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Environmental Protection




At a Glance

- Nation faces above-average risks from global warming
- Progress in renewable energy development
- International collaboration in studying climate change
- World-leading achievements in recycling

While no country is immune to the adverse impacts of climate change, research suggests that Taiwan will face above-average risks should global warming continue at the current pace. Aware of the consequences of business as usual, Taiwan has taken measures to change. Apart from promoting the development and use of renewable energy, the nation's scientists have teamed up with their foreign counterparts to map out carbon emission concentrations across the globe.

Established in 1987, the Cabinet-level Environmental Protection Administration has helped Taiwan improve the living environment, conserve the nation's natural heritage and raise environmental awareness. Today, Taiwan boasts one of the world's highest recycling rates—45.49 percent in 2009, an efficient waste management system, and a wide range of wild-life refuges for its endemic species.

Ordinary citizens have made some of the greatest contributions to environmental protection. The cumulative effect of small lifestyle adjustments has made itself seen in Taiwan's improved track record in environmental protection.

 The wetlands in Taijiang National Park are an important shelter for migratory birds. Surveys carried out over the years by the Wild Bird Society of Tainan show that nearly 200 bird species can be seen in the park, including the endangered black-faced spoonbill. (Dai Jin-yuan)

Climate Change Mitigation

Threat of Global Warming

The effects of global warming are being seen in the increasing frequency and intensity of droughts, floods, heat waves, wildfires and super storms. Taiwan suffered firsthand the effects of climate change when Typhoon Morakot swept over the island and dumped 2,000-plus millimeters of rain in less than 48 hours in August 2009, causing the most catastrophic flooding and landslides in memory and resulting in hundreds of deaths.

Statistics collected in five cities across Taiwan by the Central Weather Bureau 交通部中央氣象局 show that during the 100 years between 1909 and 2008, the island's average temperature in metropolitan areas increased by 1.4 degrees Celsius. This is nearly double the world average of 0.74 degree Celsius stated in the *Fourth Assessment Report* of the United Nations Intergovernmental Panel on Climate Change for the years 1907-2008.

Rising temperatures threaten to cause sea levels to rise all over the world. According to Sinotech Engineering Consultants Ltd. 中興顧問工程公司, a prominent Taiwanese engineering company, should the sea rise 0.5 meter, a land area of 105 square kilometers on the island of Taiwan will subside below water. If it rises 1 meter, 272 square kilometers will be submerged, with an additional 1,237 square kilometers being subject to chronic flooding.

In the late 1990s, research analyzing data collected by TOPEX/Poseidon, a joint satellite mission between the U.S. and French space agencies, showed that the surface of the West Pacific where Taiwan lies rose at an annual rate of 6.7 millimeters. More recent studies conducted by local academics suggest that the sea level around Taiwan rose 2.5 to 5.9 millimeters each year over the past few decades, 1.4 to 3.3 times faster than

the global average. Should this trend continue, by 2100 waters around Taiwan will be 25 to 59 centimeters higher than they are currently. The island's western coastline is predicted to recede 250 to 290 meters inland, causing serious displacement as much of the western half of the island consists of densely populated, low-lying plains.

International Collaboration

In 2008, scientists at National Central University 國立中央大學 initiated the Pacific Greenhouse Gases Measurement (PGGM) project 太平洋溫室效應氣體觀測計畫 to chart greenhouse gas (GHG) concentrations in the North Pacific. This project is financially backed by the government and conducted in cooperation with the European Union's In-Service Aircraft for a Global Observing System project and China Airlines 中華航空公司 and Evergreen Marine Corp. 長榮海運, both of Taiwan.

Set to run for 20 years, the PGGM project provides scientists with hard data gathered by cargo ships, passenger airlines and Taiwan's FORMOSAT-3 福爾摩沙衛星三號 satellite constellation on global warming and ozone layer depletion in the region. In July 2009, an Evergreen Marine container ship completed its first data-collecting mission, sailing from Taipei to the Persian Gulf. China Airlines is scheduled to carry out its first PGGM flight in 2011.

GHG Emissions Reduction

Driven by a booming economy and modern lifestyles, Taiwan's GHG emissions grew 122 percent from 1990 to 2008, though the pace of growth has slowed significantly since the beginning of the 21st century. In 2008, likely because of the global economic downturn, GHG emissions from fuel combustion dropped by 4.4 percent, the first negative growth measured in two decades. Out of

Carbon Labels to Help Shoppers Save Planet

In March 2010, Taiwan followed the United Kingdom, Sweden, Switzerland and Japan in launching a carbon-labeling program. The system currently applies to PET (polyethylene terephthalate)-bottled beverages, candles, compact discs and cookies. The carbon labels illustrate the amount of GHG emissions created throughout the life cycle of a product, from manufacturing and packaging to distribution and disposal.

The EPA introduced the program in the hope that such information will, in the vein of nutrition labels, influence people when making purchasing decisions. Businesses wishing to apply for carbon footprint labels can submit their applications online at <http://cfp.epa.gov.tw>. Product claims are reviewed by a panel of experts commissioned by the EPA.

This labeling system is expected to increase Taiwan's trade opportunities as more international corporations attach importance to making their products greener. Hewlett-Packard Co., a major partner of Taiwan's electronics industry, for example, has required over 70 percent of its first-tier suppliers to disclose their products' carbon footprints.

the 289.8 million tonnes (metric tons) of GHGs produced that year, carbon dioxide (CO₂) alone accounted for 89 percent (257 million tonnes), while the rest was composed of methane, nitrous oxide, HFCs (hydrofluorocarbons), PFCs (perfluorocarbons) and sulfur hexafluoride. And as Taiwan suffered its lowest-ever economic growth rate of negative 1.87 percent in 2009, its GHG emissions levels fell 5 percent.

Although the ROC is not a signatory to the Kyoto Protocol due to its exclusion from the United Nations, it is committed to cutting GHG emissions. Based on the principle of "common but differentiated responsibilities" adopted in the U.N. Framework Convention on Climate Change, the Framework of Taiwan's Sustainable Energy Policy 永續能源政策綱領 approved by the Executive Yuan in June 2008 outlines a reduction of GHG emissions to 2005 levels by 2020, and to 2000 levels by 2025.

Similarly, though not a signatory to the Montreal Protocol, Taiwan has striven to control the use of ozone-depleting substances (ODS). The Environmental Protection Administration (EPA) 行政院環境保護署 has invited international agencies every year since 1993 to verify

the volume of Taiwan's production, import and export of ODS, and has voluntarily submitted this data to the Ozone Secretariat of the U.N. Environment Program. The nation has phased out the use of various types of ODS since 1994, including halons, CFCs (chlorofluorocarbons) and methyl bromide, and is eliminating HCFCs (hydrochlorofluorocarbons) in compliance with the protocol's phase-out schedules.

Energy Sustainability

Supply and Demand

Taiwan's energy supply increased from 52.9 million kiloliters of oil equivalent in 1989 to 138.1 million kiloliters in 2009, representing average annual growth of 4.9 percent. Fossil fuels—oil, coal and natural gas—constituted over 90 percent of all energy supplies in 2009, while nuclear power contributed 8.7 percent, and hydro, geothermal, solar and wind power together accounted for 0.5 percent.

On the demand side, at an average growth rate of 4.37 percent per annum between 1989 and 2009, annual domestic energy consumption has more than doubled from 48.0 million kiloliters of

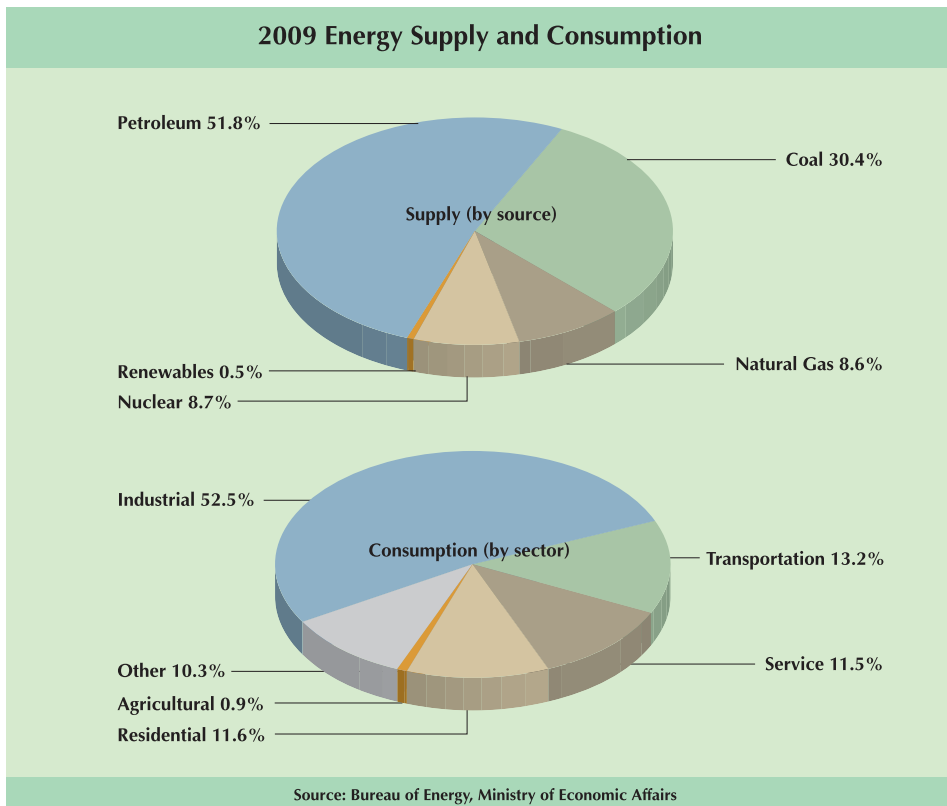
oil equivalent to 113.1 million kiloliters. The industrial sector remains the biggest user, consuming 52.5 percent of the total in 2009, followed by transportation at 13.2 percent, residential at 11.6 percent and the service sector at 11.5 percent. Agriculture consumed just 0.9 percent of the total.

Renewable Energy

Taiwan relies on imports for energy resources. In 1990, 95.84 percent of the nation's energy resources were imported, an amount that rose to 99.34 percent in 2008. To remedy this situation, the government is working to raise energy efficiency and to expand the role of renewable resources in Taiwan's energy portfolio. The following are the major targets laid

out in the Framework of Taiwan's Sustainable Energy Policy: (1) energy efficiency is to be improved by more than 2 percent per annum, and by 2015, energy intensity should be 20 percent greater than 2005 levels; (2) by 2025, carbon-free renewables should be the source for at least 8 percent and low-carbon natural gas for at least 25 percent of Taiwan's total electricity supply; (3) nuclear power, as the most readily available source of low-carbon energy at present, should be reconsidered as a viable option.

The passage of the Renewable Energy Development Act 再生能源發展條例 in June 2009 reaffirmed the government's determination to promote sustainable energy. The act has set a target of increasing the island's renewable power generation



capacity to between 6,500 and 10,000 megawatts within 20 years. For 2010 alone, US\$1.37 billion was allotted to bolster the green energy industry. Related measures adopted by the Ministry of Economic Affairs (MOEA) include providing subsidies for the installation of renewable energy generating facilities, and supporting producers of renewable energy by raising the mandatory purchase price for the electricity they sell.

Solar Power

Taiwan is at the forefront of the production of photovoltaic cells, which convert sunlight into electricity. With over 100 companies engaged in the pursuit of better harnessing the sun's power, the nation has become a major exporter of the cells. In 2009, Taiwan's global market share grew 5 percentage points to 17 percent, making it the third-largest producer of solar cells globally, after the United States and mainland China.

Taiwan also has one of the highest installation rates of solar water heaters thanks in part to government subsidies. In January 2009, the Bureau of Energy (BOE) 能源局 under the MOEA bumped up subsidies for installing solar water heaters from US\$45 to US\$68 per square meter of solar panel. As of February 2009, around 465,000 households—6 percent of the nation's total—had installed over 1.9 million square meters. Official estimates suggest that by 2012 around 570,000 households will have installed a total of 2.29 million square meters of solar panels.

As of December 2009, 497 solar power systems with a combined capacity of 6.4 megawatts had been installed on structures around Taiwan. Among these is the stadium that hosted the 2009 World Games in the southern city of Kaohsiung 高雄市. The 100,000 Solar Rooftops Program 十萬戶陽光屋頂計畫 launched in late 2009 aims to further capitalize on

Taiwan's ample sunshine and warm climate, while giving a boost to the photovoltaic industry. By 2012 when the first phase of the program concludes, at least 20,000 buildings will have been equipped with solar cells, generating 72,000 megawatt-hours of electricity annually.

In December 2009, Taiwan took a big stride toward energy sustainability by opening Asia's largest, and the world's second largest, high-concentration photovoltaic (HCPV) solar power plant in Kaohsiung County 高雄縣. Designed by the Cabinet-level Atomic Energy Council 行政院原子能委員會, the plant's 141 large solar cells have a combined annual capacity of 1 megawatt. Yet this structure soon will be dwarfed by a similar system. Also in sunbathed Kaohsiung County, a 4.6-megawatt solar power plant comprising 4,600 photovoltaic panels is being built by the state-run Taiwan Power Co. 臺灣電力公司. The inauguration of the plant in summer 2011 will nearly double the nation's installed solar capacity.

Wind Power

About 200 sets of wind turbines have been installed by the government and private firms on the west coast of Taiwan and the Penghu Islands 澎湖群島, areas seen as "gold mines" for wind. Data compiled by the Global Wind Energy Council shows that, in 2009, Taiwan's installed wind power capacity grew by 78 megawatts over the previous year to 436 megawatts, the fourth-highest in Asia.

To stimulate growth in wind power supply and spur investment in the field, the mandatory purchase price for wind-produced electricity was raised by 19 percent from 6.05 to 7.20 U.S. cents per kilowatt-hour in 2009, and the guaranteed trading period—in which utility companies are obligated to purchase electricity from these producers—was extended from 15 to 20 years.

Biofuels

Around the world, nations are turning to biofuels produced from plant materials as renewable alternatives to fossil fuels. Among the wide variety of biofuels used around the world, Taiwan is focusing on biodiesel and bioethanol.

Since 2007, all of Kaohsiung City's public buses have been required to run on a domestically produced biodiesel blend known as "B5," which is composed of 5 percent biodiesel and 95 percent gasoline. Kaohsiung is the second city in Asia to have introduced such a measure, after Kyoto, Japan.

In July 2008, Taiwan became the first country in Asia to require all diesel vehicles to use "B1"—a 1-percent biodiesel blend. According to the BOE, the use of this fuel will lower diesel consumption by 3.85 million liters a year and GHG emissions by 126,000 tonnes. In June 2010, the BOE raised the bar again by doubling the percentage of biodiesel, making "B2" the standard fuel for all diesel-powered vehicles. It estimates that this plan will boost the consumption of biodiesel in

Taiwan from 40 million liters to 100 million liters annually. It is particularly noteworthy that most biodiesel consumed in Taiwan is produced from waste cooking oil or agricultural waste (such as rice straw) rather than from cultivated maize or sugarcane and, hence, does not threaten food security.

With respect to the development of bioethanol, the Council for Economic Planning and Development 行政院經濟建設委員會 has announced that by 2011, a 3-percent ethanol-blended gasoline ("E3") will be available nationwide. Expanded use of this fuel, enabled by an increasing number of E3 fueling pumps around Taiwan, is expected to lower CO₂ emissions by 210,000 tonnes per year.

Pollution Control and Prevention

Air Quality

The Air Pollution Control Act 空氣污染防制法 empowers various levels of government to set air quality standards



Taiwan's major cities hold car-free days annually to promote cycling and other forms of "green" transport.

High-tech Industries Go Green

Taiwan has long been one of the world's major producers of semiconductors and thin-film-transistor liquid-crystal displays (TFT-LCD). Now it is leading the way in cutting greenhouse gases emitted in the production of such products. The EPA signed memorandums with the Taiwan TFT LCD Association 台灣薄膜電晶體液晶顯示器產業協會 in 2004 and with the Taiwan Semiconductor Industry Association (TSIA) 台灣半導體產業協會 in 2005 to cooperate on reducing emissions of PFCs, which have a 7,400- to 22,800-times more powerful greenhouse effect than CO₂.

Since these memorandums came into effect, the EPA has been working with the two industries on installing end-of-pipe treatment equipment and improving energy efficiency. The TSIA has pledged to lower PFC emissions in 2010 to 1998 levels, even as industry output has increased by 15 percent annually. For flat-panel producers, PFC emissions levels had been cut by 70 percent by the end of 2008, and PFC removal systems had been installed on over 80 percent of the industry's emission sources, compared with 70 percent in Japan and 10 percent in South Korea.

and establish monitoring stations. Currently, Taiwan's air quality is monitored by a national network that comprises 76 stationary and five mobile monitoring stations supported by one air-quality-assurance laboratory. Eight photochemical monitoring stations assess ozone precursors in metropolitan areas across the country, playing an important role in atmospheric research and health risk assessments. According to EPA data, "poor air-quality" days (when the pollutant standards index recorded by monitoring stations exceeds 100) for 2009 accounted for only 2.87 percent of all days—the lowest figure recorded since 1994. Current air quality in Taiwan and next-day forecasts are issued daily on the EPA's website.

Greening Cities

The EPA's Clean Air Zone 空氣品質淨化區 program works to green urban spaces so as to improve air quality and sequester carbon. From 1996 to the end of 2009, trees were planted on nearly 1,700 hectares, while over 280 kilometers of bicycle paths were laid down. It is estimated that the trees planted have removed around 18,200 tonnes of ozone, over 900 tonnes

of airborne particulates and nearly 42,000 tonnes of CO₂ from the atmosphere each year. The EPA will continue to create green urban spaces by planting 30 hectares of trees annually and completing an island-wide bike-path network that will encourage a switch from carbon-emitting transport to cycling (see also Chapter 19, "Sports").

Reducing Vehicular Emissions

A number of measures are being taken to reduce air pollution caused by motor vehicles having excessive emissions, including routine exhaust inspections and spot checks of motor scooters and diesel vehicles. Government agencies also offer incentives for the purchase of vehicles with low emissions. Commodity taxes on hybrid electric vehicles were reduced by half in February 2009. Meanwhile, cars that run on liquefied petroleum gas (LPG) are becoming increasingly popular, and people buying such cars or converting a car to use LPG as fuel are eligible for a subsidy of US\$756. By July 2009, 37 LPG stations had been set up around Taiwan, with another 59 under construction.

Pollution Control Fees

Since its implementation in 1995, the Air Pollution Control (APC) fee 空氣污染防制費 system has led to marked improvements in Taiwan's air quality. The EPA levies APC fees on both stationary sources of pollution, such as factories and construction sites, as well as mobile sources, such as motor vehicles. Under this scheme, a fee is levied for the release of a variety of pollutants, including volatile organic compounds, nitrogen oxides and sulfur oxides.

Ocean and River Water

With maritime traffic especially busy in the waters around Taiwan, the Marine Pollution Control Act 海洋污染防治法 and the Marine Oil Pollution Emergency Response Plans 重大海洋油污染緊急應變計畫 provide an important framework for government efforts to deal with and prevent marine pollution.

Industrial effluent and wastewater from livestock farms account for a large part of the pollutants in Taiwan's rivers. Urban communities are also major contributors, particularly where they lack comprehensive sewage and wastewater-treatment systems. One of the targets of the *i*-Taiwan 12 Projects 愛臺十二建設 (see Chapter 8, "Economy") implemented in 2008 is to develop more efficient sewage systems nationwide.

Meanwhile, progress continues to be made in river restoration. Within a few years, for example, a program by the Kaohsiung City government transformed the once highly polluted Love River 愛河 into a clean and attractive leisure area that features a plethora of activities, ranging from boating and biking to dining and shopping. Today, Taiwan's rivers, reservoirs, groundwater and surrounding waters are closely monitored by a comprehensive network of over 1,000 sampling stations. By 2009, river segments considered

seriously polluted had fallen to 5.9 percent of the total from 13.2 percent in 2001.

Noise Control

The dense concentration of residential and commercial buildings in Taiwan's cities makes noise a common subject of public-nuisance complaints. The Noise Control Act 噪音管制法 authorizes local governments to maintain tranquility by designating noise-control areas where certain activities are prohibited at specific times.

In December 2008, a revision to the Noise Control Act was promulgated that defines maximum noise levels for highways, freeways, railways, mass transit systems and airports. Whenever noise exceeds these levels, the relevant managing authorities or operators are now legally bound to submit and implement a compensation or noise-reduction plan.

Recycling and Waste Management

The people of Taiwan have made a great deal of progress in reducing waste and expanding recycling programs. While in 1997 the amount of garbage per capita reached a historical high of 1.14 kilograms per day, by the end of 2009 that number had been slashed 56 percent to 0.5 kilogram. And whereas about 60 percent of people sorted and discarded their refuse properly in 1989, almost 100 percent of people did so in 2009. Moreover, Taiwan's overall recycling rate reached 45.49 percent in 2009, higher than the rate for the United States, the United Kingdom, France and other industrialized nations. Separation of recyclable materials is mandatory, and pick-up services are provided at least twice a week. Trash collectors separate waste into over 30 categories.

The EPA's Green Mark Program 環保標章計畫 launched in 1992 has proven an



Dubbed the "EcoARK," this is the world's first exhibition hall with walls made entirely from recycled plastic bottles. The three-story structure, containing an amphitheater, museum space and an eco-friendly air conditioning system, is set to be used at the 2010 Taipei International Flora Expo.

effective means of promoting recycling, reducing pollution and conserving resources. Consumers are encouraged to purchase items bearing the Green Mark logo, which denotes recyclability or a lower environmental impact compared with other similar products. As of May 2010, around 5,500 products carried the Green Mark.

The following are a few highlights of Taiwan's successes in promoting recycling:

- Promotion of food waste recycling over the years has been highly successful, with the amount recycled per day rising from 80 tonnes in 2001 to just under 2,000 tonnes in 2009. About 75 percent of food waste is steam-treated for use as pig feed, and the rest is composted.
- Taiwan's battery recycling rate has been above 45 percent since 2007. This is one of the highest rates in the world, and outpaces even the EU, which has set a goal for battery recycling of 45 percent by 2016.
- Despite a sharp rise in the volume of electronic waste in recent years, the recycling rate of such products has edged its way beyond the 50-percent mark,

well above the world average of 15 to 30 percent. In 2009, 362 tonnes of mobile phones, around 880,000 laptop and desktop computers, and 820,000 monitors were recycled. From these, technicians reassembled thousands of working computers for social welfare groups and students living in remote areas.

- Bulk waste, which includes old furniture, bicycles and garden clippings, is collected by appointment. In 2009, about 405 tonnes of bulk waste was collected every day. Many reconditioned furniture pieces and bicycles are auctioned or donated to low-income households. Where reconditioning is not possible, various materials can usually be recovered. Wooden furniture, for example, is turned into woodchips which are burned, composted or used to cover pathways.

Municipal Solid Waste

Incineration is the primary means for treating municipal solid waste, while disposal in landfills is employed as an auxiliary method. Currently, Taiwan has

24 incinerators, all of which are the waste-to-energy type, whereby heat generated from burning garbage is converted into electricity. In 2009, 6.29 million tonnes of waste were burned, producing around 2,920 megawatt-hours of electricity.

Industrial Waste

Industrial waste is produced primarily by factories, hospitals and businesses. Under the Waste Disposal Act 廢棄物清理法, manufacturers must assume responsibility for their waste or face fines. Those whose dumping of hazardous waste results in loss of life can be sentenced to life imprisonment. To prevent illegal dumping, the EPA has initiated a program employing GPS to track vehicles that transport hazardous waste.

Toxic Chemical Substances

EPA officials regularly take part in technical conferences related to the Stockholm Convention on Persistent Organic Pollutants (POPs). In accordance with the convention, Taiwan has enacted the Environmental Agents Control Act 環境用藥管理法 and the Toxic Chemical Substances Control Act 毒性化學物質管理法. The former prohibits the use of POPs, while the latter limits the production, sale, use, import and export of 259 toxic chemicals. Companies dealing with such chemicals must obtain permits from the EPA and are required to keep records of the amounts they have handled and discharged.

Ecological Conservation

Forestation

The Council of Agriculture (COA) 行政院農業委員會 announced in February 2009 that, over the next eight years, it would plant trees on 60,000 hectares of lowlands. Under this forestation program—one of

the *i*-Taiwan 12 Projects—the COA will provide a subsidy of US\$3,700 per year for every hectare of land reforested. In another initiative under the same plan, it will develop three forest recreation areas in Chiayi 嘉義, Hualien 花蓮 and Pingtung 屏東 counties.

Over half of Taiwan—mostly mountainous and hilly regions—is covered by forest, and nine reserves comprising over 21,700 hectares of natural forest have been set up to protect this important part of Taiwan’s heritage. The COA’s Forestry Bureau 林務局 conducts regular surveys of the reserves to monitor ecosystems, including rare plant and animal species.

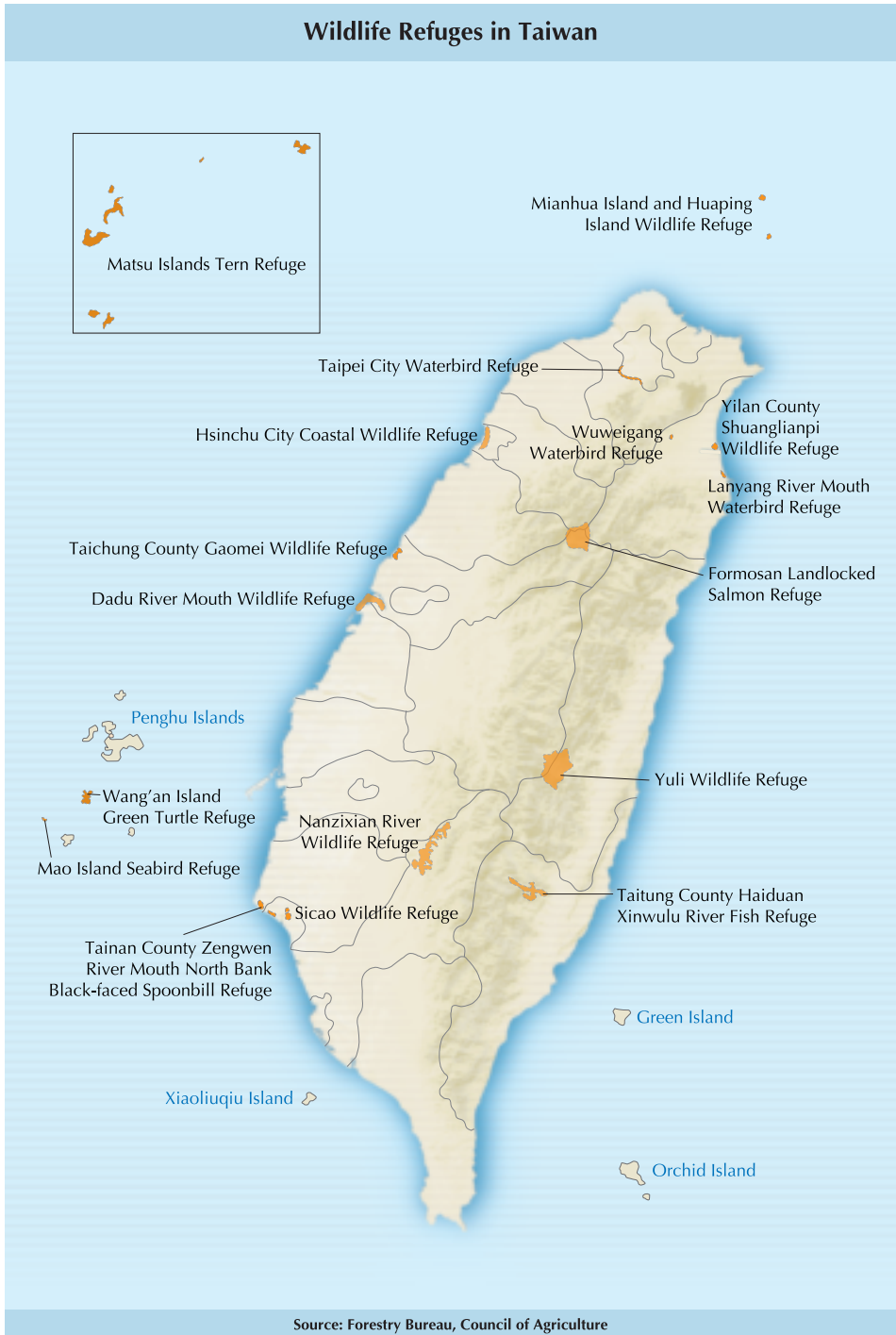
Wildlife Protection

Taiwan’s diverse topography has endowed it with a full range of climatic zones that allow an extraordinary profusion of flora and fauna to thrive. In all, Taiwan is home to approximately 50,000 different life forms, of which around 30 percent are endemic (see Chapter 1, “Geography”). To help ensure ecosystems remain as intact as possible, the government has set aside about 20 percent of the nation’s land area in eight national parks, 20 nature reserves, nine forest reserves, as well as 17 wildlife refuges and 34 major wildlife habitats (see Chapter 18, “Tourism,” for details on national parks). The protection of species diversity is also governed by the Wildlife Conservation Act 野生動物保育法.

A Conservation Ethic Emerges

In adopting green lifestyles, the people of Taiwan are collectively one of the main forces behind the nation’s environmental achievements. At the same time, efforts on various fronts are heightening environmental awareness. The EPA carries out educational projects in collaboration with schools at all levels. It also works with the media to promote environmental

Wildlife Refuges in Taiwan



Transition Afoot for Environment Agency

Economic success since the 1970s has made Taiwan the envy of the world, but this has not come without a price. The consumption of immense quantities of coal and other fossil fuels to sustain economic growth and modern lifestyles resulted in large volumes of waste as well as a deteriorating ecosystem.

The establishment of the Cabinet-level Environmental Protection Administration in 1987 to oversee all environment-related work marked the commencement of a drive to preserve Taiwan's natural heritage. In the 22 years since, the agency has played a significant role in safeguarding the nation's ecosystem and improving people's quality of life.

Environmental sustainability concerns not just environmental monitoring, pollution control and prevention, but also new challenges such as climate change, disaster prevention and land use planning. In view of these trends, a new ministry of the environment is set to begin operations in 2012 to take on this complex task. As one of the new ministries under the Executive Yuan, the organ will be responsible for affairs involving forestry, conservation areas, natural resources, geology, landscape protection, wildlife conservation, and weather observation and forecasting.

protection through programs and films, and publishes a range of books and pamphlets. In addition, the COA sponsors international symposia and publicity campaigns, while the Ministry of Education trains teachers to educate children on wildlife conservation. Private conservation groups also play a key role in raising environmental awareness and providing conservation training, often by working directly with local communities.

In a movement initiated by the private organization Society of Wilderness 荒野保護協會 in 2005, Lights Out Day has been held annually on the first day of summer. For this event, individuals and organizations are encouraged to turn off their lights as a reminder to reduce pollution throughout the year. On March 27, 2010, Taiwan joined 128 countries and territories for the Earth Hour event organized by the World Wildlife Fund. Central and local government buildings, high-speed rail stations, Taipei 101 and other landmark structures, numerous businesses, communities and individuals around the island switched off their lights for this event.

On May 18, 2010, following in the footsteps of the United States, Japan,

South Korea and Brazil, the ROC Legislature passed the Environmental Education Act 環境教育法, writing environmental education into law. Under this statute, those who work in the public sector, as well as faculty and students at primary and secondary schools, must receive at least four hours of environmental education every year. Courses can take the form of lectures, symposiums, online classes, outdoor activities, field studies or experiments. It is now mandatory for institutions specified in the law to arrange such events for their staff or students, whereas central and local governments are required to establish funds to promote environmental education.

Across the nation, environmental volunteers are among the most active social workers, conducting activities from patrolling rivers and recycling trash to restoring wetlands and planting trees. Tainan County 臺南縣 is purported to have the largest number of environmental volunteers among the nation's counties and cities. About 370 squads formed by 15,000 local residents monitor rivers, patrol preserved land, promote water and energy conservation, and clean up their neighborhoods.

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