



# Refinery and Petrochemical Services

*Your First Choice for Industrial Services  
and Environmental Management*

**CleanHarbors®**



# Your Single-Source Leader.

At Clean Harbors, we've built a reputation for providing the most comprehensive and reliable services for the refinery and petrochemical industry.

Our success is based solely on the success of our customers. By delivering a wide range of services as well as complete project management, Clean Harbors empowers refineries to concentrate on what makes them profitable and efficient.

Because we understand your challenges and changing demands, we're able to offer customized services tailored for the way you operate and conduct business. From more specific needs like routine industrial services, to outage and turnaround services, our goal is to eliminate your liability, reduce costs and help you maintain your competitive edge.

We invite you to learn more about our full portfolio of services for refineries and petrochemical plants. You'll see that when it comes to proven project management, quick response and quality results, Clean Harbors really is the first—and only—choice.



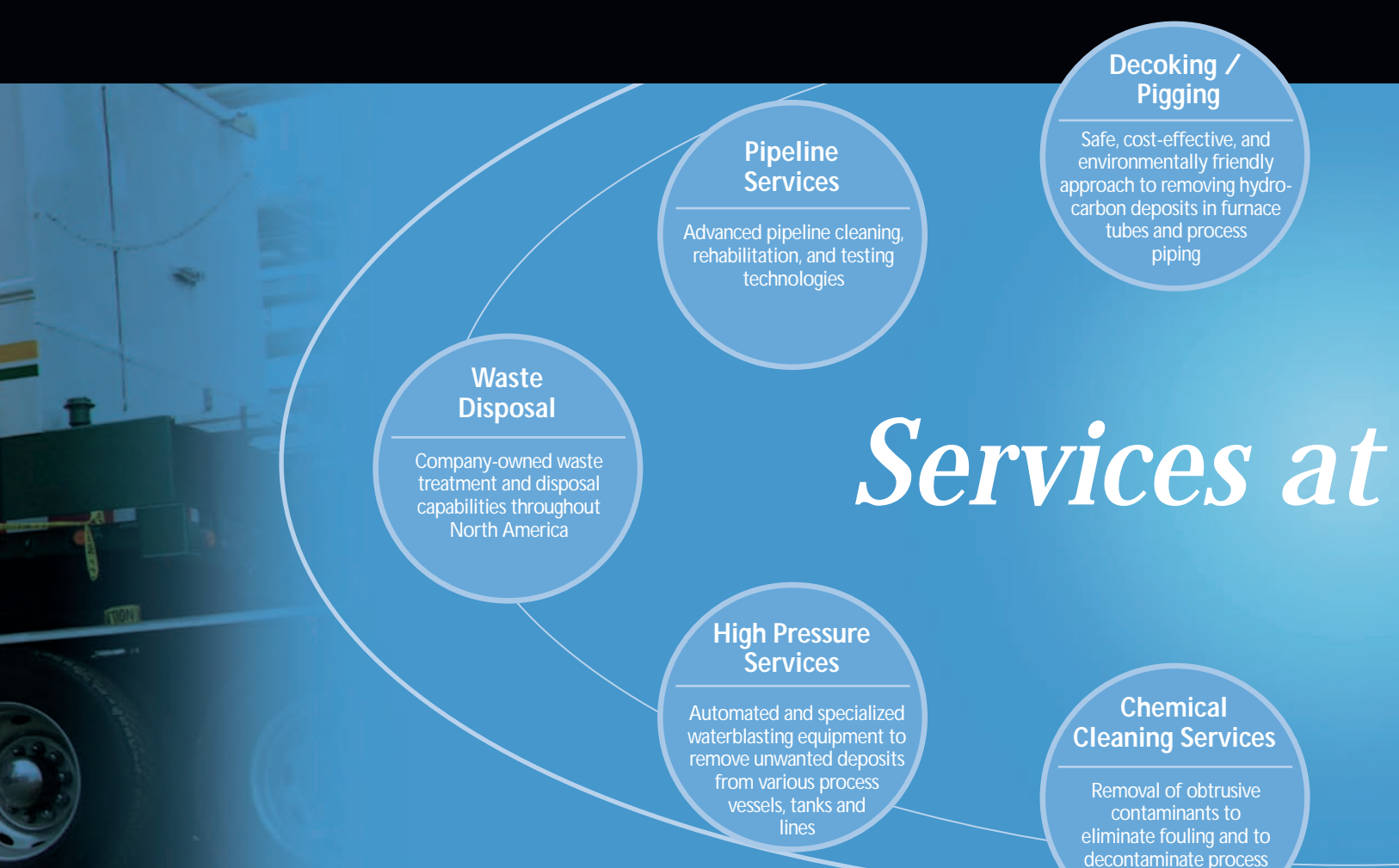
## First Things First: Your Health & Safety

At Clean Harbors, we understand that hiring a contractor to work in your refinery can mean liability exposure, a risk you simply cannot afford to take. *SafetyFirst!*, our company's comprehensive and industry leading safety and health program, is employee-driven with a firm management commitment to meet the refining industry safety statistic requirements for service providers.

Additionally, Clean Harbors programs are continually monitored by a team of safety professionals and updated routinely to maintain approved status by ISNetworld, PICS, and other customer utilized safety databases for contractor approval. That's why our training protocols and health and safety procedures are unsurpassed in the industry. Our training programs and our overall approach to the health and welfare of our employees—as well as our customers' employees—have been developed to keep your plant in compliance with OSHA or provincial ministries of labour regulations, and minimize your exposure to all risks.

From our own plants, to our people out in the field, to our customer sites, Clean Harbors adheres to all regulations and plays an active role in keeping up with changing compliance standards, so you don't have to.

- Always in compliance with latest government and industry standards
- Comprehensive training programs put employee and customer safety first
- Vigilant, self-auditing process strives for continuous improvement in health and safety



### Decoking / Pigging

Safe, cost-effective, and environmentally friendly approach to removing hydrocarbon deposits in furnace tubes and process piping

### Pipeline Services

Advanced pipeline cleaning, rehabilitation, and testing technologies

### Waste Disposal

Company-owned waste treatment and disposal capabilities throughout North America

# Services at

### High Pressure Services

Automated and specialized waterblasting equipment to remove unwanted deposits from various process vessels, tanks and lines

### Chemical Cleaning Services

Removal of obtrusive contaminants to eliminate fouling and to decontaminate process lines and vessels

## Benefit from Our Full Range of Services

We know the refinery business—inside and out—and that’s why we offer an integrated portfolio of services with a unique focus on your refinery or petrochemical plant operations...

**Chemical Cleaning Services** — Chemical Cleaning is an efficient, cost-effective way to remove corrosion, deposits, residual oils/greases and other obtrusive contaminants from tainted surfaces and equipment. Our processes can be used for passivation to eliminate fouling, oxidation, process-system corrosion and decontamination of process lines and vessels.

**Decoking / Pigging** — Clean Harbors provides a safe, cost-effective, and environmentally friendly approach to the removal of pipe and furnace tube deposits through our Decoking / Pigging Services. The closed loop pigging process uses a high volume, low pressure water pumping system to propel our patented bi-directional pigs through pipes and coils to effect cleaning. The operation is safely controlled from the unit’s control room where flow rates and pressures are closely monitored.



**Catalyst Technologies** — Clean Harbors Catalyst Technologies is a worldwide leader in innovation and technology, providing complete catalyst management, handling and change-out services for over 35 years. ISO certified for quality, environmental, and health and safety management systems, our services reduce liability and increase efficiency. We are experts in all phases of catalyst handling from unloading/reloading (inert or air atmosphere), segregation and de-dusting (spent and fresh), catalyst packaging (drums, flo bins, super sacks), to dense loading, deactivation, and HT salt melting, storing and handling.

**High Pressure Services** — Clean Harbors High Pressure Services utilize automated and specialized waterblast equipment to remove unwanted deposits from various process vessels, tanks and lines, including heat exchangers, condensers, evaporators, reactors, separators, fin fan tubes, cooling tubes and boilers. We also perform bundle pulling and cleaning, dry ice blasting and cold cutting.

**Material Processing** — Storage tanks and surface impoundments that are full of sludge can limit the effectiveness of your operation. Clean Harbors’ ability to safely remove the sludge and reduce the volume of waste through the use of specialized dewatering and dredging equipment can provide significant cost savings and improve the efficiency of your refinery.

**Vacuum Services** — Clean Harbors’ specialized vacuum services collect and transport (wet or dry) hazardous and non-hazardous materials. Vacuum equipment, including stainless steel, carbon steel, and dry and liquid units, is selected based on the nature and quantity of the material to be removed. To meet the needs of our refinery customers, our fleet is constantly being enhanced through the addition of new equipment.

# a Glance

## Catalyst Technologies

Complete catalyst management, handling and change-out services, including inert vessel entry, for over 35 years

## Outage and Turnaround

Turnkey industrial cleaning during planned or unplanned, total or partial shutdowns of a process unit or plant

## Container Management

Pulls together the physical movement of containers and systematic tracking to capture all activities and reduce container rental costs

## Material Processing

Specialized dewatering and dredging equipment safely removes and reduces waste volumes

## Vacuum Services

Specialized vacuum services collect and transport (wet or dry) hazardous and non-hazardous materials

**Outage and Turnaround Services** — Clean Harbors Outage and Turnaround Services provide industrial cleaning during planned or unplanned, total or partial shutdowns of a process unit or plant to perform maintenance, overhaul, and repair operations. We understand the time sensitivity of a plant, a piece of equipment, or a critical system that is shut down an extra hour, day, or longer will have a significant impact on the bottom line of your business. Clean Harbors will mobilize equipment and professionals who will work 24/7 to execute a turnaround in the shortest possible time, within budget, and without incident.

**Container Management** — Clean Harbors Container Management Services pull together the physical movement of containers with a systematic tracking system that can capture all container movements. From roll-offs, bins and frac tanks, to ISO containers and intermodal containers, every aspect is covered—from the initial deployment of containers through the maintenance and review of containers when they get emptied at our facilities. Customers can access our online inspection and tracking system that is completed for containers at various points within their movement cycle.

**Waste Disposal** — Rely on Clean Harbors for the most comprehensive hazardous and non-hazardous waste disposal services. With over 50 company-owned and operated waste management facilities in the U.S. and Canada that cover a broad range of disposal technologies, Clean Harbors is your source for the safe, efficient handling of the waste streams associated with refineries and petrochemical plants. Company-owned disposal capabilities include incineration, landfill, wastewater treatment, fuels blending, recycling and more.

**Pipeline Services** — Clean Harbors' advanced pipeline cleaning technologies can increase pipeline flow efficiency as much as 15% to 30%. We can help design a program that can be administered periodically to maintain cleanliness and peak efficiency. Clean Harbors offers internal pipeline rehabilitation and coating, pipeline cleaning, hydrostatic pipeline testing, pipeline dehydrating (drying), pipeline inspection services, and on-stream mechanical cleaning.





# Committed to Your Business.

## Turnkey Service—End to End

---

Clean Harbors leverages its significant transportation and disposal assets across the country to provide turnkey service to our refinery and petrochemical customers. This allows us to maintain true accountability and business continuity when managing your important environmental projects—while you have confidence knowing the job is with one easily accessible and reliable source.

Look to Clean Harbors to handle everything, from planning and estimating to scheduling, cost tracking and subcontractor management, using a best-practice approach that streamlines your costs and maximizes your own staff's productivity.

- Complete integration of services with your operation
- Single-source provider, eliminating costs associated with managing multiple contractors
- Full planning and scheduling services to ensure quality results—on time, on budget
- Company-owned and operated waste treatment and disposal capabilities eliminate third-party handoffs, reduce costs and liability



## Apollo Onsite Services— Customized In-plant Services Program for Refineries and Petrochemical Plants

---

Clean Harbors Apollo Onsite Services offer custom designed in-plant staffing programs that place select, experienced and cross-trained employees at your location to support the industrial and environmental service needs of refineries and petrochemical plants. Apollo teams handle routine and non-routine projects. This industry-leading on-site solution allows you to focus on your production (what you do best) as we make your entire in-plant services and environmental program safer, more cost-effective and self-sufficient (what we do best).

Apollo professionals arrive each day at your facility to start their day's work. A typical day in a refinery or petrochemical plant for our Apollo experts could encompass any number of diverse tasks—hazardous and non-hazardous waste management, regulatory compliance services, container tracking services, in-plant industrial maintenance, outage and turnaround services, and emergency response.

Whatever your refinery requires, you have access to all Clean Harbors services, dedicated on-site equipment, and any number of experienced 40-hour-trained and certified workers to meet the needs of any situation.

We continually evaluate and track all program goals and provide regular feedback and evaluation via a proven metrics system to ensure customer satisfaction. As plant needs change, we seamlessly and cost-effectively adapt to meet those changes.

## Making Your Business Safe and More Efficient

---

As your single source for industrial and environmental services, Clean Harbors will have a direct impact on your refinery or petrochemical plant operation:

- Improve productivity through maintenance and cleaning services that remove the burden on the rest of your staff
- Reduce risks and liability through proven, fully compliant environmental and industrial solutions and services
- Minimize downtime associated with periodic shutdowns or outages, through quick response and faster turnaround
- Remain prepared for any and all emergencies using the most trusted and responsive team in the industry
- Simplify and reduce costs by working with one company for full project management aligned with the way you do business

With over three decades of providing reliable service, Clean Harbors is your first choice. Visit the Web at [www.cleanharbors.com](http://www.cleanharbors.com)

## Clean Harbors

---

### *Commitment. Leadership. Confidence.*

Clean Harbors is North America's leading provider of environmental, energy and industrial services serving over 50,000 customers, including a majority of the Fortune 500 companies, thousands of smaller private entities and numerous federal, state, provincial and local governmental agencies.

Clean Harbors has more than 175 locations, including over 50 waste management facilities, throughout North America in 37 U.S. states, seven Canadian provinces, Mexico and Puerto Rico. The Company also operates international locations in Bulgaria, China, Sweden, Singapore, Thailand and the United Kingdom.

Founded in 1980, Clean Harbors has grown to be the leading and most trusted environmental, energy and industrial services, and waste management company, fully committed to preserving natural resources, serving local communities, and adhering to strict government regulations.

Look to Clean Harbors to handle every aspect of your environmental, energy and industrial services management program.

### Energy & Industrial Services

- Energy & Industrial Services
- Exploration Services
- Directional Boring
- Lodging Services
- Filtration and Treatment Services
- Health and Safety Services
- Rental Services

### Environmental Services

- Waste Disposal
- Recycling Services
- Chemical Packing
- Field Services
- Transformer Services
- Apollo Onsite Services
- Material & Supplies Sales
- Household Hazardous Waste
- Emergency Response



## For Refinery and Petrochemical Services

---

877.215.9730 (U.S.)  
800.661.6689 (Canada)

## Or visit the Web at

---

[www.cleanharbors.com](http://www.cleanharbors.com)

### Corporate Headquarters

42 Longwater Drive  
P.O. Box 9149  
Norwell, MA 02061-9149  
781.792.5000  
800.282.0058

