



*This project is co-financed by the European Union
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Technical assistance for implementation of the EU Persistent Organic Pollutants Regulation

Project overview

Prof. Dr. Ivan Holoubek

**Project - Technical Assistance for Implementation of the Persistent Organic Pollutants
Regulation - EuropeAid/132428/D/SER/TR**

**Final Conference
Hotel Wyndham, Ankara, 04/06/2015**





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What are the persistent organic pollutants ?





Risk of POPs

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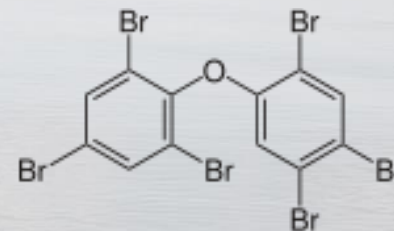
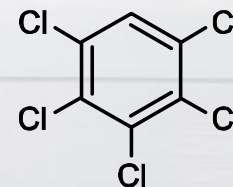
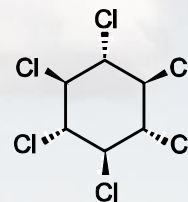
Persistent Organic Pollutants

➤ **Persistent**

➤ **Bio-accumulative**

➤ **Potential of long-range transport**

➤ **Pose a risk of causing adverse effects to human health and the environment**



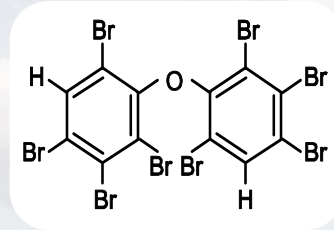


Persistent Organic Pollutants

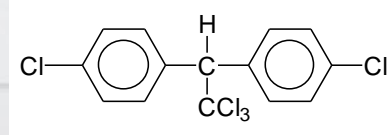
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Main groups:

↪ **Technical chemicals**



↪ **Pesticides**



↪ **Industrial by-products**



↪ **Wastes**



↪ **Obsolete POPs**

↪ **Contaminated sites**





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Stockholm Convention on Persistent Organic Pollutants (POPs)



NIRAS





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The objective of the Stockholm Convention

The objective of the Stockholm Convention is to protect human health and the environment from persistent organic pollutants. It differentiates between three categories of POPs:

- ↪ Intentionally produced POPs that are slated for elimination;
- ↪ Intentionally produced POPs are to be reduced and ultimately eliminated, except where there is a specified “acceptable purpose,” such as disease vector control, or exempted usage, in which case the production and/or use of the substance is restricted; and
- ↪ POPs that are unintentionally produced as the result of human activity and which are slated for continued minimization and, where feasible, ultimate elimination of total releases derived from anthropogenic sources.

www.pops.int





12 old Stockholm POPs

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	Pesticide	Industrial Chemical	By-product
Aldrin	+		
Chlordane	+		
DDT	+		
Dieldrin	+		
Endrin	+		
Heptachlor	+		
Mirex	+		
Toxaphene	+		
Hexachlorobenzene	+	+	+
PCB		+	+
PCDD			+
PCDF			+





11 new Stockholm POPs

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	Pesticide	Industrial Chemical	By-product
Chlordecone	+		
HBB		+	
α -HCH	+		+
β -HCH	+		+
γ -HCH	+	+	+
PeDBE		+	+
OCBDE		+	+
PFOS	+	+	
PeCBz	+	+	+
Endosulfan	+		
HBCD(D)		+	





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EU POPs Regulation





EU POPs Regulation

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The EC POPs Regulation is the implementing legislation in the EU Member States of the Stockholm Convention.

It is also the implementing legislation for the 1998 **POPs Protocol** of the 1979 United Nations Economic Commission for Europe (UNECE) Long Range Transboundary Air Pollution Convention (CLRTAP).





EU POPs Regulation

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**EC Persistent Organic Pollutants (POPs) Regulation No.
850/2004 of 29 April 2004 for the protection of human health
and the environment + new amendments concerning to
newly adopted POPs**





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Technical assistance for implementation of the EU Persistent Organic Pollutants Regulation





Project objectives and purpose

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The overall objective of the project is to protect human health and environment from adverse effects of POPs and their waste by prohibiting, phasing out and eliminating their release in line with EU Persistent Organic Pollutants Regulation by the end of 2028.

Purpose of the project is to establish the necessary capacity for effective implementation of EU Persistent Organic Pollutants Regulation in Turkey at national and regional level taking into account social and economic impacts.





Consortium members

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NIRAS IC Sp. z o. o. (PL) (Consortium Leader)

IP Consult (DE)

The Finnish Environment Institute (SYKE) (FN)

Ricardo-AEA Ltd (UK)

The AMEC Environment & Infrastructure UK Ltd (UK)

RAST Engineering Services Ltd. Co. (TR)

The Institute for Ecology of Industrial Areas (IETU) (PL)





Project team and project office

This project is co-financed by the European Union
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Project NIRAS director: Mr. Adam Iwasko



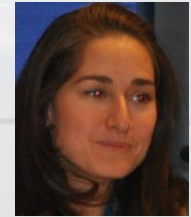
Project Team Leader: Prof. Dr. Ivan Holoubek



Deputy Team Leader: Ilona Kirhensteine



Senior POPs Facilitator: Prof. Dr. Ipek Imamoglu



POPs Project Office Assistant: Ms. Özde Öcal



Project Office

Cinnah Caddesi 11/5, 06680 Kavaklıdere, Ankara

Office Manager

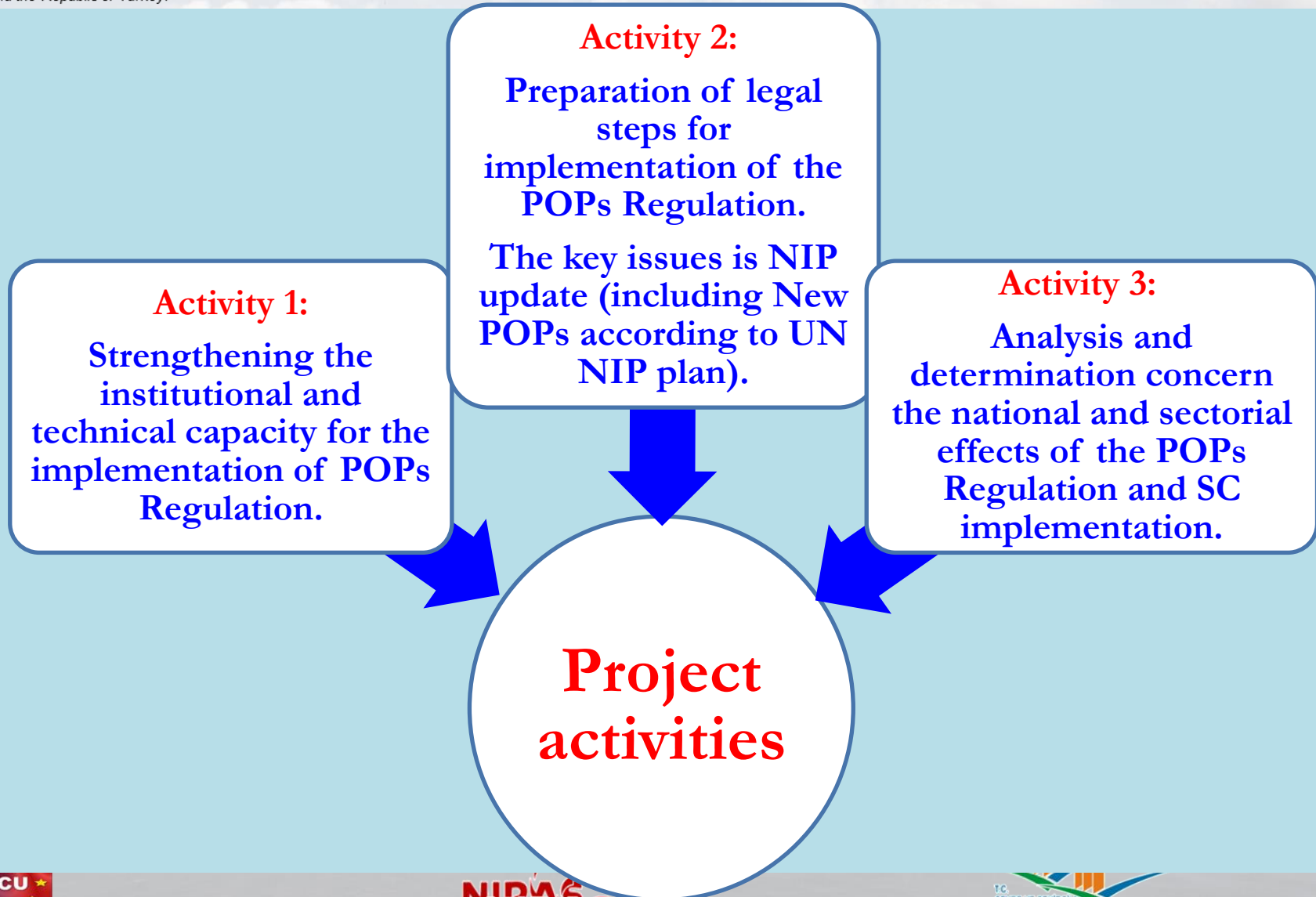
Ms. Gözde Vardar-Smith





Project activities

This project is co-financed by the European Union
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Trainings of Trainers

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and the Republic of Turkey.

ToT No.	Training Title
Training 1	Legal instruments for the implementation of the POPs Regulation and prioritization for national priorities and objectives
Training 2	National Implementation Plan preparation
Training 3	Standard Toolkit for POPs inventory procedures and preparation
Training 4	BAT and BEP Guidelines concern POPs
Training 5	POPs monitoring, remediation of contaminated sites, evaluation of the effectiveness of the Regulation
Training 6	Reporting under SC and POPs Protocol
Training 7	Sectoral Impact Assessment methodology
Training 8	Regulatory Impact Assessment and social, economic and environment impacts of the POPs Regulation





Trainings of Trainers

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Awareness raising

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Google™ Tato stránka je v jazyce turečtina. Chcete ji přeložit pomocí lišty Google Toolbar? [Další informace](#) Nejedná se o jazyk turečtina? [Pomozte nám zlepšit se](#) [Přeložit](#) [Vypnout překlady jazyka turečtina](#)

T.C. ÇEVRE VE ŞEHİRCİLİK BAKANLIĞI
Çevre Yönetimi Genel Müdürlüğü
Kimyasallar Yönetimi Dairesi Başkanlığı

Anasayfa **Bağlantılar / Linkler** Çevre ve Şehircilik Bakanlığı İletişim English

- Kalıcı Organik Kirleticiler
- + Uluslararası Sözleşmeler
- + Avrupa Birliği Mevzuatı
- + Ulusal Mevzuat
- + Türkiye'de KOKlar
- + Projeler
- Önemli Dokümanlar
- KOK Sözlüğü





Awareness raising

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Technical Assistance for Implementation of the Persistent Organic Pollutants Regulation

TR2010/0327.03-01/001

Logos: CFCU, NIRAS, European Union

Technical Assistance for Implementation of the Persistent Organic Pollutants Regulation

The overall objective of the project is to protect human health and environment from adverse effects of persistent organic pollutants and their waste by prohibiting, phasing out and eliminating their release in line with EU Persistent Organic Pollutants Regulation by the end of 2028.

Purpose of the project is to establish the necessary capacity for effective implementation of EU Persistent Organic Pollutants Regulation in Turkey at national and regional level taking into account social and economic impacts.

What are the POPs?

Persistent organic pollutants (POPs):

- were produced and used as agricultural chemicals (mainly organochlorine pesticides),
- is industrial intentionally produced and used chemical and their mixtures (polychlorinated biphenyls, brominated flame retardants, polyfluorinated substances)
- and they were/are produced unintentionally by combustion and many industrial processes.

The key harmful properties of these substances:

- Persistent** – chemical or their mixtures are resistant to degradation in the environment or other chemicals, even though degrading faster in the environment, are persistent due to continuous release

DDT	Polychlorinated biphenyls	Dioxins	Brominated flame retardants
<chem>ClC1=CC=C(C=C1)C(Cl)=C(Cl)C1=CC=C(C=C1)Cl</chem>	<chem>ClC1=CC=C(C=C1)C(Cl)=C(Cl)C1=CC=C(C=C1)Cl</chem>	<chem>ClC1=CC=C(C=C1)C(Cl)=C(Cl)C1=CC=C(C=C1)Cl</chem>	<chem>ClC1=CC=C(C=C1)C(Cl)=C(Cl)C1=CC=C(C=C1)Cl</chem>

- Bioaccumulation** – concentrate in fatty tissue (lipophilic) and accumulate up the food chain, can also concentrate in soils and sediments,

They are hydrophobic and lipophilic – low water soluble, high fat soluble and they can accumulate in fat tissue, mother's milk or any fatty food

- Toxic** – chemicals and their environmental mixtures show chronic toxicity properties including developmental, reproductive, carcinogenic, immunotoxic and neurotoxic activities in humans and wildlife

Transboundary movement – chemicals transported through erosion, flood plains, water, biota etc., chemicals are semi-volatile, evaporate over warmer regions and condense in colder atmospheric conditions, can affect regions where never been produced or used.

Project Activity Sets 7 will be focused on defining and strengthening the institutional and technical capacity for effective implementation of the POPs Regulation EC 850/2004 for the protection of human health and the environment. The main purpose of this Regulation is to enable the European Community to ratify the Stockholm Convention and the UNECE Aarhus POPs Protocol. The Regulation also deals with stockpiles of redundant substances.

The EC POPs Regulation is the implementing legislation in the EU Member States of the Stockholm Convention. It is also the implementing legislation for the 1998 POPs Protocol of the 1979 United Nations Economic Commission for Europe (UNECE) Long Range Transboundary Air Pollution Convention (CLRTAP).

It should be noted here that even though Turkey became a party to the CLRTAP as far back as 18 April 1988, it is yet to ratify the POPs Protocol. The ratification date will be determined according to the outcome of the present TA Project and especially the time taken to achieve the Results of the TA Project in the Country.

At the end of the assignment the project will have achieved the following results:

The institutional and capacity for the implementation of POPs Regulation defined and strengthened.

The knowledge and understanding of national POPs problems enhanced amongst non-governmental organizations, industry, and the public at large and awareness increased at many levels of the importance and values of the POPs issues and problems.

In 2010 Turkey has developed its National Implementation Plan (NIP) of POPs which is now updated based on the new POPs under SC. The NIP sets out how the Stockholm Convention obligations will be implemented in Turkey and outlines the next steps to be taken to save disposal, reduce production and use the POPs substance. Above mentioned activity confirm that currently Turkey has achieved the stage of POPs issues advancement that would be called "the basic institutional and technical capacity level".

Applying the Regulation (EC) No 850/2004 provides an opportunity for the creation of a transparent system for controlling and eliminating POPs substances, which is both inclusive and participatory.

POPs public awareness will be arranged under two activities:

- (1) Dissemination information about project purpose, activities and results by organizing Project seminars and conference meeting.
- (2) Education activities covering preparation and publication of project handbooks and by project website development.

Main activities

- Organization of one-day explanatory seminar** – overview of information about the POPs project
- Training of trainers** – is the key concern in building and strengthening the capacity of beneficiary POPs related ministerial staff (for competent POPs issues accomplishment and increase the institutional and technical capacity to suitable implementation and maintenance the POPs Regulations).
- All training materials shall be available** on the Project website where they shall be available for consultation and for downloads.

Training 1: Legal Instruments for the implementation of the POPs Regulation EC No 850/2004 and prioritization for national priorities and objectives.

Training 2: BAT and BEP Guidelines concern POPs

Training 3: National Implementation Plan preparation

Training 4: POPs monitoring, remediation of contaminated sites, evaluation of the effectiveness of the Regulation

Training 5: Reporting under Stockholm Convention and POPs Protocol

Training 6: Standard Toolkit for POPs inventory procedures & preparation

Training 7: Regulatory impact Assessment and social, economic and environment impacts of the POPs Regulation No 850/2004

Training 8: Sectoral Impact Assessment methodology

- Organization of one day dissemination seminars** for the industrial sector, local authorities and NGO's
- Organization of study visits to the EU Member States**

Study visit 1 – POPs monitoring activities – for public servant, representatives of scientific and technical research institutions and universities and NGOs representative involved in monitoring processes and activities and monitoring reporting.

Study visit 2 – implementation of BAT/BEF requirements – for representatives of Ministry and authorized institutions, industry representative, scientific and technical research institutions and universities and NGOs representative.

Preparation, publication and dissemination of the project brochure – will be prepared in Turkish and English version and will cover all Project activity, project outputs, publication, main of training materials, project people etc.

- Preparation of the project website**
- Organization of Project Final Conference** The project closure should anchor the progress made and lessons learned for the future responsibilities of the beneficiary countries.
- Updating of the National Implementation Plan**

- Workshop to determine the Current Status for the Implementation of the EC Regulation on POPs in Turkey**
- Workshop to Determine National Priorities and Objective Settings**
- Preparation of Regulatory Impact Assessment and Sectoral Impact Assessment**
- Preparation of the SIA** – the SIA describes the qualitative impacts that the Regulations will have upon Society as a whole and the various stakeholders (Consumers, Administration, Industry, Trade, etc.)
- Preparation of the RIA** – The RIA is a systematic policy tool used to examine and measure the likely benefits, costs and effects of new or existing regulation. It identifies and assesses the issues at stake and the objectives pursued. It identifies the main options for achieving the objective and analyses their likely impacts in the economic, environmental and social fields. It outlines advantages and disadvantages of each option and examines possible synergies and trade-offs.

The essential part of the project is a national POPs inventory of their sources, use, POPs waste and waste contaminated by POPs, obsolete stocks, contaminated sites, emission of unintentionally produced POPs

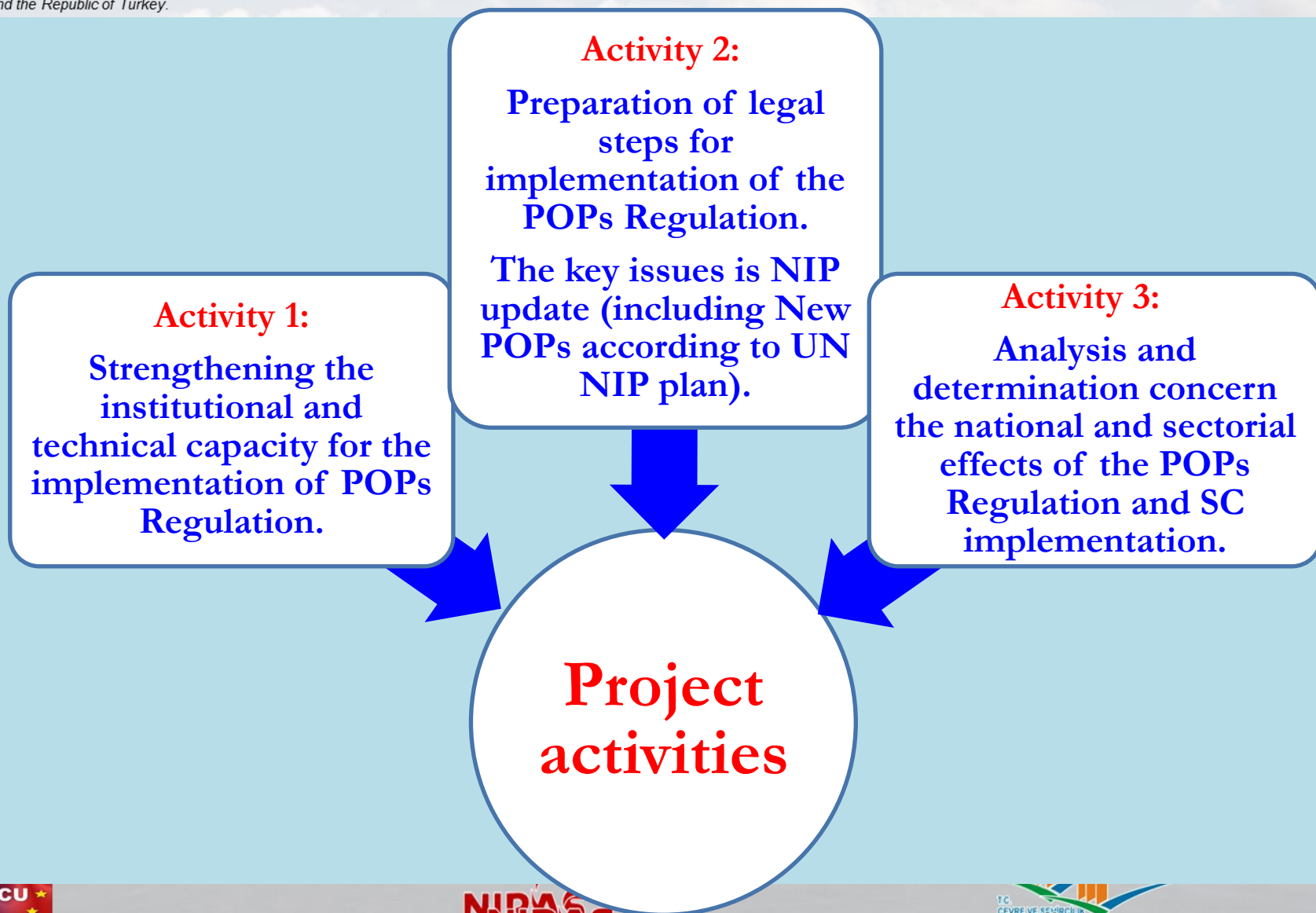
The main goal of Turkish National Implementation Plan and national POPs strategy is to:

Protect Turkish people, protect their children, protect their health, protect the environment on the national and global scale



Project activities

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National Implementation Plan of the POPs management in Turkey (POPs NIP)



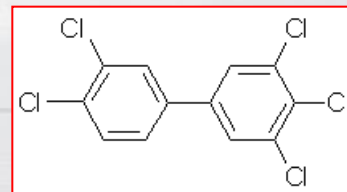
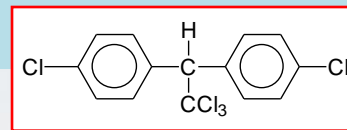
**NIPAS
NIRAS**





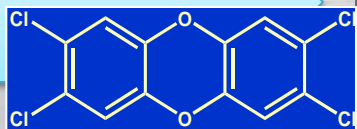
IP and UP POPs

- ↪ **Intentionally produced (IP):** Polychlorinated pesticides, transformer/capacitor oils (PCB), polybrominated flame retardants, ...
- ↪ **Unintentionally produced (UP):** Dioxins/furans (byproducts in thermal processes)



Elimination of stockpiles and wastes (IP) - destruction (conservation)

Elimination of byproducts (UP) - prevention and destruction



Decontamination (IP + UP) - remediation of soils, sludges, water, sediments, ...

National Implementation Plan of the POPs management in Turkey (POPs NIP)

Prepared by the team of experts - Prof. RNDr. Ivan Holoubek, CSc., Assoc. Prof. İpek İmamoğlu, Ph.D., Gülün Egeli, M.Sc., Esra Şiltu, M.Sc., Ms. Bursev Doğan Artukoğlu, Mr. Ahmet Daşkın, Mr. Mahmut Osmanbaşoğlu, Mr. Ertan Öztürk, Perihan Kurt- Karakus, Sinem Erdoglu, Kadir, Gedik

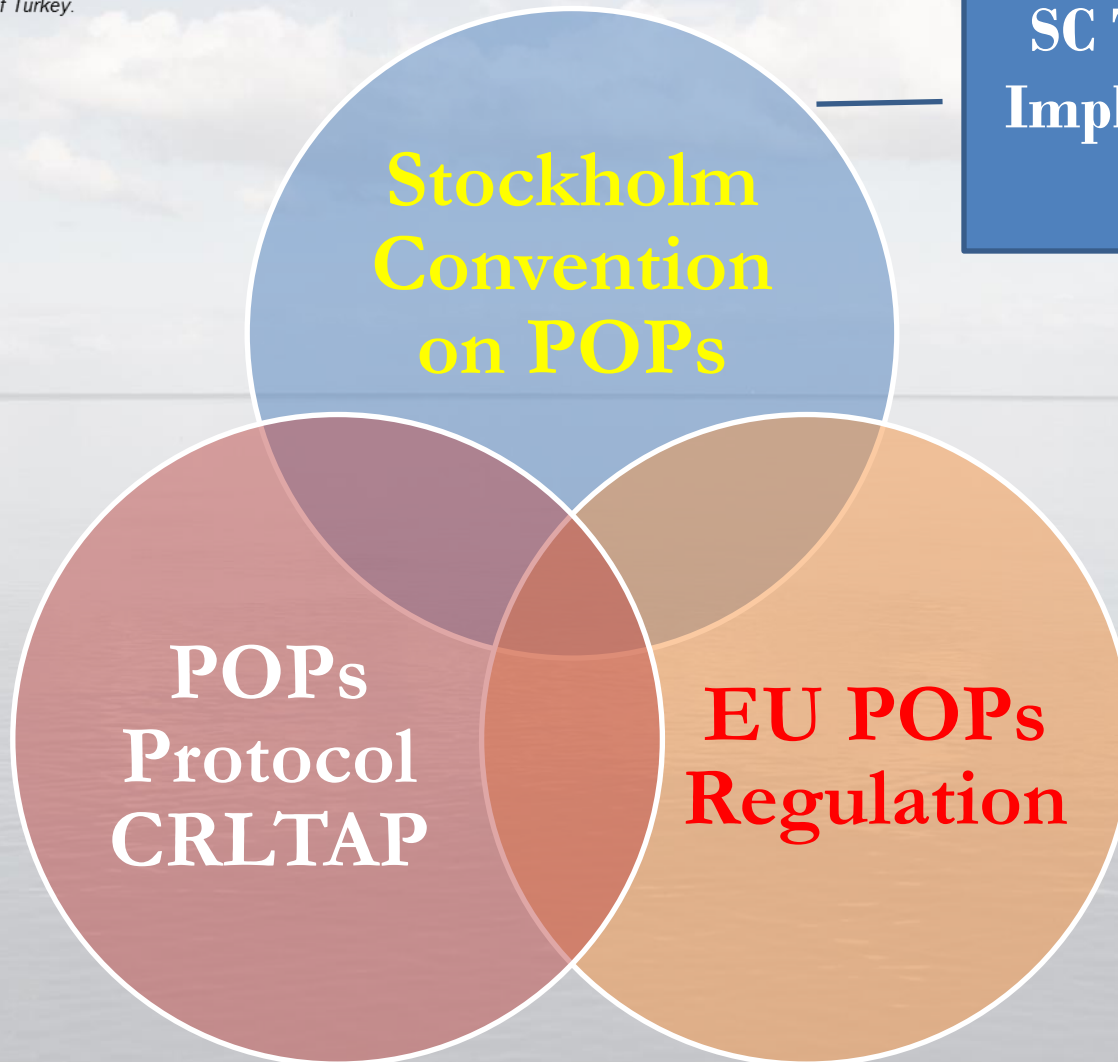




NIP – what we are speaking about

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SC Tools – National
Implementation Plan
– 2010, 2014





POPs NIP for TURKEY

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National Implementation Plan of the POPs management in Turkey (POPs NIP) has two parts:

- (i) NIP as basic information, overview of country POPs problems and
- (ii) supporting information presented in the Annexes of the NIP



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Annex I: Persistent Organic Pollutants

Annex II: Country Profile

Annex III: Legal Framework on POPs

Annex IV: Actual results of Turkish national POPs inventory

Annex V: Stockpiling, Wastes and Contaminated Sites – results of inventory

**Annex VI: Current Programs and Results on Monitoring of POPs Emissions
and Effects on Human Health and Environment**

**Annex VII: Overview of technical infrastructure for POPs assessment,
measurement, analysis, alternatives and prevention measures,
management, research and development - linkage to international
programs and projects**

Annex VIII: Accredited Laboratories that can carry out POPs analysis

Annex IX: List of Stakeholders

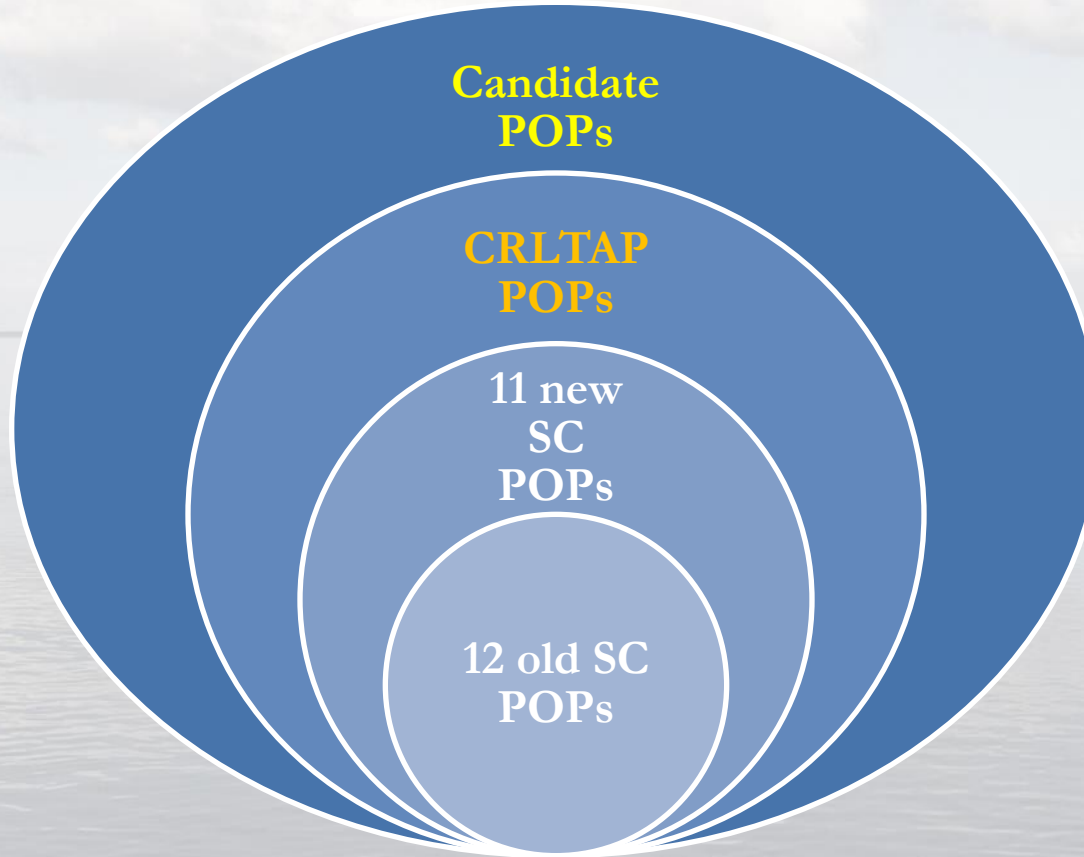
Annex X: GAP analysis

Annex XI: SWOT Analysis of POPs management in Turkey



NIP – what we are speaking about

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8 main POPs national priority areas

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1

**Preparation of new
legislation including
regulation and
enforcement**



8 main POPs national priority areas

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2

**Inventory of emissions,
releases, stockpiles and
contaminated sites (for
POPs of both
Conventions)**



8 main POPs national priority areas

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3

**Reduction and elimination
of releases of intentionally
and unintentionally
produced POPs, reduction
of human exposure to
POPs, elimination of legacy
POPs stockpiles**



8 main POPs national priority areas

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4

**Capacity building in the
regulating and
permitting governmental
sector and also in private
sector (e.g. POPs
management, BAT/BEP
implementation)**



8 main POPs national priority areas

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5

**Public education and
awareness raising**



8 main POPs national priority areas

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6

**Monitoring and control
of public health and
environment**



8 main POPs national priority areas

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7

**Information exchange
and networking, inter-
ministerial coordination**



8 main POPs national priority areas

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8

**Research into the extend
of exposure of the
population to POPs and
the research for safer
alternatives**

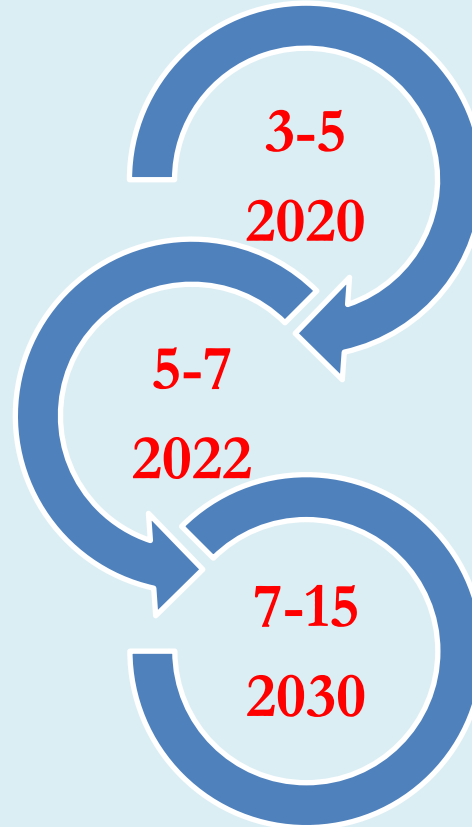


Timetable for Implementation and Measures to Take for Success

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The activities within the scope of the POPs National Implementation

Plan a
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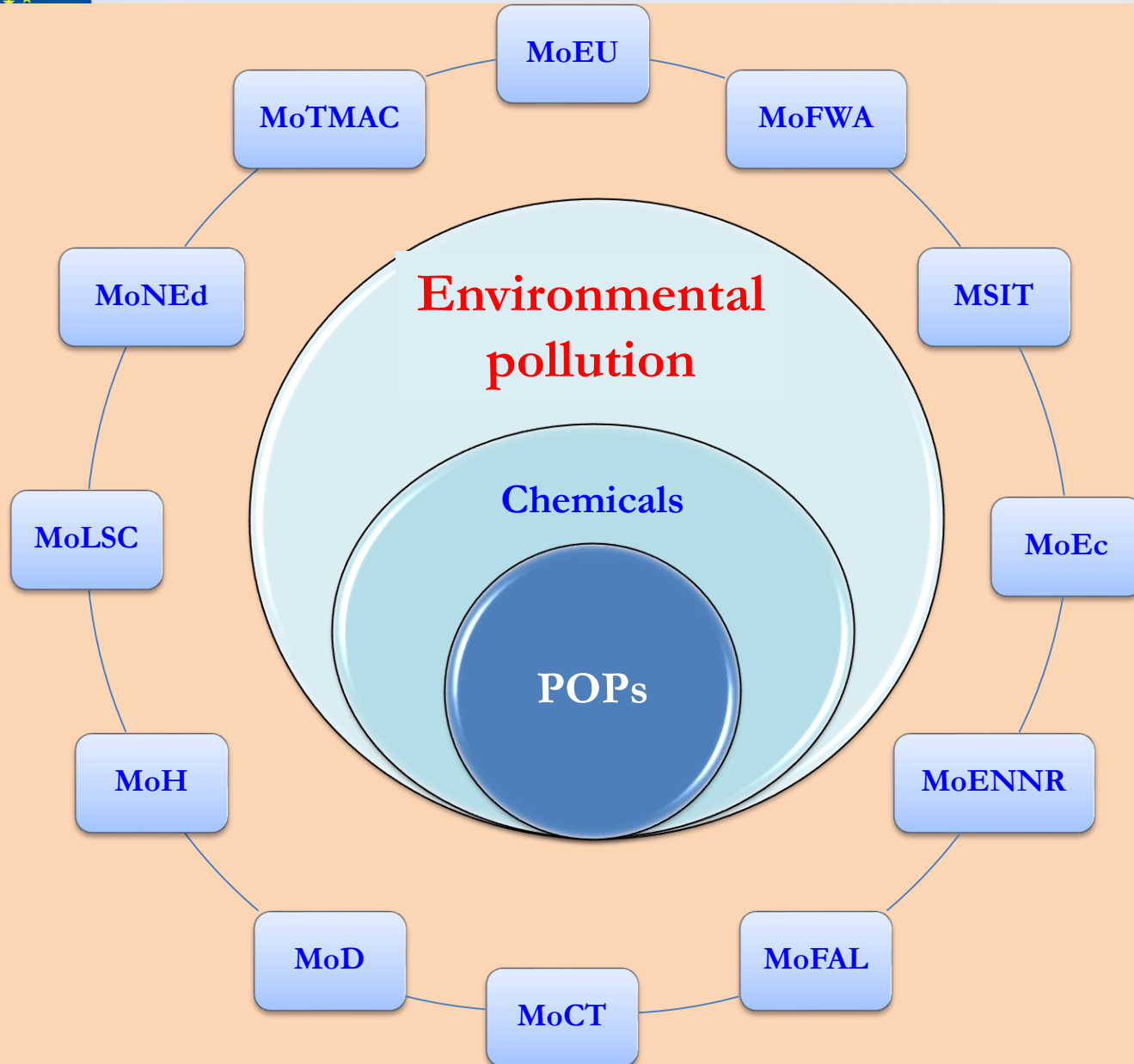
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essential POPs
stockpiles and POPs waste, remediation of the contaminated sites,
constituting a permanent monitoring system on POPs and the studies for
management of new chemicals added to the Conventions.





Summary of chemicals/POPs problems

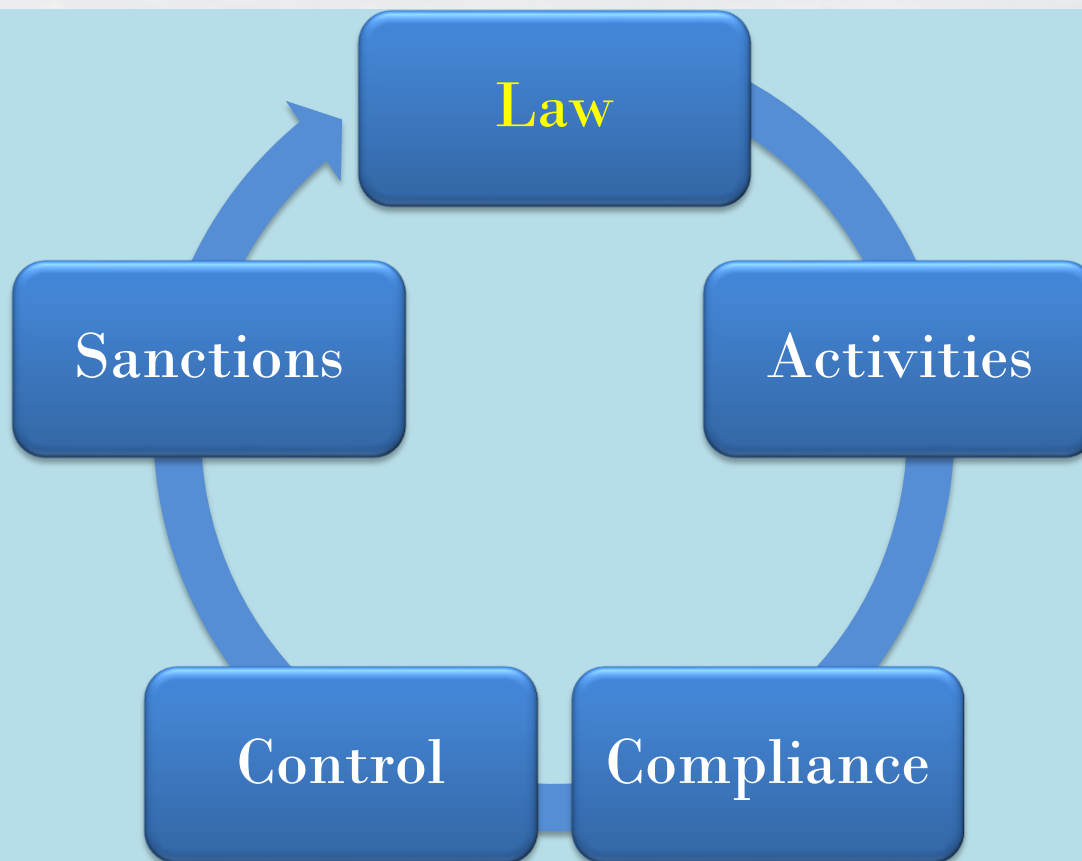




Final statement

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For implementation and management of POPs problems in Turkey, the **control mechanism and evaluation of the effectiveness** of the Convention measures have to be clearly defined and established.





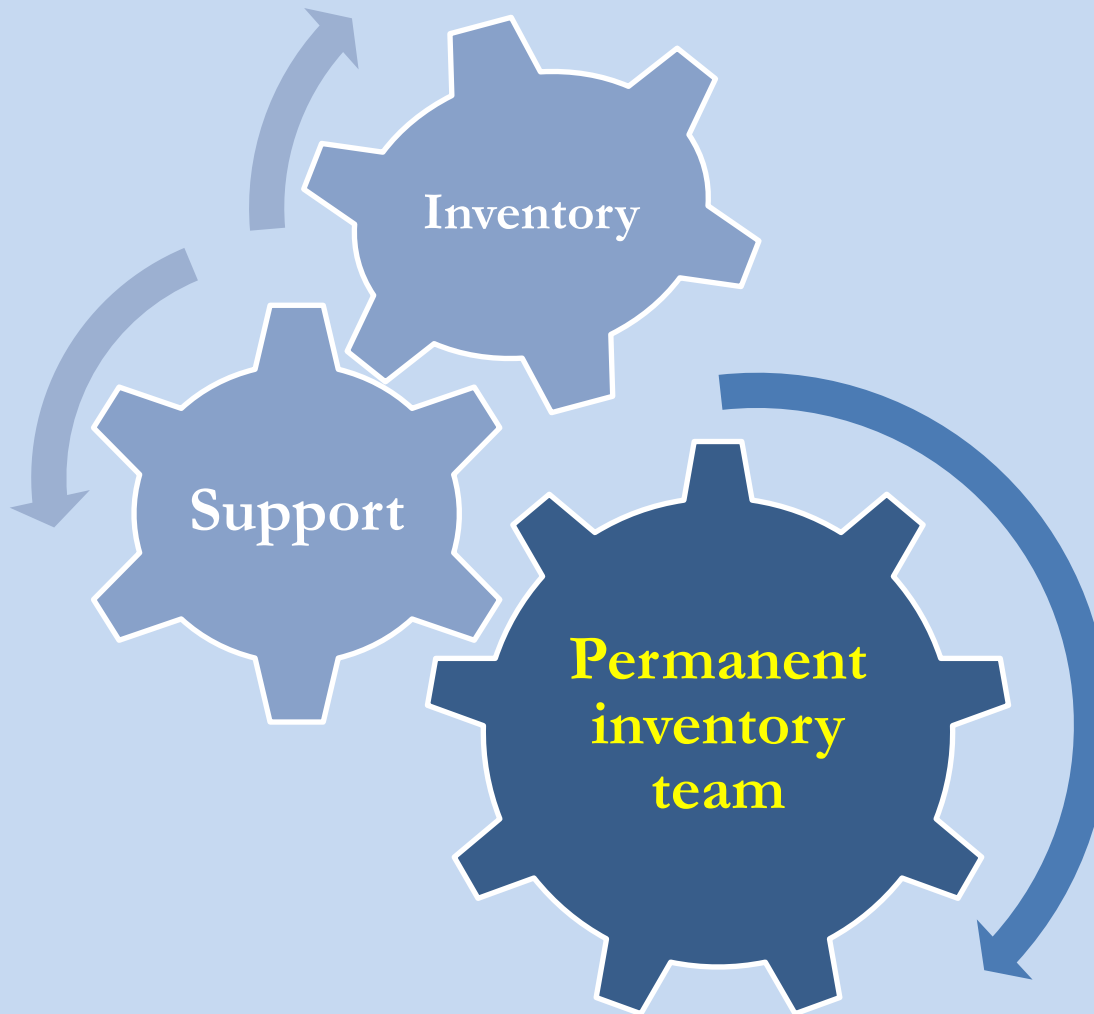
Final statement

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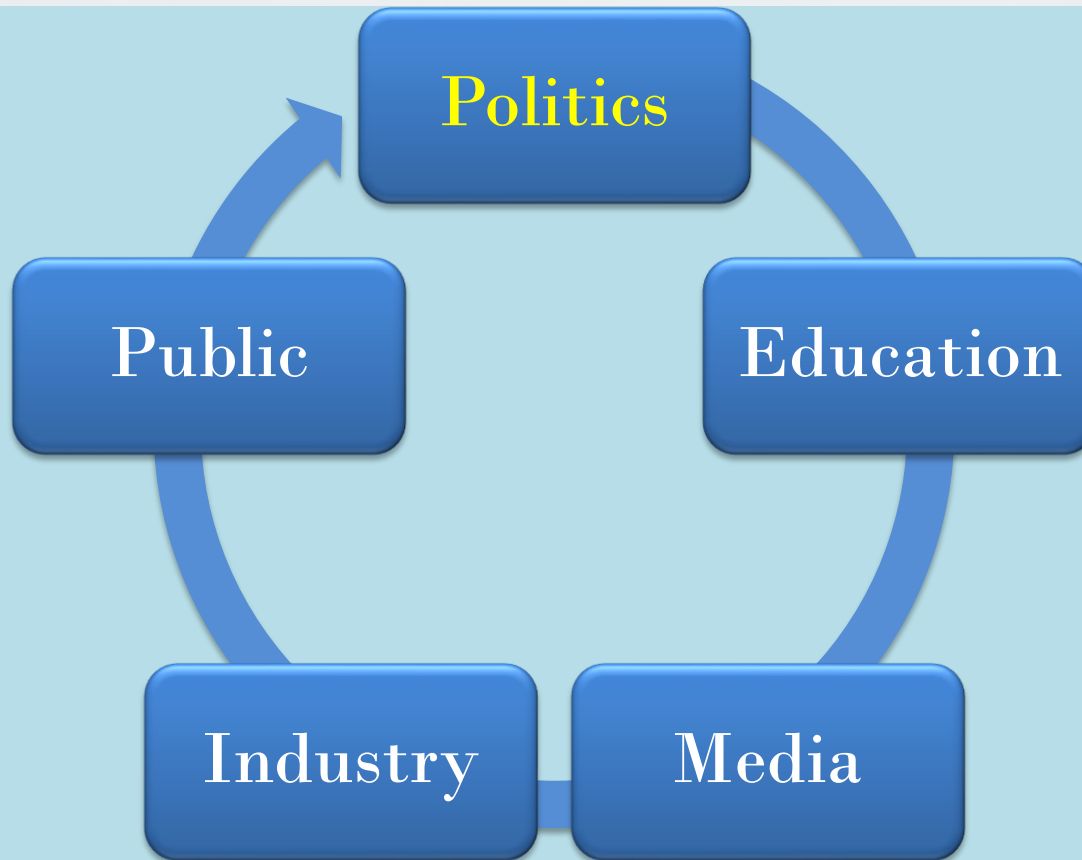




Final statement

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Rising awareness of public for the convention and obligations
will help increasing the efficiency of short, medium and long
term activities.





Final statement

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A draft by-law on POPs legislation is essential

The existing legislation for POPs should

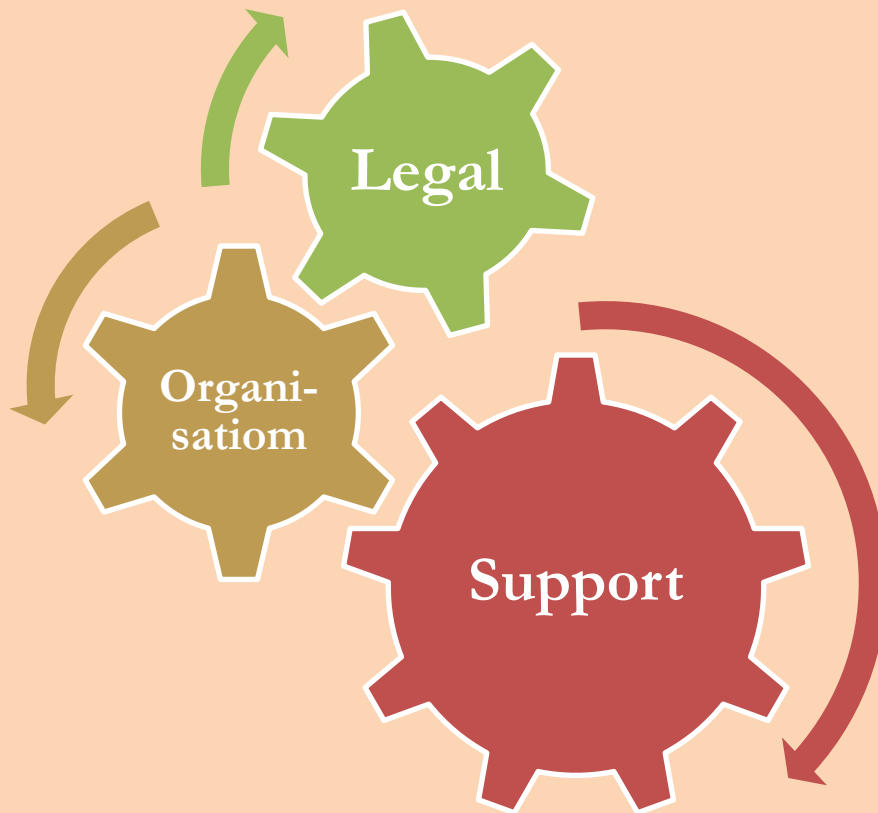
The identification and management

requirements should be defined in the draft by-law in order to ascertain their active participation in the management of POPs especially in decision making process.

POP legislation is

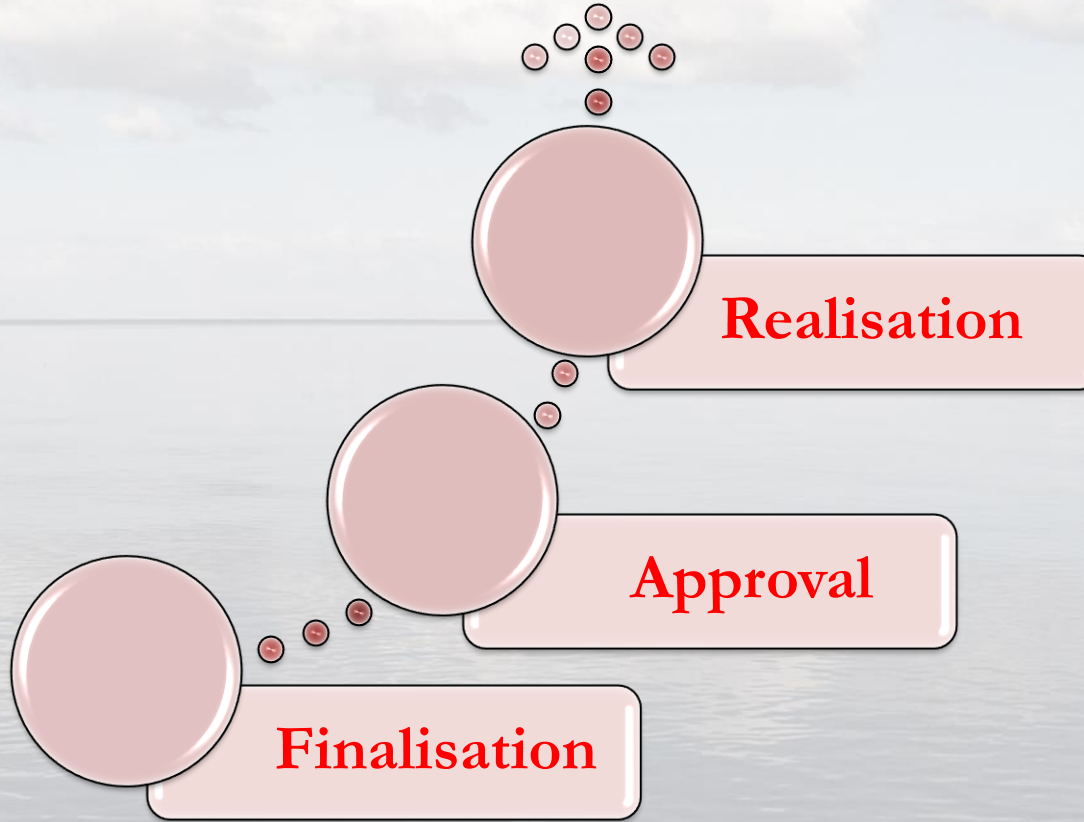
networking

priorities in legal



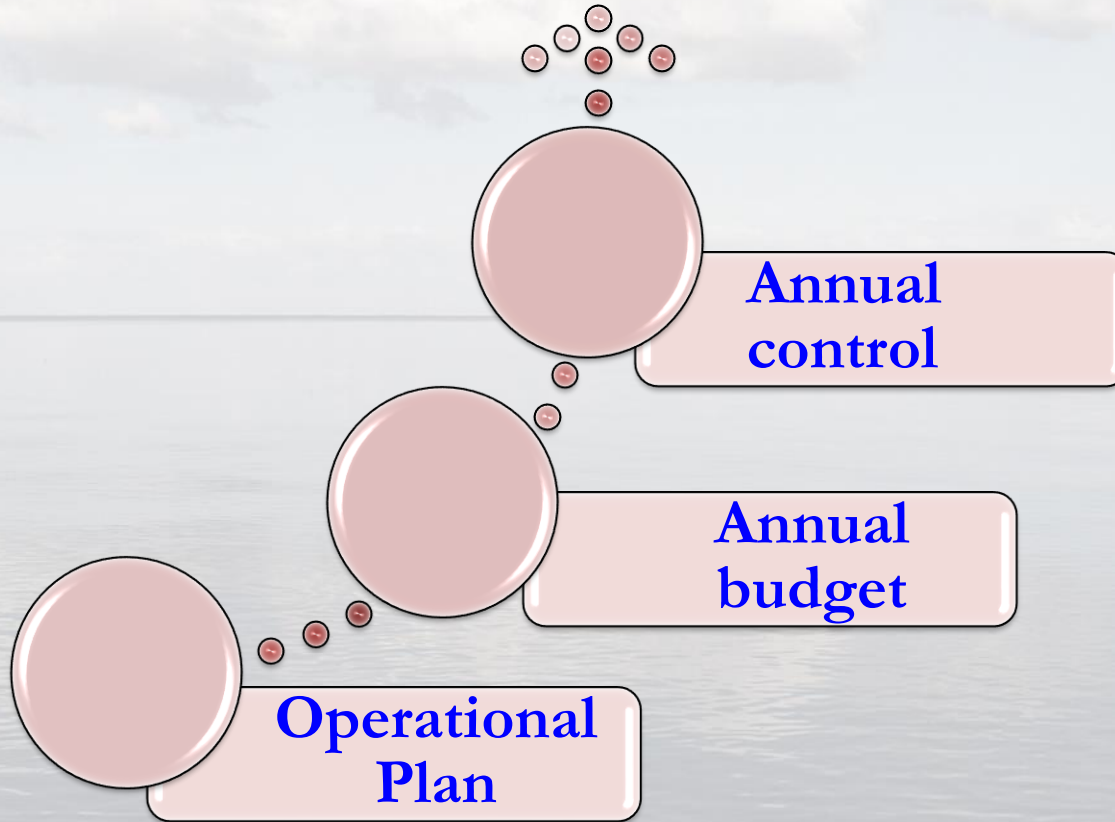


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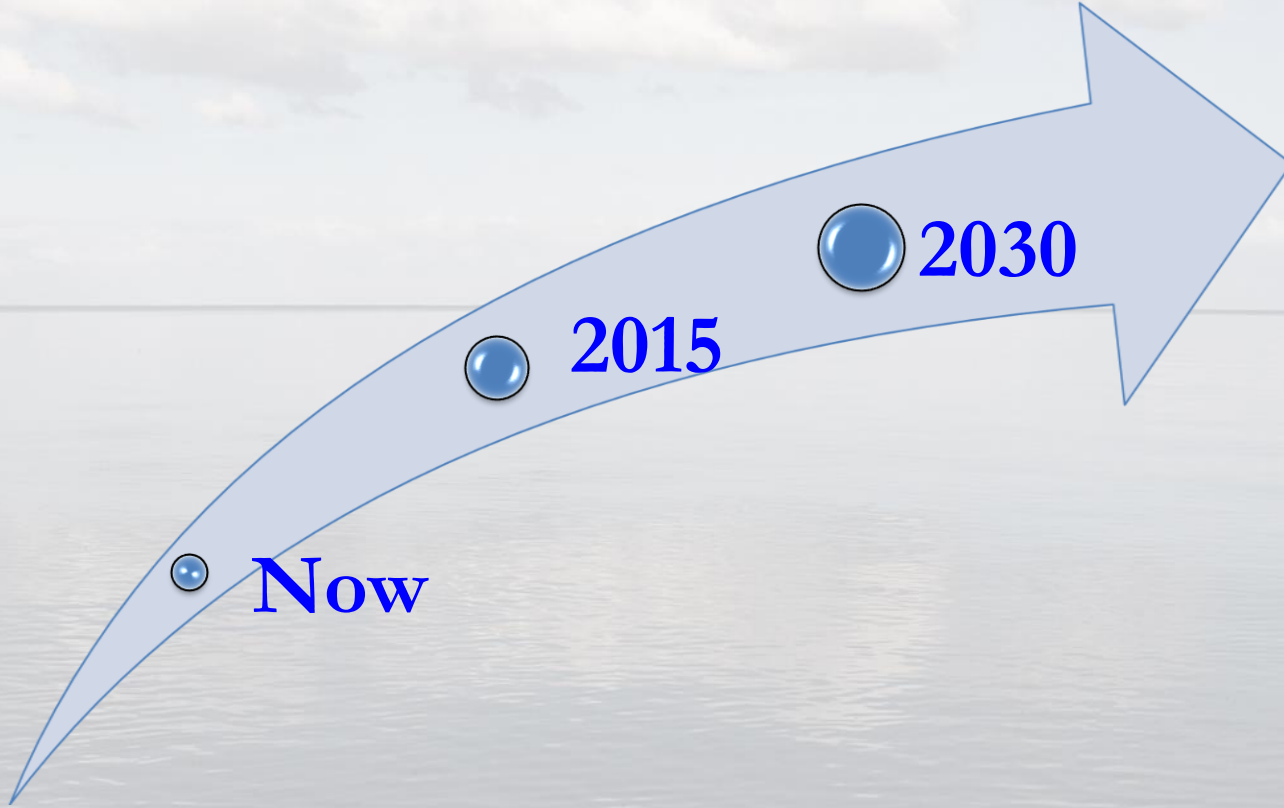


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Teşekkür Ederim



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