

Bridging the Gap Between Science & Diplomacy

Experiences from the OPCW

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Effective Scientific Advice

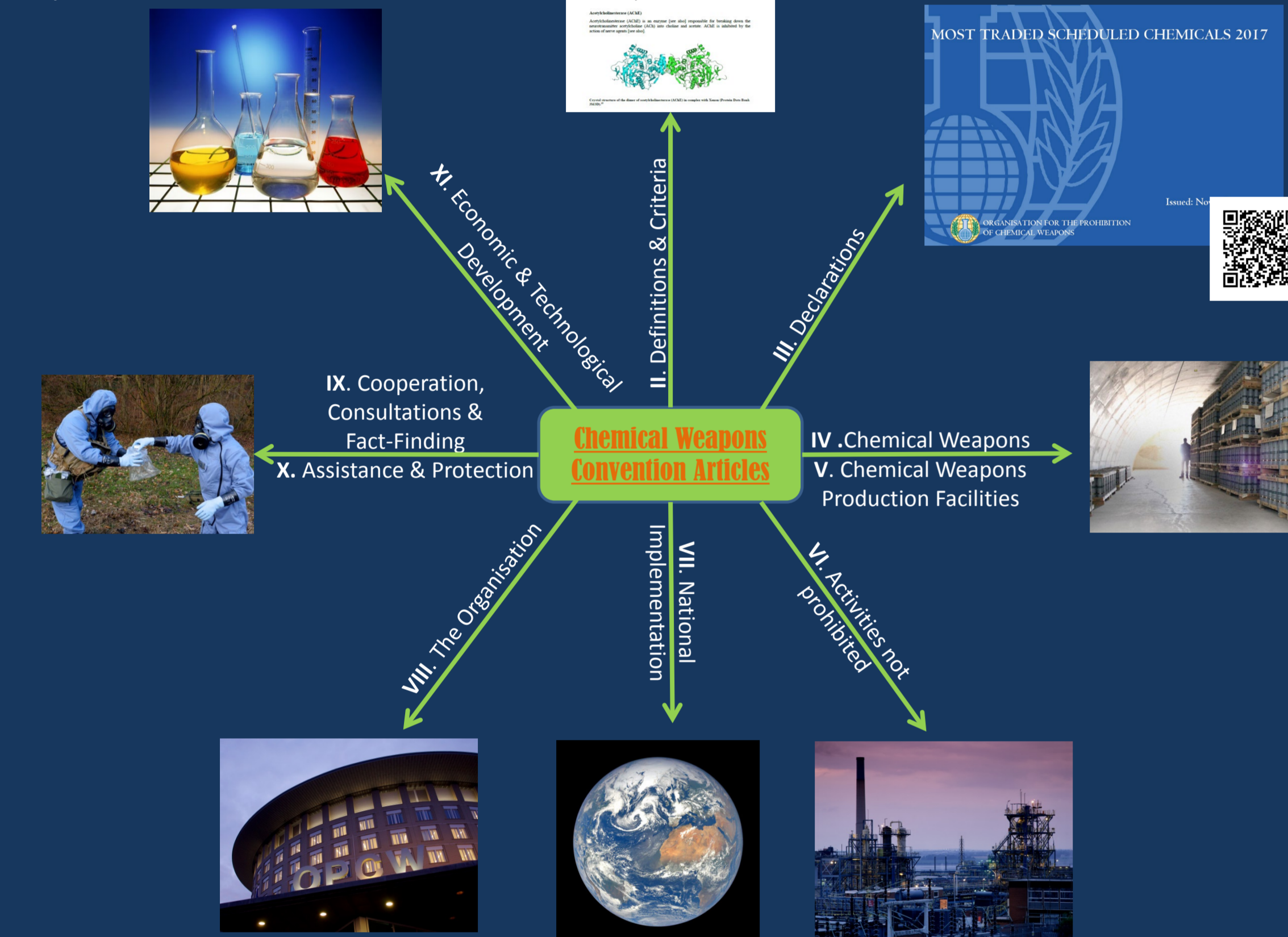
Without a Sound Scientific Basis There is no Treaty Implementation!

The Chemical Weapons Convention ("the Convention") is built on a scientific foundation. Effective implementation requires technical expertise and scientific literacy for decision making.

Key Elements of an Effective Scientific Advisory Mechanism

- Feedback mechanism and productive discourse with recipients of advice and recommendations
- Independent and scientifically credible
- Considers all relevant information and provides evidence based advice
- Promotes and strengthens scientific literacy for decision making
- Visible and supported (with both a facilitator and funding) within its "ecosystem"

Science and technology underpin the very articles of the Convention, providing definition and guiding implementation.



The need for science advice is imbedded within the Convention itself, called out in paragraph 21(h) of Article VIII, which states that the Conference States Parties shall:

The Conference of States Parties shall: Review scientific and technological developments that could affect the operation of this Convention and, in this context, direct the Director General to establish a Scientific Advisory Board to enable him, in the performance of his functions, to render specialized advice in areas of science and technology relevant to this Convention, to the Conference, the Executive Council or States Parties.

Bridging the Gap: The Scientific Advisory Board (SAB)

The SAB serves as a bridge to connect science with the world of multilateral diplomacy. The Board is composed of 25 scientists from across the Convention's States Parties, serving in their personal capacity for terms of up to six years. The SAB provides specialized and independent science advice to the OPCW Director-General.



More About the SAB

Current Programme of Work

- A temporary working group (TWG) is developing advice and recommendations on investigative science and technology. As of August 2019, the TWG has held three meetings.



1st Meeting Report



3rd Meeting Report



2nd Meeting Report

- Following publication of the Board's advice to the Fourth Review Conference of the Convention in 2018, the next science and technology review (to formulate advice to the Fifth Review Conference) has been initiated.

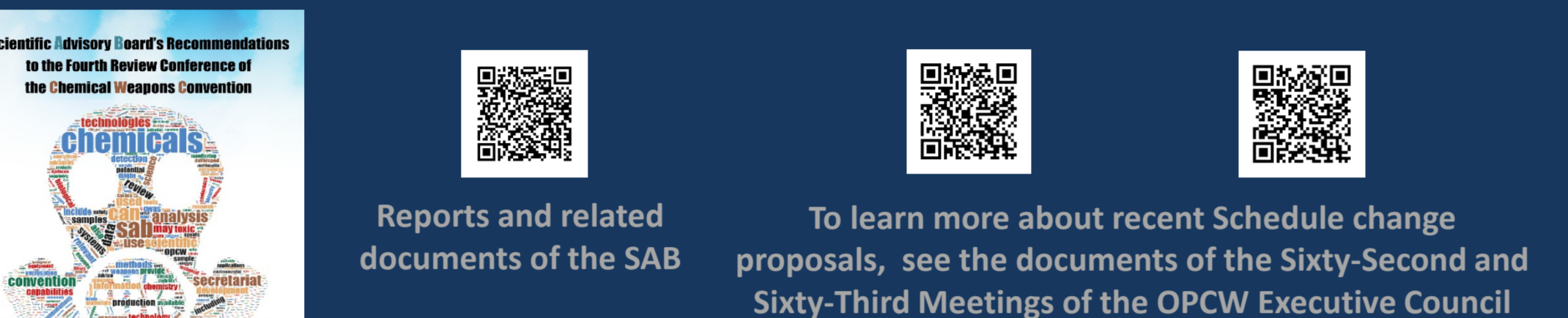
The OPCW Scientific Advisory Mechanism

An effective scientific advisory mechanism provides advice and recommendations on technical matters to ensure that decision makers are fully informed on the scientific dimensions of the issues they must address.

The SAB is tasked by the Convention to undertake a continual review of developments in science and technology, formulating advice and providing recommendations to Review Conferences of the Convention.



The Board further serves as an independent expert body providing advice and recommendations on issues of immediate concern. This has included advice on chemicals and chemistry related to the recent discourse around proposed changes to the Convention's Annex on Chemicals.



The Science Advice Ecosystem of OPCW

For science advice to be valued and considered by those receiving it, productive discourse with decision makers is of critical importance. The SAB provides independent advice to OPCW's Director-General, whose responses to SAB Session reports and recommendations set direction for taking advice forward, guide the Board's programme of work and communicate salient points to States Parties.

OPCW's Science Policy Advisor supports the Board as SAB Secretary. The Secretary facilitates the work of the Board, ensuring there is visibility and connection to the stakeholders of its advice (which include the staff of the OPCW and the States Parties).

One of the most important components of the ecosystem is science-policy communication. The SAB regularly briefs delegations and Open-Ended Working Groups (OEWGs) of States Parties on its work. National statements from States Parties and OEWG reports frequently provide views on SAB advice.

The ecosystem must be dynamic and responsive to the needs of its stakeholders.



The Science Advice Ecosystem of the Chemical Weapons Convention

Strengthening Science-Policy Discourse and Scientific Literacy

Opening remarks to SAB Sessions and consultations with SAB leadership

Formal responses to SAB session reports and recommendations

OPCW Director-General

OPCW Technical Secretariat

States Parties of the Chemical Weapons Convention

SAB Secretary

Scientific Advisory Board

SAB briefings to States Parties

Science for Diplomats Initiative

Scientific Publications

Engagement with Science Experts & Communities

Temporary Working Groups

The "Right" Scientific Advisory Mechanism

To build the "right" Scientific Advisory Mechanism, the following considerations are of critical importance:

- Who is the advice for?
- Why is the advice needed?
- How does advice go forward?

The answers to these questions are essential for creating an effective science advice ecosystem.

There is an estimated annual output of more than 2.5 million scientific publications and over 3 million patent applications. Predicting the impact of new science is – in effect – trying to predict the future! Is the intentional misuse of science to cause harm actually published in scientific literature? For these reasons, monitoring science is no easy task. In response, the SAB approaches scientific and technological change as an opportunity to gain access to tools and methods that might help recognize when something is "not right".

This approach has a basis in paragraph 6 of Article VIII of the Convention, which states: "In undertaking its verification activities the Organization shall consider measures to make use of advances in science and technology". For example, consider the use of observable indicators of the environment around us, and their biomolecular basis, as a means to recognize unusual toxic chemical presence and exposure.

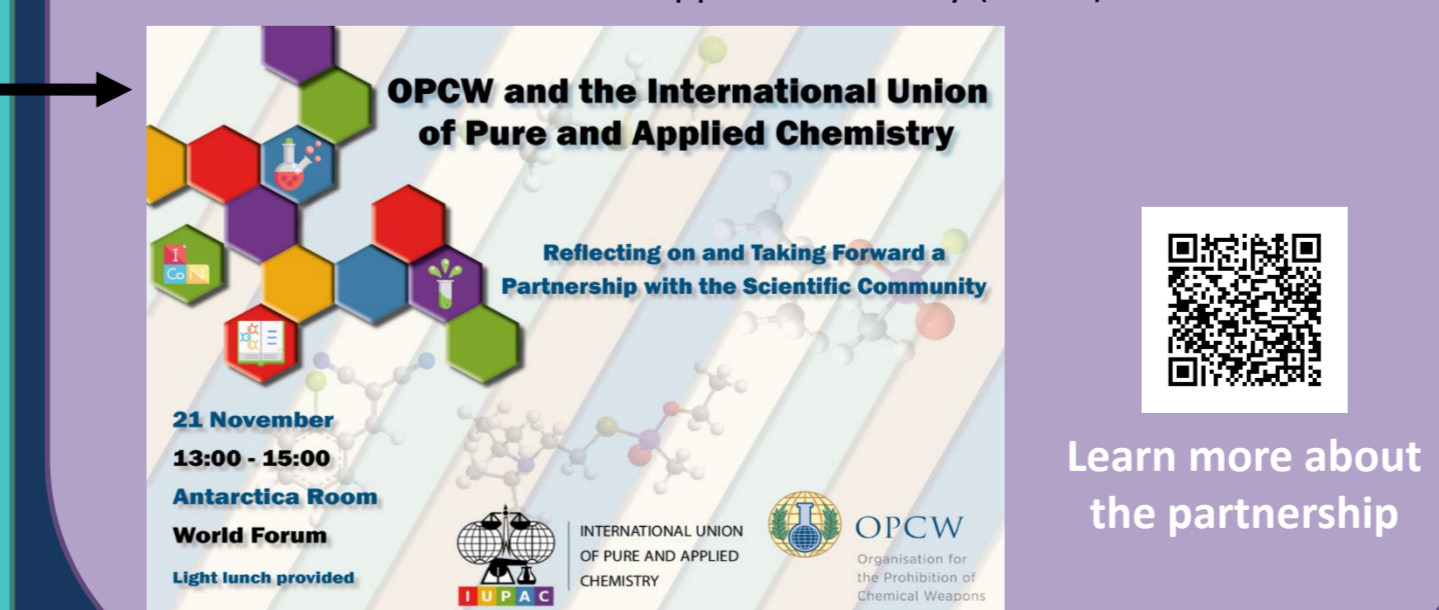


Visibility in Scientific Communities

Scientific credibility requires visibility and engagement within scientific communities, including through scientific publications as a Board. Recent SAB publications include:



The October 2018 issue of *Pure and Applied Chemistry* was dedicated to a 2017 workshop organized by the SAB on innovative technologies for chemical security



Learn more about the partnership

The Science for Diplomats Initiative

Designed to encourage and strengthen productive discourse between scientific experts and diplomats, OPCW's Science for Diplomats Initiative provides a forum for interactive engagement and accessibility of scientific reference materials to the Convention's States Parties.

These briefings engage and encourage diplomats to ask questions and view science in an approachable manner. This initiative was launched in 2014, a broad range of scientific and technological topics coming out of deliberations of the SAB and discussions amongst States Parties have been discussed. Highlights from across the history of the initiative include:



Chemistry Lessons

In light of recent proposals to add new chemicals and families of chemicals to the Schedules of the Convention's Annex on Chemicals (the first such proposals in the 26 year history of the Schedules), there has been great need to ensure that decision makers have access to, and understanding of knowledge of key chemistry concepts. The Science for Diplomats Initiative has served as a forum to provide "chemistry lessons" and inform those engaged in these deliberations.



Taking Science Advice Forward

Taking SAB advice forward into the world of multilateral diplomacy rests with the recipients of the advice, the OPCW and the States Parties. Willingness to move forward requires both interest and need, and recommendations move forward in both formal and informal ways.

Recommendations lending support to, or informing aspects of on-going programmes of work at the OPCW might be adopted by initiatives within the organisation.

Some recommendations require formal decisions be taken. For example, adding content to the database used for on-site chemical analysis, the OPCW Central Analytical Database (OCAD). Until 2017, OCAD only contained data for scheduled chemicals. The SAB had issued a standing recommendation to include relevant unscheduled chemicals in OCAD in 2000, yet it was not until confirmed use of sulfur mustard as a chemical weapon in 2015 and 2016 that the need for this advice became urgent. Sulfur mustard undergoes a complex series of chemical transformations, with the majority of the chemical species involved being unscheduled. In 2017, the States Parties adopted a decision to include unscheduled chemicals in OCAD. In bringing science advice forward, timing is everything!



Advice can also move forward through the initiative of an individual State Party or a group of States Parties. This might involve taking advice forward at national level. In 2016, the SAB issued advice on isotopically labeled variants and stereoisomers of scheduled chemicals, advising that to ensure consistency of declarations, if a chemical is included in a schedule, then all possible isotopically-labelled forms and stereoisomers of that chemical should be considered as falling under that schedule. The National Authority of the United Kingdom of Great Britain and Northern Ireland (UK) incorporated this advice into guidelines for declarations under its 1996 UK Chemical Weapons Act.

