# EQT

**ARMY**
Environmental Quality
Technology Program

focus

concentrate

provide

## VISION

To achieve, through technology development, exploitation, and transfer of environmentally sustainable installations and systems that support transformation, modernization, readiness and quality of life.
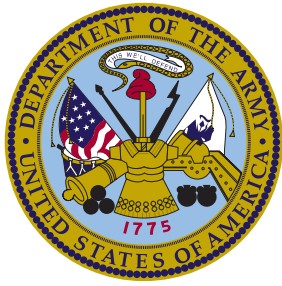
**Compliance**

**Pollution Prevention**

**Conservation**

**Restoration**

## PROGRAM OVERVIEW

The U.S. Army is committed to be positioned as a leader in environmental stewardship. To succeed in this goal, it is incumbent upon the U.S. Army to leverage its resources wisely to meet its responsibilities without compromising the U.S. Army's primary mission and to enhance all readiness, modernization and quality of life initiatives wherever possible. To meet these objectives the U.S. Army's designed an approach to managing environmental programs across the U.S Army. The program to help the U.S. Army meet its goal and maintain its commitment to the environment is the Army's Environmental Quality Technology Program (EQT).

The EQT program is based upon high return-on-investment using economic analysis to identify the best projects for funding based on the U.S. Army mission and environmental urgency, potential cost-avoidance, investment costs, and program risk. The EQT Program goals are to:

- **Focus** on the highest priority user needs for the total U.S. Army

- **Provide** a solid science and engineering base for the future and

- **Concentrate** the efforts of U.S. Army technology developers to support the environmental strategy.
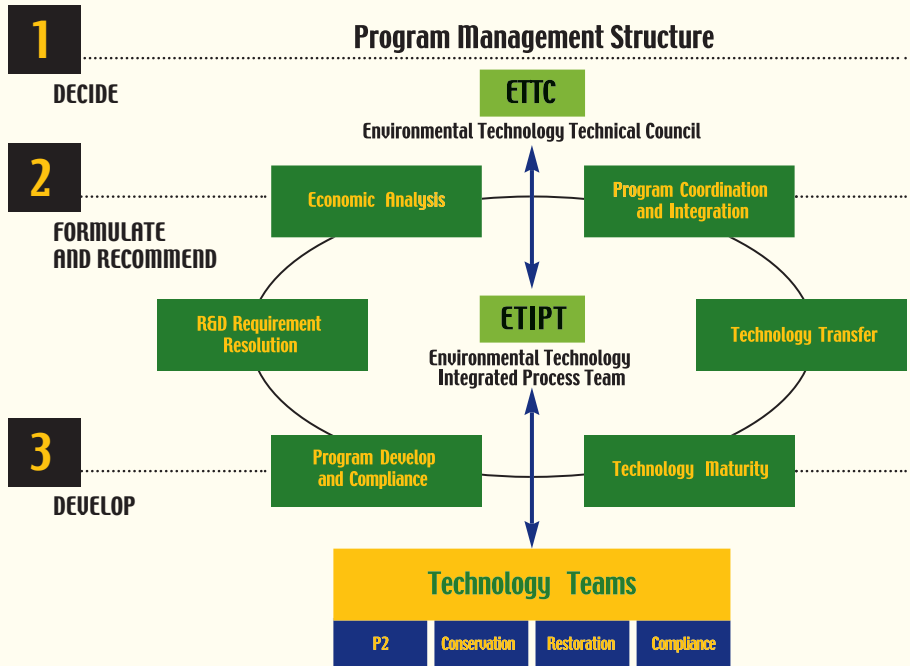
## PILLAR AREAS

To cover the wide array of environmental disciplines the EQT process is focused into four pillar areas including compliance, pollution prevention, conservation, and restoration.

- **Compliance** focuses on ensuring that operational decisions at installations comply with federal, state, local, U.S. Army, and applicable host-nation laws, regulations and environmental requirements.

- **Pollution Prevention** focuses on cost-effective, long-term solutions for reducing risks to human health and the environment by reducing pollution.

- **Conservation** focuses on the long-term sustainable use and ecological management of natural and cultural resources.

- **Restoration** focuses on taking care of past environmental problems by cleaning up contamination as quickly as technology and funding permit.

## PROGRAM STRUCTURE

Central to the U.S. Army EQT program is the three-tier oversight structure that focuses investments and provides visibility for R&D efforts to senior leadership and Congress. The significance of this program process structure is that it ensures that total U.S. Army requirements are developed from the bottom up and meet needs in the field.
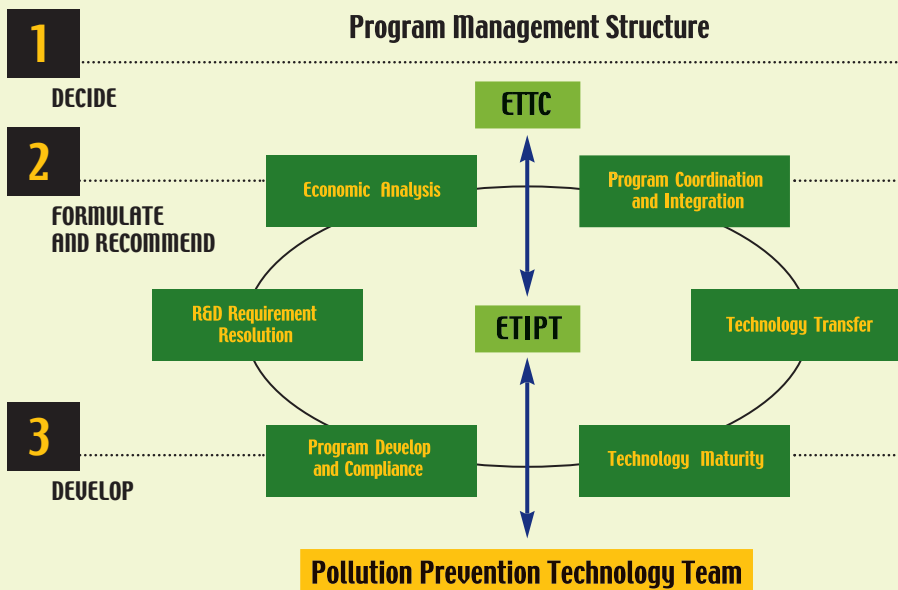
**Program Management Structure**

**1 DECIDE**

**2 FORMULATE AND RECOMMEND**

**3 DEVELOP**

ETTC — Environmental Technology Technical Council

Economic Analysis

Program Coordination and Integration

ETIPT — Environmental Technology Integrated Process Team

R&D Requirement Resolution

Technology Transfer

Program Develop and Compliance

Technology Maturity

**Technology Teams**

P2 | Conservation | Restoration | Compliance

## CONCLUSION

The EQT Program is the key to meeting the U.S. Army's environmental responsibilities. The EQT Program significantly enhances the U.S. Army's ability to conserve natural resources, reduce environmental operating costs, and field systems with minimal or no adverse environmental impact as while supporting the total U.S. Army mission.

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### Environmental Quality Technology Program

## EQT PROCESS

The EQT process provides the mechanism to focus on the priority pollution prevention needs for the total U.S.Army. The overall goal of the pollution prevention pillar area is to eliminate or reduce the pollution sources, recycle or reuse what is not eliminated, treat what is not recyclable or reusable, and properly dispose of remaining waste. The EQT program supports this goal through technology development to meet, priority pollution prevention needs. The EQT program structure involves U.S. Army senior leadership as well as general officers who provide guidance to integrated process teams with the help of the R&D community and end users to ensure that the program is designed from the bottom up.

### Program Management Structure

**1**

**DECIDE**

**2**

**FORMULATE AND RECOMMEND**

**3**

**DEVELOP**

ETTC

Economic Analysis

Program Coordination and Integration

R&D Requirement Resolution

ETIPT

Technology Transfer

Program Develop and Compliance

Technology Maturity

**Pollution Prevention Technology Team**

### EQT Pollution Prevention Technology Users

Headquarters, Department of the Army (HQDA)
Major U.S. Army Commands (MACOMs)
U.S. Army Installations
U.S. Army Secretariat
U.S. Army Staff
U.S. Army Range and Training Area Managers
U.S. Army Corps of Engineers Program Managers and Support Contractors
Other Federal Agencies

The U.S. Army recognizes that pollution prevention is clearly the most cost-effective, long-term solution for reducing risks to human health and the environment. By minimizing pollution, the U.S. Army reduces compliance and restoration violations and expenditures. The Pollution Prevention pillar under the Environmental Quality Technology (EQT) Program provides quality technical and program support in the design, implementation and maintenance of pollution prevention programs across the U.S. Army in order to maximize the U.S. Army's return on investment.

## POLLUTION PREVENTION NEEDS

The EQT program addresses priority pollution prevention needs including:

- **Reducing** the overall production of volatile organic compounds (VOCs)

- **Developing alternatives** to replace ozone-depleting materials

- **Reducing pollution** from ordnance manufacture, maintenance and use

- **Developing alternatives** for disposing of munitions

- **Reducing pollution** in equipment manufacturing, testing, operation and repair.

- **Reducing the amount** of hazardous waste generating systems and processes

- **Developing environmentally-compatible** lubricants and fluids

## INVOLVEMENT

The EQT process continues to provide support through technology development and information sharing. End users and environmental managers are encouraged to submit pollution prevention needs and requirements. Developers are challenged to meet the needs through technology.
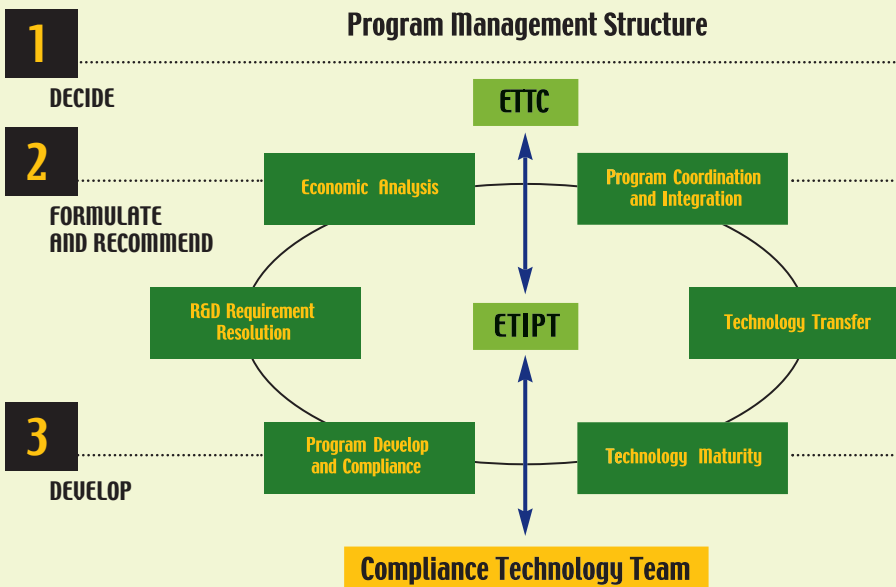
## COMMITMENT

The U.S. Army is committed to pollution prevention to sustain the training lands and natural resources for future generations of soldiers and enhance readiness while reducing the U.S. Army's environmental liability and costs. EQT pollution prevention initiatives promote readiness; improve the quality of life; and reduce health hazards for soldiers, families and civilians working and living on or near U.S. Army Installations.

## INFORMATION

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# EQT
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## EQT PROCESS

The EQT process provides the mechanism to focus on the priority compliance needs to support the U.S. Army environmental strategy. Compliance with all environmental laws and regulations on wastewater discharge, noise abatement, air quality, and solid and hazardous materials, waste management and other important environmental issues is a key element in the U.S. Army's strategy.

The EQT program structure involves U.S. Army senior leadership as well as general officers who provide guidance to integrated process teams with the help of the R&D community and end users to ensure priority compliance needs are addressed.

### Program Management Structure

**1 DECIDE**

**2 FORMULATE AND RECOMMEND**

**3 DEVELOP**

ETTC

ETIPT

- Economic Analysis
- Program Coordination and Integration
- R&D Requirement Resolution
- Technology Transfer
- Program Develop and Compliance
- Technology Maturity

**Compliance Technology Team**

## EQT Compliance Users

Headquarters, Department of the Army (HQDA)
U.S. Army Major Commands (MACOMs)
U.S. Army Installations
Director of Public Works
Base Environmental Coordinators
Environmental Managers
Range and Training Managers
U.S. Army Corps of Engineers Program Managers and Support Contractors
Other Federal Agencies

**Compliance means that operational decisions at installations comply with federal, state, local, U.S. Army, and applicable host-nation laws, regulations and environmental requirements. The U.S. Army's priority is to keep all U.S. Army activities in compliance, minimizing health and occupational risks to soldiers and our neighboring communities while enhancing their quality of life. The Compliance pillar of the U.S. Army's Environmental Quality Technology (EQT) Program supports the U.S. Army's compliance goals by developing and leveraging technologies to ensure compliance. Environmental compliance serves as the foundation for all environmental efforts and daily activities performed. Compliance efforts are closely integrated into all U.S. Army missions, and in fact, the ability to comply depends upon proper awareness and actions of policy makers, soldiers and civilian employees throughout the U.S. Army.**

## EQT COMPLIANCE NEEDS

The EQT program addresses priority compliance needs including:

- **Hazardous Waste**
- **Munitions**
- **Solid Waste**
- **Storage Tanks**
- **Watersheds**
- **Air Pollution**
- **Drinking Water**
- **PCBs**
- **Asbestos**
- **Lead-based Paint**
- **Radon**
- **Wastewaters**

## INVOLVEMENT

The EQT process continues to provide support through technology development and information sharing. Compliance end users and environmental managers are encouraged to submit compliance needs and requirements. Developers are challenged to meet the needs through technology or process improvements.
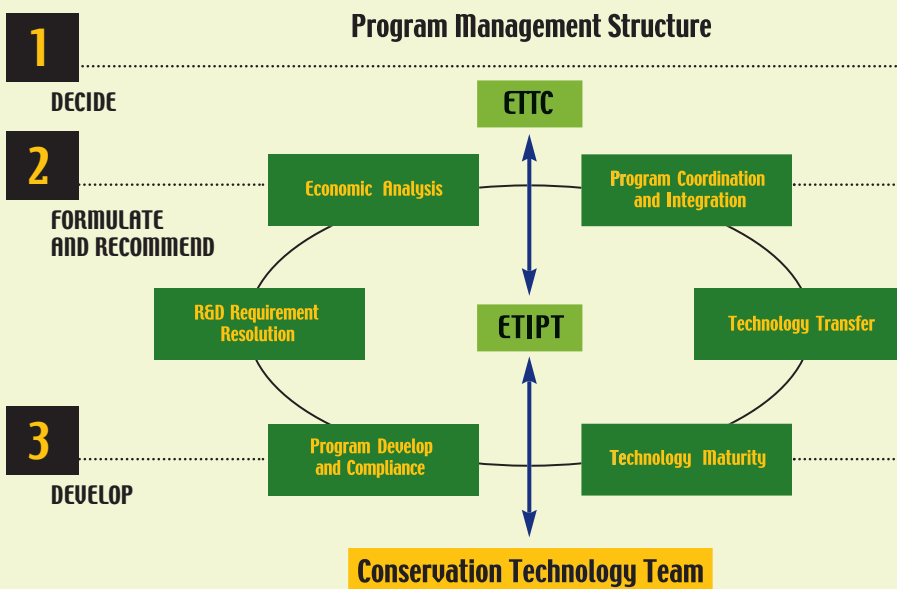
## COMMITMENT

The U.S. Army through the EQT program is fully committed to compliance. Proof of this commitment is demonstrated by the significant reduction in the number of notices of violations received over the years, and a reduction in the amount of the hazardous materials across the U.S. Army.

# EQT

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## EQT PROCESS

The EQT process provides the mechanism to focus on the priority conservation to support the tough, realistic training needed to achieve military readiness with efforts to sustain the limited land and cultural resources.
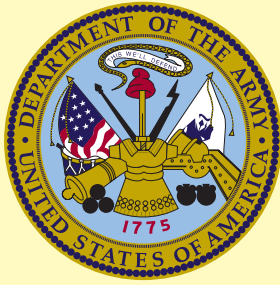
The EQT program structure involves U.S. Army senior leadership as well as general officers who provide guidance to integrated process teams with the help of the R&D community and end users to ensure priority conservation needs are addressed.



### Program Management Structure

**1** DECIDE

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**Conservation Technology Team**

## EQT Conservation Technology Users

Headquarters, Department of the Army (HQDA)
Major U.S. Army Commands (MACOMs)
U.S. Army Installations
Range and Training Area Managers
Natural Resource Planners
Master Planners
U.S. Army Corps of Engineers Program Managers and Support Contractors
Other Federal Agencies



Conservation focuses on the long-term sustainable use and ecological management of natural and cultural resources. The U.S. Army manages approximately 12 million acres of land. Many of these lands contain priceless natural and cultural resources. The conservation pillar of the Environmental Quality Technology (EQT) program supports conservation efforts through the development and exploitation of technology to meet the priority needs of the U.S. Army conservation programs.

## EQT CONSERVATION NEEDS

The EQT program is currently supporting several priority U.S. Army conservation needs including:

- **Baseline Inventories:** There are 194 known threatened and endangered species (T&ES) on U.S. Army lands. A cost effective technique and technology is needed to support survey and monitoring efforts for these species to ensure that the U.S. Army meets The Endangered Species Act (ESA).

- **Mitigating U.S. Army Impacts:** Research is needed in order to quantify U.S. Army unique impacts on military installations' soil, flora, fauna, water, and human health and welfare. Technologies shall provide improved, demonstrated, and implemented capabilities to incorporate a framework to prioritize conservation actions for natural resources including noise management initiatives.

- **Pest Management:** Effective and integrated pest management technologies and practices which: safeguard human health from injury and disease, protect property and real estate, and reduce risks to human health and the environment from harmful effects of pesticides and pest control operations are needed.

- **Land Management:** One of the guiding principles of U.S. Army training doctrine is to conduct training under realistic combat conditions however, training impacts the environment. Technologies are needed to sustain the use of training lands by implementing a uniform program that includes: inventorying and monitoring of land conditions, integrating training requirements with carrying capacity, educating land users to conduct their activities in a way that minimizes adverse impacts, and providing for land rehabilitation and maintenance.

## INVOLVEMENT

The EQT process continues to provide support through technology development and information sharing. Conservation users and environmental managers are encouraged to submit conservation needs and requirements. Developers are challenged to meet the needs through technology or process improvements.

## COMMITMENT

The U.S. Army is committed to conserving precious natural and cultural resources through sound conservation strategies and proven tactics integration with U.S. Army operations and mission related requirements. The EQT process ensures that technologies and techniques are developed to meet high priority conservation needs of U.S. Army users.
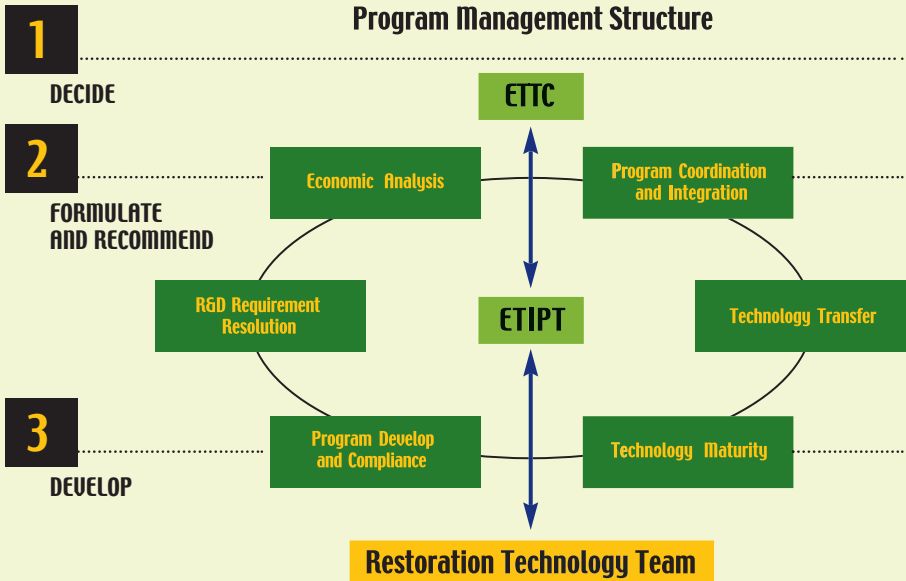
# EQT
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The goal of restoration is to remove and eliminate contaminants and hazards including explosives, ordnance and other sources of contamination from U.S. Army sites including former sites that are no longer in U.S. Army control. The EQT process provides the mechanism to focus on the priority restoration needs for the total U.S.Army and provides a solid science and engineering base for the future to support the U.S. Army environmental strategy.

The EQT program structure involves U.S. Army senior leadership as well as general officers who provide guidance to integrated process teams with the help of the R&D community and end users to ensure priority restoration needs are addressed.

### Program Management Structure

**1** DECIDE

**2** FORMULATE AND RECOMMEND

**3** DEVELOP

- ETTC
- Economic Analysis
- Program Coordination and Integration
- R&D Requirement Resolution
- ETIPT
- Technology Transfer
- Program Develop and Compliance
- Technology Maturity

**Restoration Technology Team**

## EQT Restoration Technology Users

Headquarters, Department of the Army (HQDA)
Major U.S. Army Commands (MACOMs)
U.S. Army Installations
IRP, BRAC and FUDS Managers
U.S. Army Corps of Engineers Program Managers and Support Contractors
Other Federal Agencies

Environmental restoration is the goal of the U.S. Army Installation Restoration Program (IRP), Base Realignment and Closure (BRAC) Program and the Formally Used Defense Site (FUDS) Program. Technology is development and exploited to meet the needs of the U.S. Army restoration programs, protecting human health and the environment through the Army Environmental Quality Technology (EQT) process.

## EQT RESTORATION NEEDS

The EQT Program prioritizes and supports the U.S. Army restoration needs across the U.S. Army. Current priority needs include the following.

- **Explosives and Organics in Groundwater:** A widespread environmental challenge facing the U.S. Army. Technologies are needed that reduce restoration project life cycles and reduce costs by treating the contaminants in place.

- **Unexploded Ordnance:** A complex environmental problem affecting millions of acres of land. Develop technologies to significantly reduce the false alarm rates associated with UXO detection surveys. Technologies are also needed to address recovery, removal and remediation

- **Contaminants in Soil:** Develop new and advanced technologies for ex-situ and in-situ treatment of soils contaminated with contaminants including explosives and depleted uranium to reduce restoration costs.

- **Inorganics:** A widespread problem facing the U.S. Army, including small arms ranges affected by lead. Advanced in-situ technologies are needed to reduce soil clean up and removal costs. Inorganics also pose a hazard to receptors and technologies are to improve the cleanup methods.

- **Risk and Hazard Assessments:** Environmental costs are driven by the dilemma of determining "how clean is clean." Methodologies and procedures are needed to determine the hazard and risk to human heath and the environment to reduce the uncertainty associated with both exposure assessment and with the quality effects of data.

## INVOLVEMENT

The EQT process continues to provide support to the IRP, BRAC and FUDS programs through technology development and information sharing resources to meet the needs of U.S. Army users. End users and restoration managers are encouraged to submit restoration needs and requirements. Developers are challenged to meet the needs through technology.

## COMMITMENT

The U.S. Army is fully committed to reducing the overall time and cost associated with environmental restoration efforts. The EQT process provides the mechanism to focus on the highest priority needs and concentrates the efforts of technology developers to support the U.S. Army environmental strategy.

## INFORMATION

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