





Enhancing Your Life Every Day®



2017 Sustainability Report



Westlake completed a remediation project begun in 2015 of the wetlands in Bayou d'Inde, located in Lake Charles, Louisiana. After placing 1.8 billion pounds of soil to reach a sediment elevation where plants would survive, approximately 120,000 smooth cordgass (Spartina alterniflora) plugs, which are native to the Louisiana coast, were sustainably harvested and are now home to a number of animal species pictured here including the burrowing owl (Athene cunicularia), painted bunting (Passerina ciris), wood ducks (Aix sponsa) and the brown pelican (Pelecanus occidentalis).

The nature photos on this page and elsewhere in the report were taken by Bill Goulet, a Westlake principal environmental engineer, who has over 39 years of service with the company and is an avid wildlife photographer.









# **Contents**

Our Business	6
Our Commitment to Safety	8
Our Commitment to Minimizing Our Environmental Impact	14
Our Commitment to Supporting Our Communities	20
Our Commitment to Our Team	26



### Message From Our CEO

Westlake Chemical Corporation is pleased to make this annual sustainability report available to our investors, employees, suppliers and customers. The report summarizes data that we have been tracking and analyzing internally for many years, and it tells stories of how our employees engage with the communities where we are privileged to operate.

Westlake products enhance the lives of people every day. Clean water, longer shelf life for food, lighter and better cars and airplanes, and more affordable and energy-efficient housing, are among the many benefits our polymers and petrochemicals provide to people around the world.

At Westlake, we have always strived to make these useful products in the most sustainable manner possible by continuously improving the efficiency of our processes, including reducing our use of electricity and water, and by being a good corporate citizen in the communities in which we operate. Our sustainability efforts align with and support many of the United Nations' 17 Sustainable Development Goals, including hunger; good health and well-being; quality education; clean water and sanitation; decent work and economic growth; industry innovation and infrastructure; responsible consumption and production; ocean pollution; and life on land.

You will read about many of these efforts in this report. For example, from 2014 to 2017, through investments and efficiency improvements, Westlake achieved a nearly 30 percent reduction in CO<sub>2</sub> emissions, reduced sulphur dioxide emissions to almost zero and reduced energy usage per ton of products produced.

"From 2014 to 2017, through investments and efficiency improvements, Westlake achieved a nearly 30 percent reduction in CO2 emissions, reduced sulphur dioxide emissions to almost zero and reduced energy usage per ton of products produced."

More recently, to support solid-waste reduction, we have joined our polyethylene packaging industry in the Materials Recovery for the Future, or MRFF, initiative. The MRFF's purpose is to conduct research and work with recyclers and municipalities to capture more of the flexible packaging waste stream for recycling into goods, such as decking for housing. We are also working with the Vinyl Institute and its initiative: +Vantage Vinyl for a Sustainable Future. And in March 2019, Westlake joined the Alliance to End Plastic Waste, or AEPW, along with 35 other global companies. The AEPW aims to advance solutions that eliminate plastic waste in the global environment, especially in the oceans. The members have committed to spend over \$1 billion toward a \$1.5 billion goal over the next five years to help end plastic waste in the environment.

We intend to do our part to help solve these global environmental issues and make the world a better place for all of us and our future generations.

Albert Chao

President and Chief Executive Officer

# **Our Approach to UN Sustainable Development Goals**

In 2015, the United Nations adopted the 2030 Agenda for Sustainable Development, which includes 17 Sustainable Development Goals (SDGs). Westlake's corporate activities support many of these goals, including:

- Zero Hunger: Ensure that the food and agriculture sector offers key solutions for development
- Good Health and Well-Being: Ensure healthy lives and promote well-being for all at all ages
- Quality Education: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
- 6 Clean Water and Sanitation: Ensure clean, accessible water
- **Decent Work and Economic Growth:** Require societies to create the conditions that allow people to have quality jobs
- Industry, Innovation and Infrastructure: Require investment in infrastructure
- 19 Responsible Consumption and Production: Ensure sustainable consumption and production patterns
- Life Below Water: Conserve and sustainably use the oceans, seas and marine resources for sustainable development
- Life on Land: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss





















#### **Our Business**

Blending our chemical capabilities with a strong, downstream building products business, Westlake delivers life-enhancing products. From our polyethylene that is used daily in food packaging like bread bags, cheese wrapping and milk cartons, to our polyvinyl chloride (PVC) pipe which is used to deliver clean drinking water and to irrigate fields, these products benefit people's lives every day. With our core value of being a good corporate citizen in our local communities, we are committed to being a leader in sustainable practices and a responsible environmental steward.

#### **Our Business Segments**



#### **OLEFINS**

Westlake manufactures three primary products within our Olefins business segment - ethylene, polyethylene and styrene monomer. Most of our ethylene production supplies our internal needs in our polyethylene and vinyls businesses.



#### **VINYLS**

Westlake vinyl resin products are the key ingredients to making some of the world's most prevalent items, including residential siding and pipe. Our Vinyls business segment also produces chlorine, used for water treatment, and caustic soda, used for paper production.

# **Corporate Social Responsibility Policy**

Westlake's commitment to corporate social responsibility is formed by the company's five longstanding core values:

#### **HEALTH, SAFETY & ENVIRONMENT (HSE)**

The health and safety of our employees and communities, and the vigilant stewardship of the environment and sustainability are of utmost importance and at the forefront of everything we do.

#### **OUR PEOPLE**

The integrity, creativity, dedication, diversity and drive of our employees allow us to excel. We support, develop and inspire our people to achieve their personal best and treat them with dignity and respect.

#### **QUALITY & CONTINUOUS IMPROVEMENT**

Our commitment to quality products and service is so strong that both are symbolized as the two check marks that form the

Westlake "W" in our logo. We seek to maintain this commitment through an intensive practice of "never-ending process of improvement".

#### **COMPETITIVENESS**

We are committed to enhancing the lives of people in the global marketplace every day. We do this by providing innovative and useful products, maintaining high standards of customer service and operational excellence with a constant focus on managing costs.

#### **CITIZENSHIP**

We recognize the importance of supporting the communities in which we work and live and make it a priority to take an active role in making these communities better.





# **Health, Safety & Environmental**

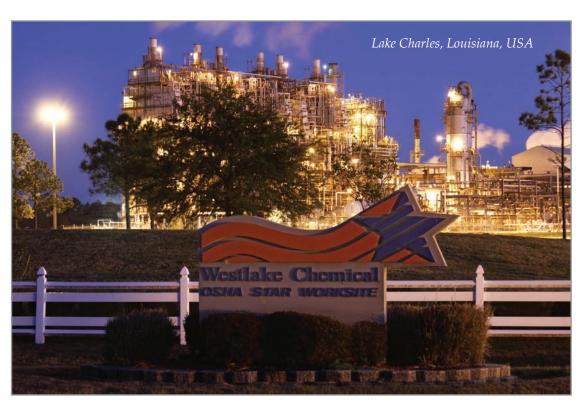
#### Core Value of Westlake Chemical

Westlake conducts its business in a responsible manner that protects the health and safety of its employees, the public, and the environment in which we live.

# Safety

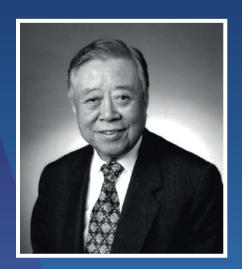
We are proud that several of our Westlake chemical facilities have earned the prestigious OSHA Star status. This is the highest award offered by the U.S. Occupational Safety and Health Administration's Voluntary Protection Plan (VPP) and is reserved for participants that exceed OSHA standards, thereby making them models for our industry. We are actively pursuing VPP certification at several other facilities.







# **Our Number One Priority**



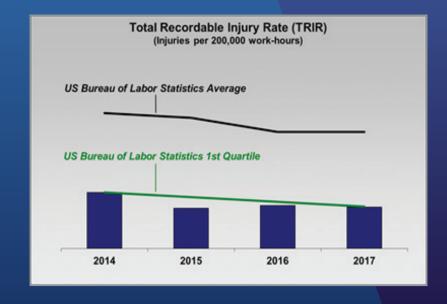
と Westlake Founder 华美创始人赵廷箴 More than 30 years ago, the words of Westlake founder T.T. Chao - now displayed on a plaque at every Westlake facility around the world - established the company's culture of safety. He said:

"We have put safety first, and it will remain our number one priority. No job can be so important or urgent that people cannot take the time to work safely. Life is precious and irreplaceable."

As posted at Reims, France: "Pour nous la sécurité passe en premier et elle demeurera notre priorité numéro un. Aucune tâche n'est si importante ou si urgente que les gens ne puissent prendre le temps de travailler de façon sécuritaire. La vie est précieuse et irremplaçable."

As posted at Gendorf, Germany: "Sicherheit steht bei uns an erster Stelle und bleibt unsere höchste Priorität. Keine Aufgabe ist so wichtig oder dringend, dass sich die Menschen nicht die Zeit nehmen können, sicher zu arbeiten. Das Leben ist kostbar und unersetzlich."

As posted at Jiangsu, China: 「我们始终把安全放在第一位,它永远是我们的首要任务。没有任何一种工作会重要或紧急到可以忽视安全。生命是宝贵的、不可替代的。」





# **Safety Awards**

# The Vinyl Institute Awards Westlake Chemical for Safety Excellence

These awards recognize top companies in the vinyl industry for their focus on employee safety at chemical plant sites throughout the U.S. and Canada.

- 2017 Vinyl Institute: Safety Excellence Award (No recordable injuries for five or more consecutive years)
  - Westlake PVC plant, Geismar, Louisiana, USA
- **2017 Vinyl Institute: Safety Performance Awards** (No recordable injuries in 2017)
  - Westlake EDC/VCM plant, Calvert City, Kentucky, USA
  - Westlake PVC plant, Aberdeen, Mississippi, USA
  - Westlake Plasticizer/Additive Manufacturing plant, Aberdeen, Mississippi, USA
  - Westlake PVC Compounding plant, Aberdeen, Mississippi, USA
  - Westlake Lake Charles North EDC/VCM plant, Westlake, Louisiana, USA
  - Westlake Lake Charles South EDC plant, Westlake, Louisiana, USA
  - Westlake PVC Compounding plant, Madison, Mississippi, USA
  - Westlake PVC Compounding plant, Prairie, Mississippi, USA
  - Westlake PVC plant, Plaquemine, Louisiana, USA
  - Westlake VCM plant, Plaquemine, Louisiana, USA

# **Safety Awards**

#### Westlake Presented Prestigious **Transportation Safety Awards**

Shipments of raw materials and finished products continuously flow in and out of our company facilities, and Westlake is committed to ensuring this flow of materials meets and exceeds safety and regulatory requirements. Westlake Chemical received numerous annual awards for its outstanding safety record in the shipment of chemical materials by rail during 2017.

#### **BNSF Product Stewardship Award**

For the sixth consecutive year, Westlake Chemical was presented the BNSF Product Stewardship Award. Companies receiving this award transported a minimum of 400 loaded tank cars of chemical materials with zero non-accident releases during a year.

#### Non-Accidental Release (NAR) Grand Slam Award

For the second consecutive year, the American Association of Railroads presented Westlake Chemical with a Non-Accidental Release (NAR) Grand Slam award. These awards are presented annually to companies that are "exemplary" shippers of hazardous materials. An award winner must have been recognized by at least four or more Class I railroads and had zero NARs involving their shipments during the previous calendar year.

In addition to these awards, Westlake has repeatedly received the CSX Chemical Safety Excellence Award and the Chlorine Institute - Diamond Leadership Award for its excellent safety record in transportation.



Lake Charles, Louisiana, USA

# Our Commitment to Minimizing Our Environmental Impact

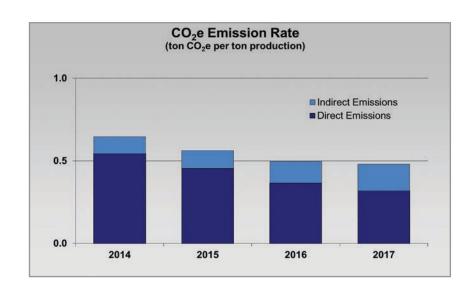
At Westlake Chemical, we strive to protect the world around us and preserve our natural resources. We maintain management systems designed to ensure compliance and support integration of environmental considerations into our business processes. Westlake employees strive to continuously improve our environmental performance and programs.

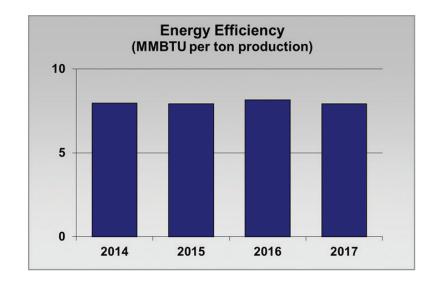
Westlake Chemical has identified a number of performance measures commonly used by our industry to measure progress in protecting and improving the environment surrounding our operations. Emissions of nitrogen and sulfur oxides (NOx and SOx) and hazardous air pollutants (HAPs) are reflective of the quality of the air we breathe in and around our facilities. Availability of clean water is necessary for all life on our planet making conservation of this precious resource a priority. Measuring water use in our operations allows us to track our conservation efforts.

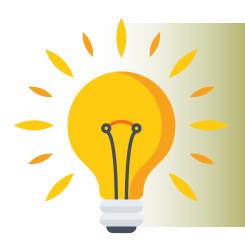
Lake Charles, Louisiana, USA

# **Energy Efficiency**

Improvements in energy efficiency benefit everyone from the lower cost of manufacturing to reduced greenhouse gas emissions. Westlake employees are constantly evaluating opportunities to reduce energy use and greenhouse gas emissions. Energy to operate our plants is supplied from a mix of internally produced (from our cogeneration facilities) and externally purchased electricity. Our greenhouse gas intensity is expressed in terms of tons of carbon dioxide equivalent (CO<sub>2</sub>e) per ton of production. Energy efficiency is measured in million BTUs (MMBTU) per ton of production.







#### Fun Fact:

Energy savings projects at Westlake facilities in 2017 and 2018 saved in excess of 10 million kilowatt-hours. That's enough to power 1,000 homes for a year!\*

\*EPA Greenhouse Gas Equivalencies Calculator

# **Operational Efficiency**

#### Upgraded Equipment Saves Energy and Water

In 2017, the Beauharnois facility installed a new inline caustic dilution system that uses 32% caustic directly from the cell room to produce the needed 20% caustic final product. As a result of this change, there were several sustainable benefits, including:

- freed up caustic evaporator capacity;
- reduced steam and natural gas usage; and
- reduced demineralized water usage.

# Natrium Greenhouse Gas Savings

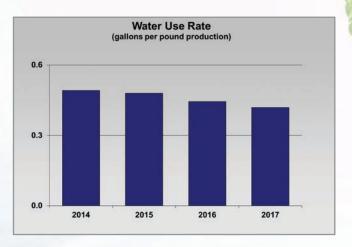
In 2016, our Natrium, West Virginia facility completed a boiler conversion project which switched from coal to much cleaner burning natural gas. The result was an annual emission reduction of approximately 450,000 tons of CO<sub>2</sub>.

- Equivalent to permanently removing 87,000 cars from the road\*
- Equivalent to planting 1.5 million tree seedlings and growing them for 10 years\*



#### **Water Use**

Water is an important resource for everyone, including Westlake. Steam generation, cooling and even incorporation into some of our products are just a few of the ways water is used in our processes. We measure net water use (water consumed or not returned to the original source) divided by our total production.



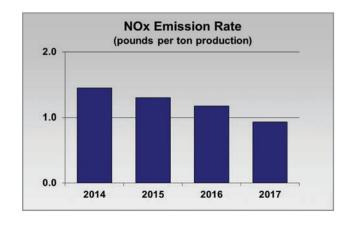
As a part of Westlake's continuous improvement efforts, new projects saved 130 million gallons of water in 2017. That's enough water to fill nearly 200 olympic-sized swimming pools.

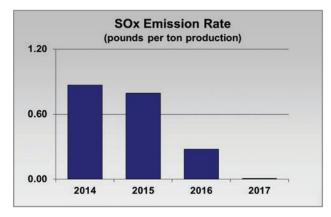
# NAPCO Receives Award for 50 Years of Service to the Water Industry

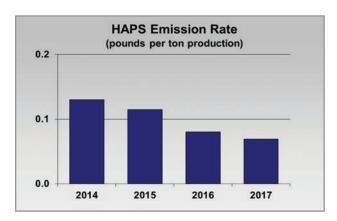
At Westlake, we not only are concerned with reducing water usage in our operations, but we also manufacture water treatment products and PVC pipe to help treat and create safe water for commercial swimming pools and municipal water supplies. Our North American Pipe Corporation (NAPCO) is one of the largest producers of PVC pipe in the US and Canada. In September, NAPCO received the American Water Works Association 2017 Award for 50 Years of Service to the Water Industry.



#### **Emissions**







At Westlake Chemical, we are dedicated to preventing pollution, complying with environmental laws and regulations, and closely monitoring our emissions.

Emissions of NOx and SOx from Westlake facilities are directly related to the combustion of fossil fuels, often to generate power and steam for our processes. Prior to a conversion that was completed in 2016 (see sidebar on page 16), the Natrium, West Virginia facility used coal-fired boilers to generate steam and power. Coal generates larger amounts of NOx and SOx when burned compared to other fuels such as natural gas. The conversion of these boilers to natural gas resulted in a significant reduction in both NOx and SOx emissions.

Hazardous Air Pollutants (HAPs) are a subset of chemicals identified by the U.S. Environmental Protection Agency (EPA) in its Toxics Release Inventory (TRI). The switch to cleaner burning natural gas in our Natrium, WV plant was just one example of our efforts to reduce emissions of HAPs.

#### **Environmental Awards**



Several Westlake facilities in North America were recognized as part of The Vinyl Institute's (VI) annual environmental awards. These awards recognize top companies in the vinyl industry for their focus on environmental excellence at chemical plant sites throughout the U.S. and Canada.

- 2017 Vinyl Institute: Environmental Excellence Award (outstanding track record of performance with applicable rules and permits for 5 or more consecutive years)
  - Westlake EDC/VCM plant, Calvert City, Kentucky, USA (10 consecutive years of performance)
  - Westlake PVC plant,
     Aberdeen, Mississippi, USA
     (5 consecutive years of performance)
  - Westlake Plasticizer/Additive
     Manufacturing plant,
     Aberdeen, Mississippi, USA
     (5 consecutive years of performance)
  - Westlake PVC Compounding plant, Aberdeen, Mississippi, USA
     (5 consecutive years of performance)

Lake Charles, Louisiana, USA



#### **2017 Global Service Month**

In 2017, approximately 1,800 employees from 30 Westlake sites volunteered more than 5,000 hours during the company's Global Service Month.

The following photos are some examples of the various projects performed by the company's employees.

#### Houston, Texas, USA



Houston area employees provided general beautification by cleaning out brush and building a fence at a local park through the Memorial Park Conservancy.

#### Lake Charles, Louisiana, USA



The Lake Charles facilities participated in the companywide Community Service Day event by beautifying local schools.

#### Suzhou, China



Our Huasu colleagues in China planted trees at a park near the office.

#### Woodbridge, Ontario, Canada



As part of Westlake's Service Month, 29 employees from the Royal Building Products site in Woodbridge, Ontario, volunteered at a local food bank.

#### **2017 Global Service Month**

#### Ismaning, Germany



Our Vinnolit, Ismaning, Germany office hosted its annual "Rama Dama Day" collecting trash to beautify the community.

#### Cologne, Germany



At this year's Community Service Event, the Vinnolit sites Knapsack and Cologne, Germany participated in the clean-up and trash collection campaign "Kölle putzmunter."

#### Burghausen, Germany





Our Burghausen, Germany office expanded on its work from the prior year by planting additional trees on the Bergerhof premises. They also provided fertilizer and bark mulch to the other trees in the area.

# **Westlake in the Community**

### North American Pipe's Booneville Office Receives Award for its Community Involvement

# **Community Cites Global Service Month Initiative** for Receiving this Award

North American Pipe Corporation's Booneville, Mississippi site received the Industry of the Year award from the Prentiss County (Miss.) Development Association for its positive impact on the Booneville community. To receive this award, companies were evaluated on community involvement, overall company stability, investment in the community and jobs created from investments. In a news release from Prentiss County, it mentioned the Booneville plant's community service involvement including its recent Global Service projects, and stability as being the primary attributes for this award.





Picture in the City of Booneville about the downtown beautification project, Booneville's Global Service Project 2018.



Picture of the Blessing Box, Booneville's Global Service Project 2017.

# **United Way**

One of the primary vehicles for Westlake to give back to its communities in the United States and Canada is through the United Way and similar community organizations.

# Greater Longview United Way Humanitarian Award



Tesa Wilson, Human Resources Coordinator at Westlake's Longview, Texas site, was recognized as the 2017 Greater Longview United Way Gene Dworsky Humanitarian Award recipient.

# Westlake Chemical Honored for 2017 Contributions to United Way of Southwest Louisiana

Westlake Chemical was honored by the United Way of Southwest Louisiana for contributions and participation by employees in the Lake Charles region during the 2017 United Way campaign.

- Raised the second-highest amount of total donations during its 2017 United Way campaign.
- Contributed the 'Largest Corporate Gift'.
- Had a 12 percent increase in giving over the previous year.

# Houston Business Journal Recognizes Westlake Corporate Philanthropy



The Houston Corporate headquarters was recognized by the Houston Business Journal for its philanthropy giving to the United Way of Greater Houston. Pictured above are past United Way campaign chairs from Westlake Chemical Corporate who received the award on its behalf.

# Westlake Scholarship

In 2017, Westlake Chemical Awarded Scholarships to 116 Students of Employees

Since 1994, Westlake has been pleased to recognize and reward over 1,050 high-achieving college bound students of its employees with scholarships.

The competition for these scholarships is consistently strong and the applicants are some of the most outstanding students in each of the communities in which we operate. The average recipient for 2017 had a GPA of 3.87 and ranked in the top 15% of their senior class. This included five students who ranked number one in their class and three National Merit Scholarship recipients (pictured right). Moreover, many of these scholars have made significant contributions through numerous volunteer and civic activities. We congratulate the students and their parents for the significant accomplishments in the classroom and the communities in which they live.







Pictured are the National Merit Scholars, who are just three of the Westlake Scholarship recipients.

# **Our Commitment to Our Team**

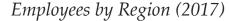


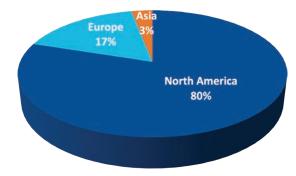
#### **Our Talent**

With approximately 7,000 employees in 7 countries worldwide, Westlake knows that its success is dependent on its people and strives to hire and maintain its talented workforce through its benefits, training programs and culture. There are many reasons why Westlake is a great place to work, which includes the opportunity for individuals to grow in an entrepreneurial environment with a solid and stable company.

#### **Providing Quality Benefits to Employees Globally**

Westlake cares about the health and well-being of our workforce and their families and strives to provide a competitive compensation and benefits package that rewards individual as well as team performance. At Westlake, we have a strong tradition in sharing company successes through incentive programs, such as the Quarterly Incentive Program.







# **Promoting Diversity and Inclusion**

Westlake believes that the integrity, creativity, dedication, diversity and drive of our employees allow it to excel and believes that a diverse workforce is critical to this end. Recently, Westlake was awarded the Top 25 Company for Diversity in Texas Award at the 14th

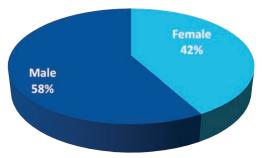


Annual Diversity and Leadership Conference hosted by the National Diversity Council.

Westlake also serves as a member of the Texas Diversity Council and participates in various symposiums, conferences, and networking events that provide leadership growth and development training to our current leaders as well as those with leadership potential.



#### Employees by Gender



42% of employees in the Corporate office were women.

### **Talent Management**

Training and developing employees is a core value at Westlake because we understand that each employee has the potential to create value with the proper knowledge and skills.

In 2017, each employee received approximately 40 hours of training. Each year, Westlake increases the opportunity for employees to receive a variety of training.

#### **Giving Employees a Voice**

At Westlake, we believe in the importance of listening to our employees and every three years, we conduct an Employee Survey. In 2017, we conducted our Employee Survey on a global basis and had nearly 7,000 employees participate.

According to our survey administrator, Willis Towers Watson, the survey showed that 81% of employees are "Sustainably Engaged". Research shows that companies with high levels of Sustainable Engagement perform three times better than companies with low levels of engagement.





Global Headquarters 2801 Post Oak Blvd. Houston, Texas 77056 USA

Telephone: +1 713 960 9111

www.westlake.com

