

Quy Nhon, Viet Nam



City overview

Population	
300,000 (2012)	
Total waste generated per day	Waste generated per capita per day
216 tonnes	0.7 kg
Waste-to-resource facility established	2007
Capacity of waste-to-resource facility	2 tonnes
Operator	City Environment Company (CITENCO)
Local partners	
Municipal People's Committee, Provincial People's Committee, Environment and Development in Action Vietnam	

Source: ESCAP and ENDA Vietnam.

Introduction

Quy Nhon is a port city and the capital of Viet Nam's Binh Dinh Province. Its economy has historically revolved around agriculture and fishing. Tourism, industry and shipping have become more important in recent time. Tourism in particular, driven by the allure of the beaches, lakes, mountains and historic monuments, is a growing source of revenue and a motivation for municipal cleanliness and attractiveness.

Rapid population growth, rising incomes and changes in consumption patterns have led to issues of solid waste management. In 2009, the provincial government approved a master plan for solid waste management for the city. This included a number of strategies, policies and initiatives for improving solid waste management in Quy Nhon based predominantly on the 3R principles. The city has a large-scale sanitary landfill and compost facility.

In 2012, around 216 tonnes of waste were generated in the city, of which 71 per cent was organic. The City Environment Company (CITENCO), an agency owned by the Binh Dinh provincial government, manages the collection of waste. Although CITENCO charges a collection fee, it covers only 31 per cent of operational costs; the rest is subsidized by the municipal authority. Informal waste pickers complement formal waste collection by gathering plastic bottles and carton boxes to sell to junk shops. There are approximately 200 waste pickers in the city, 98 per cent of whom are women, with an additional 60 waste pickers at the city's landfill. Waste pickers earn an average monthly income of \$50–\$100.



Promoting the IRRC model in Quy Nhon

The first waste-to-resource initiative was piloted in Quy Nhon in 2007, when a 2-tonne IRRC was built with funding from ESCAP on land provided by the municipal government. The facility was built in Nhon Phu ward, on the outskirts of Quy Nhon city, using designs provided by Waste Concern. Since its construction, it has been under the management of an assigned agricultural cooperative group in Nhon Phu ward. In 2011 and with funds again from ESCAP, the facility was upgraded to better withstand the frequent storms to which the coast is subjected and to thus improve its overall waste-sorting and compost-production capacity.

Throughout this process, Environment and Development in Action (ENDA) Vietnam, an NGO, has been providing technical assistance to facility operators, local government officers and communities. These have included study tours to Sri Lanka and Bangladesh and training workshops on waste separation at source, communication and outreach, project monitoring and management.

Along with operating the Nhon Phu facility, the community group also undertakes waste collection. Their service provides the facility with essential revenue to offset its operational expenses. In December 2013, thanks to strong compost sales and collection fees, the facility's financial operation broken even. Since then, financial sustainability has been maintained through several important interventions founded on strong partnership between the community management team, ENDA and the municipal government. These have included:

- The municipal government requiring CITENCO to transport, free of charge, a minimum of 21 tonnes of rejected waste per month from the IRRC to the landfill site.
- The municipal government negotiating, on behalf of the IRRC, to obtain waste collection contracts with local establishments, such as hospitals and an educational facility.
- The municipal government, ENDA and the community management team establishing a revolving fund to provide transportation allowances to local communicators to offset their outreach-related expenses.

In addition, the municipal government and ENDA have worked closely with communities to distribute communication materials, including banners and brochures, establish a 'recycling day' each year and conduct a range of other communication activities to improve the awareness of families, businesses and other stakeholders on waste separation at source.

Results and impact

As of 2015, the Nhon Phu IRRC processed around 1.2 tonnes of waste per day, of which it extracted around 300 kg of organic waste per day. From this, the facility produced around 1 tonne of compost per month, which it sold for around VND1.2 million (\$53) per tonne.

The success of the Nhon Phu waste-to-resource facility has led to direct changes in the operation of the Long My Sanitary Landfill and Composting Facility, a 250-tonne-per-day-capacity facility owned and operated by the municipal government. Over 2013–2015, the municipal government began expanding waste separation at source programmes that were originally developed and piloted for the Nhon Phu facility. As a result, the volume of organic waste being treated in the plant expanded from 20 tonnes per day to 34 tonnes per day in only six months. By expanding into two additional wards over 2015, and with future expansions planned, the city intends to gradually take waste separation at source citywide to support the Long My facility.

Waste separation at source is now practised by 30 per cent of households and 75 per cent of non-households in Nhon Phu. As the municipality expands the waste separation programmes into new wards, this percentage will increase. Good results have been achieved due to the training and communication efforts targeting local communities, markets and shops as well as the impact of incentive for separation: among participating wards, if waste is not separated at source, CITENCO will not collect it. This incentive has greatly accelerated community action and participation in waste separation. Community engagement remains central to the success of the Quy Nhon project.

