystems and biodiversity” – has developed a wealth of policy-oriented, open-source tools and guidance for addressing climate change, accessible on the EPA’s [climate information platform](#). The government engages and educates the public on climate change issues, as required by the Paris Agreement, via platforms ranging from a popular television programme to webcast lectures and a national citizens’ assembly. Major challenges include generating relevant health data and connecting it with environmental data, and investing in climate-resilient healthcare facilities.

Participants then split into four groups, and the rest of the session was devoted to group work on **identifying priorities for health action, coordinating action across sectors and overcoming obstacles to implementation**. After the groups discussed their responses to three questions, the group moderators presented their conclusions in plenary. Their main points are summarized beneath the questions below.

1. How do you identify main areas for health action across sectors in times of a changing climate? What are they?
 - Conduct a national analysis, as climatic, demographic, economic and governmental conditions vary greatly from country to country.
 - Perform strategic risk assessments.
 - Model different climate change scenarios.
 - Analyse national and local climate data and projections, as well as mortality and epidemiological data.
 - Use a national coordination mechanism or some other form of intersectoral coordination to identify health actions in different sectors.
 - In addition to health sector actions, consider the following key sectors (and specific health actions): agriculture (reducing meat production and consumption, reducing pesticide use and changing irrigation practices to match local conditions); emergency management; energy (promoting renewables and other non-polluting energy sources); environment; finance; industry (reducing pollution); and transport (promoting public transportation, active mobility and electric vehicles).

2. How can you coordinate with other sectors to promote health action?
 - Utilize the national coordination mechanism.
 - Create national or local coordination centres, led by the ministry of health or the national institute for public health, to address climate change and health.
 - Gather relevant information, including socioeconomic and epidemiological data, from relevant sectors and stakeholders.
 - Use the WHO/UNFCCC country profile on climate and health to raise awareness in other sectors about the health impacts of climate change.
 - Employ the national adaptation strategy as a framework for working with other sectors.
 - Use a proactive, bottom-up approach, reaching out to the people who will be actually carrying out the actions (such as social workers and farmers).
 - Use the [One Health](#) approach.
 - Develop and implement heat–health and cold–health action plans with relevant sectors.

3. What are the bottlenecks that you face in implementing priority actions? What is needed to improve the situation?

The bottlenecks mentioned included the following:

- insufficient intersectoral coordination;
- poor leadership by the health sector, whether because of a lack of vision or a reluctance to assume responsibility;
- the absence in some countries of a legal requirement to address climate change and health, which means that resources are allocated to other areas where action is mandated;
- a general lack of time and money;
- a lack of a national health adaptation plan;
- a lack of vulnerability assessments to support such a plan;
- difficulty and delays in accessing data, particularly socioeconomic, epidemiological, mortality and hydrological data;
- low prioritization of public health issues within the health sector;
- differing perceptions of risk among different stakeholders;
- conflicting priorities at different levels of government;
- a paucity of national evidence on climate change and health; and
- an absence in some NDCs of actions addressing health.

The suggestions for addressing these and other problems included the following:

- intersectoral coordination bodies at the national, subnational and local levels;
- greater initiative in the health sector;
- the development of a national health adaptation plan to increase awareness, both inside and outside the health sector, of the health impacts of climate change and the need for intersectoral action;
- vulnerability assessments;
- post mortem analysis after climate-related disasters to identify areas for improvement, such as ECDC has done after outbreaks of West Nile fever;
- research and surveillance to support future action;
- health impact assessments of mitigation measures;
- human resource capacity-building and training, including the incorporation of climate change concerns in medical training;
- awareness-raising among health ministers, ministry staff and relevant decision-makers, particularly about climate change actions in other sectors that would bring health co-benefits;
- more health sector investment in emergency prevention, preparedness and risk management, and not simply in disaster response;
- greater attention and support for health actions from international organizations and funders working with climate change;
- monitoring of risk exposures over time, which can change rapidly, and adjustment of the response accordingly;
- legislation addressing climate change and health, which is preferable to just strategies;

- funding of national research on climate change and health; and
- inclusion of actions to address health impacts in all NDCs.

Session 5. World café on Member State experiences with climate change and health

The fifth session was devoted to a “world café” segment, in which each participant each chose two items from a menu of six Member State initiatives addressing different issues in climate change and health. After two rounds of parallel presentations and small group discussions on how each initiative might be improved and adapted elsewhere in the Region, the six presenters returned to the plenary to sum up the key insights and messages that emerged.

Germany has a **multipronged communications effort** to inform the public about protecting their health from climate change. It disseminates written and web-based materials in German, English, Russian and Turkish that are tailored to the needs of different target groups and geographical areas, and topics range from heat–health to ticks to ragweed. Participants were invited to adapt these materials for their own use and to share their own materials.

In **Greece**, the incidence of West Nile fever has increased dramatically in the last several years – due less to changes in mosquito populations than to changes in bird migration from warm countries. The public health authority has begun to implement a **West Nile virus action plan** focusing on mosquito control, including environmental and sanitation measures as well as the use of biocides. Early results are promising, but the problem is expected to become worse.

Heat–health is a major focus of climate change adaptation efforts in **Israel**, which conducted a **study on the effects of heat waves on the elderly**. Participants discussed how their countries have assessed morbidity and mortality among the elderly, and the sensitivity of different statistical models.

Slovenia has instituted a **sun safety programme** for children in kindergartens and primary schools. The country has registered an alarming increase in skin cancers as people spend more time outdoors with less clothing. Children are especially vulnerable, and their behaviours are easier to change than adults’. Participant suggestions included starting prevention efforts in mother and child clinics, expanding green spaces and providing alternatives for keeping cool.

Sweden recently published **guidelines for heat–health action plans** (HHAPs) to help local and regional governments and private healthcare providers develop their own HHAPs. Discussion focused on how to determine HHAPs’ effectiveness in reducing heat-related morbidity and mortality. Participants agreed that HHAPs should address urban planning and the retrofitting of buildings.

Ukraine is developing a **national action plan on health adaptation** to climate change. The plan identifies responsible bodies for undertaking a variety of actions by 2021, including the establishment of intersectoral cooperation, early warning systems, information dissemination and concrete measures in different sectors. Participants provided a great deal of useful advice, particularly on the intersectoral interface, scientific evidence and HHAPs.

Session 6. Specific aspects of climate change and health

Session 6 explored specific aspects of several key issues in climate change and health: communicable diseases, cold spells, water and sanitation, blue and green spaces, and the systematic prioritization of health risks related to climate change.

The session commenced with an analysis of the **impact of climate change on infectious diseases in the EU**. A decade ago, ECDC undertook a study of how the drivers of infectious disease threat events are changing. Most of these events have multiple drivers. While the biggest driver of infectious disease events remains international trade and travel, climate change is increasingly affecting the transmission of vector-borne diseases in the EU, and its role remains widely underestimated. After mapping out the human impact of various vector-borne diseases, ECDC began conducting surveillance of dengue fever, chikungunya and *Vibrio* infections; other significant climate-driven diseases for which European surveillance is indicated include Lyme disease, visceral leishmaniasis, tick-borne encephalitis and Rift Valley fever. The [European Environment and Epidemiology Network portal](#) facilitates the surveillance of the environmental and climatic precursors of disease, enabling ECDC and public health agencies to prepare for and try to prevent outbreaks – for instance by closing beaches when Baltic Sea surface temperatures reach a certain threshold. Robust health systems are crucial in preventing and responding to infectious diseases, and improving national IHR core capacities to detect, assess and report public health events will reduce the incidence and severity of cross-border disease threats, whether related to climate change or not.

Leishmaniasis is one of the vector-borne diseases whose range is changing significantly due to climate change, as well as to demographic and human behavioural factors. During the past two decades, the sandflies who carry *Leishmania* parasites have moved from southern Europe and central Asia northward, and long-term climate change is expected to substantially expand their range to large areas that are now free from them. More experimental and field studies are needed on the effects of climate variables – including temperature, precipitation and humidity – on sandflies and the *Leishmania* life cycle. As conditions change, epidemiological surveillance (including surveillance of dogs) and public health control measures will need to be adapted accordingly.

The session then considered **extreme cold in the context of climate change and health**. Temperatures in the Arctic have risen more than twice as fast as in the rest of the world; the mean temperature in the Arctic is already more than 2 °C above the pre-industrial mean. Ideal temperatures vary with geography; a study spanning a broad variety of climates found that non-optimal temperatures are responsible for nearly 8% of all mortality, and more than 90% of these deaths are in fact attributable to cold rather than heat. Increased cold mortality is found among people with cardiovascular and respiratory diseases, the elderly and men, as well the socioeconomically disadvantaged who live in substandard housing. Unfortunately, the nature of cold exposure is still poorly understood, which means that it is impossible at present to design reliable cold warning systems. Only one study has evaluated the effectiveness of such a warning system, and it found the system had no effect on morbidity and mortality. Instead, long-term preparedness is called for, including investment in better housing and special attention to vulnerable populations. While climate change is expected to decrease cold-related mortality, overall temperature-related mortality is projected to increase, particularly in the most populous areas of the European Region.

Participants then heard a brief overview of the key issues – and opportunities – for climate change and health in the area of **water and sanitation**. The effects of climate change on water and sanitation are pervasive, including changes in precipitation intensity and frequency, river and coastal flooding, rising ambient and water temperatures, droughts and water scarcity. Both the quality and quantity of water available for human use are likely to be negatively affected, leading to greater chemical exposure, the spread of infectious diseases, poorer hygiene, inadequate hydration and a host of indirect impacts. The health sector plays a vital oversight role for the water supply and sanitation sectors. Key priorities for safeguarding public health include the following actions:

- ensuring the climate resilience of water-supply and sanitation systems;
- promoting water safety plans (WSPs) and sanitation safety plans (SSPs) as public health benchmarks to ensure safely managed, climate-resilient services;
- improving water, sanitation and hygiene (WASH) in healthcare facilities;
- integrating health concerns more fully into water resource management;
- establishing health-based targets to avoid inadvertently compromising public health; and
- increasing policy attention to these issues through the [Protocol on Water and Health](#) to the Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

The Protocol on Water and Health, which is aligned with and supported by the Ostrava Declaration, addresses the entire water and sanitation cycle in the countries of the European Region.

An examination of **Italy's recent experience** then provided an instructive case study on how a country with pronounced climatic variation is **mobilizing action on water and sanitation** to address the health impacts of climate change. While Italy has a long history of heat wave planning, it did not adopt a comprehensive approach to climate change and health until 2017, when it published a study on health impacts and a UNFCCC country profile, both of which feature sections on water resource management, including strategies to protect health. Among these strategies are the promotion of water conservation and reuse, the harmonization and modernization of water quality standards, the aggregation of fragmented surveillance, improvements in drought- and flood-control capacity, increased resilience of the water supply chain and sanitation systems, and implementation of WSPs and SSPs. The Italian health sector has also coordinated the intersectoral development of guidelines on droughts and water scarcity, desalinization, WSPs and SSPs, and it is actively involved in developing an ambitious national WASH and health strategy and in pushing the country to ratify the Protocol on Water and Health.

The session shifted to **the work of the Regional Office for Europe on urban green and blue spaces** in relation to climate change and health. The Regional Office has recently issued a series of publications on green spaces and health, including an [evidence review](#), a [study of the impact of different interventions](#) and an [action brief in seven languages](#). While green spaces can help address the impacts of climate change by managing storm water, reducing air pollution and reducing the urban heat island effect, these advantages are usually seen as co-benefits, and the primary reasons that decision-makers give for creating green spaces are to provide citizens with a better urban environment and to promote more active lifestyles. In terms of blue spaces, the Regional Office has been developing a decision support tool as part of the EU's BlueHealth research initiative. The tool is intended to help people who are planning or improving urban blue

spaces to minimize the health risks and maximize the health and ecosystem benefits associated with specific blue space settings and uses. It provides information and suggestions for addressing a variety of health risks associated with climate change, including waterborne diseases, vector-borne diseases, high temperatures, ultraviolet radiation and flooding. The tool will be available in early 2020.

The session ended with a look at **how to incorporate climate change in strategic risk assessments for public health emergencies**. Systematic risk analysis enables health ministries to prioritize risks and develop preparedness and response plans. For more than a decade, WHO has been pressing all health ministries to prioritize their risks, and to facilitate this process it developed the Strategic Tool for Assessing Risk (STAR), which can also be used by regional and local bodies. STAR enables the identification and comprehensive assessment of strategic risks based on national data and the expertise of relevant sectors and stakeholders. A risk level is calculated for each hazard based on the nature of the hazard (health consequences, scale and exposure), its likelihood of occurring, and its impact (severity, vulnerability and coping capacity). Likelihood and impact are then plotted in a colour-coded risk matrix. When the first six European Region countries used the tool, the climate-related hazards that were most often assessed as high priorities were foodborne outbreaks (five countries) and waterborne diseases (three countries). Once these risks are prioritized, the country can then develop contingency and risk management plans for each high-priority risk. It should review the risk analysis every year or two to incorporate new data and data projections, as well as the effects of actions to strengthen capacities and address vulnerabilities.

Session 7. Heat–health action plans (HHAPs)

Session 7 addressed HHAPs, including two case studies and some preliminary findings from the revised HHAP guidance being prepared for the European Region.

The first case study focused on **how Germany is addressing heat waves**. Between 2003 and 2015, heat waves were responsible for roughly 30 000 excess deaths in the country, though there is no real-time surveillance of mortality. The elderly are at the highest risk, especially those who are chronically ill or confined to home. The national heat warning system, established in 2005, is run by the national weather service, and warnings are disseminated by the media and via email and mobile app. National recommendations for HHAPs were published in 2017, and they are chiefly targeted at regional health authorities. National bodies are responsible for monitoring and evaluating HHAPs and the heat warning system, while the 16 federal states regulate HHAPs and oversee implementation of the national recommendations, though coverage is still quite patchy. Institutions for the elderly and the disabled are required to implement the recommendations, which include provisions for staff training and, in the medium term, building standards and onsite cooling centres. However, since most of the elderly who require nursing care receive it from family members or other home carers, most of the elderly at risk are not directly covered by HHAPs. The German research community and professional associations also hold relevant conferences and encourage training on a limited but increasing scale.

The second case study concerned **HHAPs in Moscow**. The mean air temperature has been rising much more quickly in the Russian Federation than most other countries, especially in the Russian Arctic, and heat waves are projected to become much more frequent and lengthier by the end of the century. During extreme heat in Moscow, where the heat threshold is just under 24 °C, excess mortality due to chronic lower respiratory infections has been 80% greater than

usual among residents over 65, and that due to cerebrovascular disease is 50% greater; during the extended heat wave that struck western Russia in 2010, all-source mortality nearly doubled. The Moscow municipal government approved an action plan in 2013 that included the development of an early warning system, with different departments disseminating warnings and recommendations for residents, establishing cooling centres, informing social workers and distributing drinking water. The warning system will soon incorporate air pollution warnings as well. The public health department has prepared recommendations for health care centres and ambulances. The city's 267 subway stations, which become extremely hot during heat waves, pose a particular challenge. The Russian government recommends that people who work in temperatures exceeding 30 °C, whether indoors or outdoors, take breaks every 45 minutes. Mitigation measures in Moscow have included reduction of carbon dioxide emissions and the creation of 82 new green spaces.

The session concluded by looking at progress on **the updated guidance for heat–health action planning in the European Region**. In 2017, the European Centre for Environment and Health embarked on a revision of the 2008 guidance to reflect the research done in the intervening decade, as well as the practical experience gained from HHAP implementation during that time. After the last HIC meeting, the Centre gathered evidence on HHAP effectiveness; heat trends and the limits to adaptation; governance and stakeholder involvement; and urban management interventions. Sources included literature reviews, a meeting of experts in November 2018 and subsequent expert submissions. The following key messages emerged from the draft evidence review.

- HHAPs in the European Region vary greatly in their scope and development.
- Heat-related mortality – and perhaps morbidity – has declined broadly across the Region, but the trend is not universal.
- The evidence strongly suggests that prevention plans and alert systems reduce mortality, morbidity and inequalities in the health impacts of heat waves.
- The difficulty of reaching the people most vulnerable to heat – the “last mile” phenomenon – may significantly limit the effectiveness of HHAPs.

The Centre plans to publish a book of evidence in early 2020 that also includes case studies drawn from Member States. The guidance and the underlying evidence will be featured at the 2nd Global Forum on Heat and Health, which will take place in Copenhagen in July 2020. Participants were urged to fill in and disseminate a survey that the Centre would be sending out shortly after the meeting, on activities to minimize the health effects of high temperatures.

Session 8. Developing and implementing national portfolios of action on climate change and health

The last thematic session looked at the progress being made on the country portfolios of action under the Ostrava Declaration and highlighted some specific country experiences with them.

The session began with some initial results from a survey on **the development of the national action portfolios on environment and health**. In signing the Ostrava Declaration, the Member States of the European Region committed to developing these portfolios by the end of 2018. A survey was conducted in April and May 2019, and responses were received from 35 of the 53 Member States. Two thirds of the respondents reported having a national body or mechanism

that coordinates work on environment and health, most of them multisectoral. At the time of the survey, 19 countries had developed a national portfolio, and most of the others were still planning to develop one. The biggest obstacle was a lack of resources; 22 of the 35 countries reported that no human or financial resources had been allocated to portfolio development and implementation. Of the 19 action portfolios that had been developed, 14 explicitly addressed climate change adaptation, resilience and mitigation. The survey also found good potential for international collaboration to assist Member States that need help; 11 countries expressed a wish for technical support in the area of climate change, and seven expressed a willingness to provide such support. Countries have already begun to implement the climate change actions in their portfolios.

The remainder of the session was devoted to **selected countries' experiences in implementing climate change and health actions**, starting with **Armenia**. Cooperation among different sectors in the Armenian government is excellent, and the health sector is involved in all government activities on climate change. While there is some action on most of the areas covered by the present meeting, it is not sufficient, and the next step will be to develop a health adaptation plan. Epidemiological surveillance is good and improving, as is the monitoring of various vectors; 10 mosquito species were recently identified that had never been seen in Armenia before. Environmental monitoring tends to be poor, however, with major data gaps, for instance on air pollution and health. While intersectoral cooperation has been good, international funders and organizations appear uninterested in collaborating with the government.

Croatia has prioritized climate change and health in its portfolio. Relevant actions include reducing health sector emissions by using an app to monitor energy and water waste in public sector buildings; developing a climate change action plan for the health sector, to supplement the national adaptation strategy; incorporating the health impacts of climate change into various educational curricula; improving risk reduction and early warning systems for natural disasters; scaling up public awareness campaigns; and supporting relevant research and improved data collection to inform decision-making and political advocacy.

In **Portugal**, the national climate change adaptation strategy is coordinated by the environment ministry, supported by a coordination group and nine sectoral groups. The health sector group is identifying adaptation measures for the health sector; the priority domains are water, air, extreme temperatures, extreme weather events and vector-borne diseases, and the measures are based on an assessment of risks to the population and to health services. Current activities include sanitary surveillance of water, national and regional contingency plans for extreme temperatures and a vector surveillance programme. Among the major mitigation efforts are improved water and energy use, renewable energy investments and paper recycling.

The next presentation focused on two examples of action at the subnational level in **Sweden**. First, starting in 2020, the entire fleet of 230 buses in and around Gothenburg will be powered by renewable electricity. Electric buses also offer co-benefits by exposing drivers and passengers to much less noise and vibration than conventional buses. Second, every time the 50 000 employees of Västra Götaland County fly, they are required to put money into a fund that raises climate change awareness among county workers. At present, the money is being used to train hospital and school canteen staff members to prepare climate-friendly meals.

Finally, in the **United Kingdom, England's** public health body is deeply involved in the national adaptation programme, which is part of the 25-year national environment plan issued in 2018. In Public Health England's global health strategy for the next five years, climate change is

a top priority, and key groups within the agency are working on climate change issues such as extreme events, environmental epidemiology, air quality, and healthy places; there is also a health protection research unit devoted to climate change. Meanwhile, England's National Health Service (NHS) has prioritized climate resilience and mitigation efforts, reducing its carbon footprint by nearly 20% in the last decade, despite growth in service provision. In addition, 70% of NHS organizations now have an approved sustainable development plan.

A brief discussion ensued on **the usefulness of the compendium of potential actions** (Annex 1 of the Ostrava Declaration) in developing the action portfolios. There was broad consensus that it had proved to be an excellent, practical starting point and a useful advocacy tool during national debates about which actions to consider and commit to. Despite its brevity, it carries authority by virtue of being part of the Declaration. A background document with evidence and examples could be a nice supplement. It was observed that action plans tend to focus on ways to reduce negative health impacts; it might be worthwhile to also emphasize the need to develop healthy environments and seek out health co-benefits.

Session 9. Conclusions

The final session consisted of **some preliminary conclusions**, which were drawn from the meeting by the HIC secretariat and co-chairs. These conclusions are summarized below.

- Recent evidence confirms the negative health impacts of climate change.
- Because carbon emissions are an enormous source of air pollution, mitigation efforts will confer tremendous health co-benefits – a powerful argument for reducing emissions that needs to be emphasized to both decision-makers and the general public.
- The economic benefits of adaptation and mitigation efforts – including the savings on healthcare and preventable deaths – outweigh the costs. Recent calculation tools can help make this argument persuasively.
- The speed of reducing emissions will define our adaptation ambitions.
- Meeting global mitigation targets will require large-scale transitions to renewable energy and to low-meat diets. Despite the major health co-benefits that would result, political and popular resistance to both remains entrenched.
- Local initiatives are essential to effective action on climate change and health, but they tend to be overshadowed by the focus on national action.
- The field of climate change and health is growing in global stature, as indicated by the current United Nations secretary-general's leadership in this area; the presentation of the first health report on climate change by WHO, at COP in 2018; the endorsement of the new WHO global strategy on health, environment and climate change by the World Health Assembly; and the growing chorus of physicians' initiatives and civil society voices calling for action; and the growing chorus of civil society voices calling for political action.
- Meeting participants repeatedly stressed the need for the health sector to lead on climate change and health, both globally and in countries, politically and by example.
- The health sector should also take on a more prominent role in the broader debate on climate change, which is usually led by the environmental sector, and make the health argument for mitigation – including co-benefits – and adaptation more forcefully. While the health sector enjoys the broad trust of the public, it has been hesitant to raise its voice on climate change.

- People working on climate change and health often hesitate to collaborate with other sectors, other organizations or – within WHO, for instance – other programmes. Yet such collaboration is necessary to fully address the health impacts of climate change. Because health concerns need to inform other sectoral policies to a much greater degree, intersectoral coordination should be strengthened, and it may be appropriate to make health sector involvement mandatory. In particular, the health sector should assess the health impacts of all climate adaptation and mitigation measures – and not only the health co-benefits, but also negative health consequences, which may otherwise be overlooked.
- The Ostrava Declaration policy framework appears to be encouraging Member States in the WHO European Region to commit to concrete actions on health and climate change. Countries have initiated a broad variety of such actions, notably in educating the health workforce, improving surveillance, making water supplies more resilient, incorporating climate change in risk assessments and improving heat–health action planning.
- Unfamiliar infectious diseases continue to emerge in parts of the Region where they have not been observed before. Surveillance of and response to these diseases has been quite good, but the disease picture keeps changing, and vigilance is called for.
- The health sector needs to ensure that health systems and healthcare facilities are climate-resilient and -smart.
- More research is needed on the effectiveness of specific health adaptation interventions in order to obtain the best results.

After thanking the organizers, presenters and participants, HIC co-chair Jutta Litvinovitch closed the meeting.

Annex 1. List of participants

Armenia

Nune Bakunts
National Center for Disease Control and Prevention
Ministry of Health
Yerevan

Austria

Silvia Baldinger
Federal Ministry of Sustainability and Tourism
Vienna

Azerbaijan

Ismayil Afandiyev
Ministry of Health
Baku

Belgium

Claire Collin
Federal Public Service Health, Food Chain Safety and Environment
Brussels

Croatia

Inge Heim
Croatian Academy of Medical Sciences
Zagreb

Georgia

Marine Baidauri
Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and
Social Affairs of Georgia
Tbilisi

Germany

Karin Höppner
Ministry of Health
Bonn

Jutta Litvinovitch

Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
Bonn

Hans-Guido Mücke
German Environment Agency
Berlin

Luzie Verbeek
Robert-Koch-Institute
Berlin

Greece

Vasiliki Karaouli
Ministry of Health
Athens

Ireland

Jonathan Derham
Irish Environmental Protection Agency
Wexford

Israel

Isabella Karakis Sukamet
Ministry of Health
Jerusalem

Italy

Luca Lucentini
National Institute of Health
Rome

Paola Michelozzi
Department Epidemiology, Lazio Region
Rome

Lithuania

Dovile Adamonyte
Centre for Health Education and Diseases Prevention
Vilnius

Luxembourg

Carole Eicher
Ministry of Health
Luxembourg

Montenegro

Borko Bajić
Institute of Public Health of Montenegro
Podgorica

North Macedonia

Mihail Kochubovski
Institute of Public Health of the Republic of North Macedonia
Skopje

Norway

Per E. Schwarze
Norwegian Institute of Public Health
Oslo

Poland

Izabela Orych
National Institute of Public Health
Warsaw

Krzysztof Skotak
National Institute of Public Health
Warsaw

Portugal

Anabela Santiago
Direção-Geral da Saúde
Lisbon

Republic of Moldova

Liliana Carp
National Public Health Agency
Chisinau

Romania

Ioan Chirila
National Institute of Public Health
Iasi

Serbia

Danijela Bozanic
Ministry of Environmental protection
Belgrade

Slovakia

Milada Estoková
Public Health Authority of the Slovak Republic
Bratislava

Slovenia

Ana Hojs
Institute of Public Health of Republic of Slovenia
Ljubljana

Sweden

Ida Knutsson
Public Health Agency
Östersund

Switzerland

Selena Lopreno
Federal Department of Foreign Affairs
Bern

Tajikistan

Kholmurod Alidzhonov
Ministry of Health and Social Protection
Dushanbe

Nazrullo Mirzoali
Ministry of Health and Social Protection
Dushanbe

Turkmenistan

Altyn Gurbanazarova
Ministry of Health and Medical Industry
Ashgabat

Ukraine

Iryna Rudenko
Ministry of Health
Kyiv

Olena Tuross
Marzeiev Institute for Public Health of National Academy of Medical Science
Kyiv

United Kingdom

Revati Phalkey
Public Health England
London

Temporary Advisers

Jessica Beagley
Lancet Countdown on Health and Climate Change
London
United Kingdom

Willi Haas
Institute of Social Ecology
University of Natural Resources and Life Sciences
Vienna
Austria

Andrew Haines (remote participation)
London School of Hygiene and Tropical Medicine
London
United Kingdom

Alina Herrmann
Heidelberg Institute for Global Health
Heidelberg
Germany

Jouni Jaakkola
WHO Collaborating Centre for Environmental and Respiratory
Oulu
Finland

Boris Revich
Institute of Forecasting Russian Academy of Science
Moscow
Russian Federation

Observers

Tania Radulescu
Clinical Hospital of Maxillofacial Surgery
Bucharest
Romania

Representatives of other organizations

European Centre for Disease Prevention and Control (ECDC)

Jan Semenza
Stockholm
Sweden

European Commission

Tuomo Karjalainen
DG Research and Innovation
Brussels
Belgium

Peter Löffler
DG Climate Action
Brussels
Belgium

European Environment Agency (EEA)

Aleksandra Kazmierczak (*remote participation*)
Copenhagen
Denmark

Healthy Cities Network (HCN)

Elisabeth Bengtsson
Copenhagen
Denmark

Luca Gediehn
Intern Municipality of Utrecht
Utrecht
Netherlands

The Regional Environmental Centre

Eva Csobod
Szentendre
Hungary

Representatives of United Nations organizations

United Nations Development Programme (UNDP)

Rosemary Kumwenda
Health and Development
Istanbul
Turkey

Nataliya Olofinskaya
Adaptation to Climate Change
Istanbul
Turkey

UNEP DTU Partnership

Gerardo Sanchez
Climate and Health
Copenhagen
Denmark

United Nations Framework Convention on Climate Change (**UNFCCC**)

Maryam Navi
Adaptation Programme
Bonn
Germany

World Health Organization (WHO)

Regional Office for Europe

Matthias Braubach
WHO European Centre for Environment and Health
Bonn
Germany

James Creswick
WHO European Centre for Environment and Health
Bonn
Germany

Vladimir Kendrovski
WHO European Centre for Environment and Health
Bonn
Germany

Begona Monge Maillo
WHO Regional Office for Europe
Copenhagen
Denmark

Piroska Östlin (*remote participation*)
Acting Regional Director
WHO Regional Office for Europe
Copenhagen
Denmark

Francesca Racioppi
WHO European Centre for Environment and Health
Bonn
Germany

Adrienne Rashford
WHO Regional Office for Europe
Copenhagen
Denmark

Oliver Schmoll
WHO European Centre for Environment and Health
Bonn
Germany

Regional Office for the Eastern Mediterranean

Hamed Bakir
Regional Centre for Environmental Health Action
Amman
Jordan

WHO headquarters

Maria Neira (*remote participation*)
Director, Public Health, Environmental and Social Determinants (CED)
Geneva
Switzerland

Joy Shumake-Guillemot (*remote participation*)
WHO/WMO Joint Office Climate and Health
Geneva
Switzerland

Secretariat

Philip Baumann
WHO European Centre for Environment and Health
Bonn
Germany

Cristina Palii
WHO European Centre for Environment and Health
Bonn
Germany

Andrea Rhein
WHO European Centre for Environment and Health
Bonn
Germany

Agnes Toth
WHO European Centre for Environment and Health
Bonn
Germany

Rapporteur
Misha Hoekstra

Interpreters
Georgy Pygnasty

Andrey Tarkin

Annex 2. Meeting agenda

1. Registration
2. Opening and adoption of agenda and programme
3. Election of new HIC co-chair
4. Update on climate change and health in global and regional WHO initiatives
5. Sharing of national experiences
 - a. Activities of Member States on climate change and health
 - b. Role of the health sector in national adaptation planning and processes
6. Update on the evidence of the health effects of climate change in the WHO European Region
 - a. Communicable diseases
 - b. Cold
 - c. Water and sanitation
 - d. Blue and green health
7. Updating the guidance on heat–health action planning in the WHO European Region: preliminary results of the findings
8. Information on the outcomes of the joint WHO/European Commission project on addressing the impacts of climate change and health in European Union countries.
9. Summary of the meeting and next steps
10. Closure of the meeting

Annex 3. Meeting programme

Wednesday, 11 September 2019

- 09:30 – 10:30 Registration of participants and welcome refreshments
- 10:30 – 10:45 Welcome and opening (*Piroska Östlin, Acting Regional Director, WHO Regional Office for Europe*)
- Background, objectives and expected outcomes (*Oliver Schmoll, WHO European Centre for Environment and Health*)
- Introduction of participants
- 10:45 – 11:00 **Session 1: Procedural matters**
- Election of co-chairs
- 11:00 – 12:45 **Session 2: Setting the stage in policy and science**
- WHO global policy updates on climate change and health (*Maria Neira, WHO headquarters*)
- Linkages between climate change and health under the UNFCCC (*Maryam Navi, United Nations Climate Change Secretariat*)
- The imperative of climate action to protect human health in Europe: opportunities for adaptation to reduce the impacts, and for mitigation to capitalize on the benefits of decarbonisation (*Andy Haines, London School of Hygiene and Tropical Medicine*)
- The Lancet Countdown: tracking progress on health and climate change – from threat to opportunity (*Jessica Beagley, Lancet Countdown*)
- The health adaptation gap: insights from UNEP’s Adaptation Gap Report 2018 (*Gerardo Sanchez, UNEP & Technical University of Denmark Partnership*)
- 12:45 – 14:00 Lunch break
- 14:00 – 15:00 **Session 2 (continued)**
- Climate change in the global and regional WHO agendas (*Francesca Racioppi, WHO European Centre for Environment and Health*)
- Core activities since the sixth HIC meeting in the WHO European Region (*Oliver Schmoll, WHO European Centre for Environment and Health*)
- Learning from other regions: experiences from the WHO Region for the Eastern Mediterranean on integrating climate change considerations into public health programming (*Hamed Bakir, WHO Regional Centre for Environmental Health Action*)

- 15:00 – 15:30 **Session 3: Updates by partners**
Updates by partners on activities on climate change and health
- United Nations Development Programme (*Rosemary Kumwenda and Natalia Olofinskaya*)
 - European Commission Directorate-General for Climate Action (*Peter Löffler*)
 - European Commission Directorate-General for Research and Innovation (*Tuomo Karjalainen*)
 - European Centre for Disease Control (*Jan Semenza*)
 - European Environment Agency (*Aleksandra Kazmierczak*)
- 15:30 – 16:00 Afternoon break
- 16:00 – 17:45 **Session 4: How to prioritize policies and actions for protecting health in times of a changing climate in the WHO European Region?**
Climate change and health for all: risks and opportunities in Austria (*Willi Haas, University of Natural Resources and Life Sciences, Austria*)
Delivering better health outcomes through an all-of-government approach – getting the governance right (*Jonathan Derham, Environmental Protection Agency, Ireland*)
Group work: sharing experiences in how to identify and prioritize areas for health action across sectors
- 17:45 Closure of day 1

Thursday, 12 September 2019

- 09:00 – 10:45 **Session 5: World café on Member States' climate change and health experiences**
- 10:45 – 11:15 Morning break
- 11:15 – 13:15 **Session 6: Specific aspects of climate change and health**
- Communicable diseases*
- The impact of climate change on infectious diseases in Europe (*Jan Semenza, ECDC*)
 - Leishmaniasis and climate change in Europe (*Begoña Monge Maillo, WHO Regional Office for Europe*)
- Cold and health*
- Climate change, extreme temperatures and health: the Arctic perspective (*Jouni Jakkola, Oulu University, Finland*)
- Water and sanitation*
- Key issues and opportunities (*Oliver Schmoll, WHO European Centre for Environment and Health*)
 - Climate change, water and sanitation: the Italian experience (*Luca Lucentini, National Institute of Health, Italy*)
- Blue and green spaces*
- WHO work on blue and green spaces and the relation to climate change (*Matthias Braubach, WHO European Centre for Environment and Health*)
- Emergencies*
- Incorporating climate change in public health strategic risk assessments (*Adrienne Rashford, WHO Regional Office for Europe*)
- 13:00 – 14:15 Lunch

- 14:15 – 15:00 **Session 7: Heat health**
Steps towards heat health impact prevention in Germany (*Alina Herrmann, Heidelberg University Hospital, Germany*)
Climate change and health effects – some experience gained in Moscow (*Boris Revich, Russian Academy of Sciences, Russian Federation*)
Updating guidance on heat health action planning in the WHO European Region: preliminary findings (*Vladimir Kendrovski, WHO European Centre for Environment and Health*)
- 15:00 – 16:15 **Session 8: Developing national portfolios of action on climate change and health and implementation of the actions**
Initial results of the survey on progress in the development of national portfolios of actions on environment and health (*Dovile Adamonyte, WHO consultant*)
Panel discussion: experiences and priorities in defining climate action in the national portfolios of action (Armenia, Croatia, Portugal, Sweden/Region Västra Götalands, United Kingdom)
Moderated plenary discussion
- 16:15 – 16:30 **Session 9: Conclusions and next steps**
- 16:30 Closure of the meeting and farewell coffee

THE WHO REGIONAL OFFICE FOR EUROPE

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

MEMBER STATES

Albania	Lithuania
Andorra	Luxembourg
Armenia	Malta
Austria	Monaco
Azerbaijan	Montenegro
Belarus	Netherlands
Belgium	North Macedonia
Bosnia and Herzegovina	Norway
Bulgaria	Poland
Croatia	Portugal
Cyprus	Republic of Moldova
Czechia	Romania
Denmark	Russian Federation
Estonia	San Marino
Finland	Serbia
France	Slovakia
Georgia	Slovenia
Germany	Spain
Greece	Sweden
Hungary	Switzerland
Iceland	Tajikistan
Ireland	Turkey
Israel	Turkmenistan
Italy	Ukraine
Kazakhstan	United Kingdom
Kyrgyzstan	Uzbekistan
Latvia	

World Health Organization

European Centre for Environment and Health

Platz der Vereinten Nationen 1

D-53113 Bonn, Germany

Tel.: +49 228 815 0400 • Fax: +49 228 815 0440

E-mail: euroceh@who.int • Website: www.euro.who.int



World Health
Organization

REGIONAL OFFICE FOR

Europe