Poland

The overall environmental technologies market in Poland including goods and services is valued at $4.94 Billion (2012). Advanced by European Union (EU) mandates, Poland’s environmental technologies market continues to grow. Much remains to be done in the areas of water treatment and waste reduction.

Poland ranks 10th overall on the 2015 Top Markets Study (TMS) with a composite environmental technologies score of 144.7. Poland ranks 7th for water markets with a score of 69.3 and 10th for air pollution control market with a score of 69.1. Waste and recycling trails behind with a rank of 17th and a score of 6.3 (see appendix x for global rankings).

STATE OF THE ENVIRONMENTAL REGIME

Poland’s environmental regime has steadily improved since its accession to the EU in 2004. The Environmental Business Journal-OECD Environmental Stringency Survey, which ranks environmental regimes on a scale from 1 – 7 (with 1 being lax and 7 being the most stringent), scored Poland a 4.4 in 2012, a 2.0 point improvement on its 2005 score of 2.4.

Similarly, Poland’s ranking on the World Economic Forum’s 2011 Index for Regulatory Stringency of 35th globally with a Score of 4.71 (on a similar scale to EBJ-OECD) demonstrates the relative increase in environmental stringency. Poland’s ranking in the same survey for enforcement is 35th globally with a score of 4.10 highlighting improvements in environmental enforcement as well.

MARKET BARRIERS

Market barriers in Poland in general are associated with the differences in regulation and standard’s development philosophies of the United States and the EU. The following barriers are most problematic for environmental technologies companies attempting to export to or work in Poland:

Figure 1: Poland’s Top Markets Scores
1. **Failure to Recognize International Standards Used by U.S. Exporters:** Poland, like all European Union countries, discretely recognizes standards developed by the International Organization for Standardisation, the International Telecommunications Union, and the International Electrotechnical Commission. U.S. firms are unlikely to design their products to meet such standards since standards developed by these organizations are often design-based while those utilized by U.S. exporters tend to be performance-based. Although the standards U.S. exporters typically use are international standards developed by recognized international standards-setting bodies, these standards are often not recognized in Poland, creating a barrier to U.S. exports.

2. **A preference for design based standards over performance based standards.**
   In the United States standards for environmental technology generally meet a performance threshold, such as mitigation of pollution below a level that the scientific method has determined is consistent with protection of human health. This performance based approach allows for both innovation and a diversity of approaches to meet a specific goal. In the EU many standards require technology to meet a design specification thus prohibiting use of any technology that meets the same performance standard but lacks the design specifications.

3. **Application of the precautionary principle in standards and regulations.**
   In Europe the identification of hazards and subsequent limitations on application is tied to unknown future costs as opposed to the risk based approach which assesses the likelihood of both unknown and known risks against known benefits. Application of the precautionary principle in standards and regulations levies many billions of dollars on manufacturers and services providers for testing, and redesign without a clear definition of the resulting benefits. Furthermore, applying the precautionary principle to environmental technologies slows their delivery to market even when the pollutant stream that is addressed poses greater harm to human health than the chemical or technology under evaluation.

4. **EU assistance and subsidies for environmental projects.**
   In an effort to help the Polish Republic meet EU environmental standards, the EU often funds or subsidizes the development of environmental infrastructure. Within tenders, there is a strong preference for European providers, placing U.S. bidders at a competitive disadvantage.
5. Lag in implementation of EU environmental rules.
Adoption of and adherence to EU environmental rules drives development of environmental projects. The lag in adherence to EU mandates in this area has created a corresponding lag in the development and tendering of projects thus slowing market growth overall.

MARKET OPPORTUNITIES

AIR POLLUTION CONTROL

Air Pollution Control
Emissions from coal-fired power plants, which accounted for 88 percent of Poland’s primary energy in 2010,\textsuperscript{cxxxv} still lead to excessive output of particulate matter and other air toxics.\textsuperscript{cxxxvi} Particulate matter from transport and home-heating emissions as well as small industrial plants and small boilers are also substantial contributors to persistent air pollution problems.

Other industrial sources are located in areas where the local topography prevents dispersion, such as in Krakow or Górny Slask.\textsuperscript{cxxxvii} Opportunities for the air pollution control sector also lie in compliance with EU Air Quality Directive 2008/50/EC which will place limits on all large combustion sources.\textsuperscript{cxxxvii} Poland will achieve improved air quality by implementing measures on the voivodeship (regional) level. U.S. businesses should focus on regional air quality plans and related opportunities to participate in Poland’s air pollution control market.

Technologies and Services in Demand:
- Wet/dry scrubbers (particularly systems that remove multiple pollutants)
- Carbon injection systems (for reduction in mercury and organics)
- Particulate matter control systems (particularly new bagging systems)
- NOx, mercury, CO2, and particulate matter monitoring and continuous monitoring systems
- Selective catalytic and non-catalytic reduction controls
- Oxygen enrichment, fuel injection, and other efficient combustion technologies
- Innovative specialty cements
- Mixing technologies
- Pumping and fluid handling equipment
- Engineering and plant design
- Leak detection
- Alternative fuel technologies used to fire cement kilns

WATER AND WASTEWATER TREATMENT

Municipal Wastewater Treatment and Storm Management
Expansion and development of sewerage networks and treatment facilities under Poland’s National Programme of Municipal Wastewater Treatment (NPMWT) offers prominent opportunities. In 2013 only 67 percent of Polish peoples were connected to sewers with an expected increase to 70 percent by 2018.\textsuperscript{cxlix} For example, the Nowogrodziec municipality issued a recent tender for the 25km expansion of its network valued at US$ 23 million.\textsuperscript{cxl}

Large scale floods have also generated interest in storm water management systems while conversely long-term projections of water scarcity\textsuperscript{cxli} have spurred interest in water efficiency through wastewater reuse. The Polish government has tendered a contract for the design and development of a management plan for all river basins\textsuperscript{,cdl} providing an attractive project pipeline for U.S. companies with expertise in storm water management infrastructure.

The Polish government is also focusing on implementation of a new water pricing scheme to promote reuse and efficiency for consumer, industrial, and agricultural applications.

Technologies and Services in Demand:
- Engineering, procurement, and construction services
- Advanced filtration
- Membrane filtration
- Waste to energy technology
- Anaerobic digestion
- Nitrification
- Biological denitrification
- Monitoring equipment
- Testing equipment
- Sludge Treatment and Reuse

Sludge treatment is also a major issue to be addressed in Poland. Poland produces over 700,000 tons of sludge per year and due to EU obligations related to landfill waste reduction, it will no longer be legal to landfill sludge\textsuperscript{cdlii} meaning that the full spectrum of sludge treatment technologies will need to be
employed. The National Plan for Waste Management outlines that by 2018, 60 percent of sludge is to be processed through incineration, a 25 percentage point increase from current levels. There is also a proposal to use treated sludge as biomass fuel stock to help meet Poland’s renewable energy targets.

Limited capacity to develop and operate sludge drying and incineration technologies will generate demand for attendant services and technologies. Cities with stated needs in this area include Warsaw, Lodz, Krakow, Gdansk, Poznan, and Szczecin.

Technologies and Services in Demand:
- Engineering, procurement, and construction services
- Advanced filtration
- Membrane filtration
- Waste-to-energy technology
- Anaerobic digestion
- Nitrification
- Biological denitrification
- Monitoring equipment
- Testing equipment

**WASTE MANAGEMENT AND RECYCLING**

*Municipal Solid Waste and Recycling*
Landfills remain the predominant waste management method in Poland with approximately 86 percent of the waste generated destined for one of the country’s 800 landfills. There is rising pressure to rebalance Poland’s waste management approach in order to meet its EU accession obligations. Contingent with Poland’s accession to the EU the country must reduce its landfill waste by 50 percent which will inevitably give rise to increased use of recycling and incineration technologies.

Poland missed its 2013 deadline to meet this mandate, and thus is in a position to play catch-up with meeting its accession obligations to avoid daily fines of 40,000 Euros levied by the European Commission. In its National Development Plan, Poland outlined its waste reduction plan to include: introduction of a selective waste collection system, construction of facilities for waste recovery and recycling, and closure on unsanitary landfills. Waste management responsibilities are the purview of municipal and regional governments and forthcoming tenders emanating from national plans will be issued at the city or voivodeship level.

EU mandates and attendant funding for project development are also driving waste incineration and waste-to-energy projects. 11 waste-to-energy facilities with a capacity of 200K tons each are slated for development with 6 to be developed in 2015 and 2016. Those projects include facilities in Bialystok, Bydgoszcz and Torun, Konin, Krakow, Poznan, and Szczecin with a total value of US$ 1 billion. The Poznan facility is being developed under a Public Private Partnership (PPP) model. Ministry of Environment and Treasury support for forthcoming PPPs could yield opportunities for U.S. Engineering, Procurement, and Construction (EPC), technology providers, and operators.

Projections for projects in the 2016-2020 timeframe for waste-to-energy facility development include those for the Silesian agglomeration, lower Silesia, Tri-City, Warsaw, Olsztyn, Lodz, the Mazovian district, the Sub-Carpathian region, and the Lublin region.

Technologies and Services in Demand:
- Waste collection technologies
- Sanitary landfill systems
- Environmental monitoring and analytical equipment
- Sorting machines
- Crushing and grinding machines
- Materials handling equipment
- Collection services, containers, and vehicles
- Recycling process expertise
- Waste incinerators

**U.S. GOVERNMENT AGENCY INITIATIVES AND PROGRAMS**

**U.S. Environmental Solutions Toolkit**
The Toolkit compiles EPA’s environmental regulations, related underlying research, and a list of U.S. companies that provide technologies necessary to implement similar environmental regulatory actions abroad. The Toolkit is used by EPA officials or environmental consultants as a reference tool within bilateral activities that focus on addressing environmental concerns.

**Power-Gen International Buyers Program**
Power-Gen, one of the leading U.S. power generation equipment and services trade shows, has partnered with the Department of Commerce’s International Buyer Program to encourage foreign participation in the show. This platform is leveraged to discuss policies and exchange technical information regarding power
plant emissions control with Polish participants and to foster business relationships between Polish end-users and U.S. emissions control providers.

**WasteExpo International Buyers Program**

WasteExpo, one of the leading U.S. waste management trade shows, has partnered with the Department of Commerce’s International Buyers Program to encourage foreign participation in the show. This platform was leveraged to exchange relevant technical information with Polish participants and to introduce Polish buyers to U.S. waste management technology providers.

**Water Environment Federation Technical Exhibition and Conference (WEFTEC) International Buyers Program**

The Department of Commerce, through its International Buyers Program, leads a delegation of Polish officials and business representatives to WEFTEC to explore relevant U.S. technologies and work with U.S. exporters on approaches to water resource management.
This case study is part of a larger Top Markets Report. For additional case studies or to view other Top Markets Report, please visit: www.trade.gov/topmarkets