

Construction of water-supply pipes and sewers

A. Construction of rainfall drainage system development

By the end of 2017, 5,022 kilometers of the target length of 6,813 in the project of rainfall drainage system construction project in the urban development has completed. If the implementation rate is calculated with the ratio of actual implemented length occupied in the target length, the implementation rate for the rainfall drainage system construction in Taiwan reached 73.7% in 2017. In which, the highest rate is 96.7% in Taipei city, followed by 94.5% in Penghu County, 86.1% in New Taipei City, 79.4% in Yunlin County, 76.3% in Chiayi City, 75.0% in Kaohsiung City, 73.9% in both Taichung City and Hsinchu County, 73.5% in Nantou County and 71.5% in Taoyuan City. The ratio in all other counties and cities is less than 70%, needed to be improved in construction.

B. Sewage sewer construction

Sewage sewers are sewers for family and industrial sewage. The whole sewage treatment rate includes public sewage sewer available rate, special sewage sewer available rate and the implementation rate of building sewage systems. Sewage sewer construction is regarded as an important index for the urban modernization. In World Competitiveness Yearbook reported by International Institute for Management Development · Lausanne (IMD) public sewage sewer available rate was listed in life quality as one of the evaluation items. The government also treats it as the performance index of sewage sewer construction.

(1) Sewage treatment rate

In recent years, the impact of declining birthrate and other environmental changes factors, which led to an annual decreasing of the average number of persons per household. By the end of 2014, nationwide, the average number of persons per household is only 2.80 persons, according to Interior Ministry data indicates. while "Public sewerage sewer available rate" and "sewage treatment rate" two indicators, formerly calculation of the average number of persons per household was "a household of 4 persons", while still using the "a household of 4 people" to estimate these two indicators have been unrealistic, about the "fifth sewerage sewer construction project (104--109 year)", have been approved by the Executive Yuan, on September 10, 2014, the project amend calculation of two indicators,

which are "public sewerage sewer available rate" and "sewage treatment rate" , originally set up to "households" as the statistical unit modified to "population." That is: $(\text{Actual service population}) \div (\text{Total population}) = (\text{Actual service households} \times \text{The average number of persons per household}) \div (\text{Total population})$, the above formula, using current national (the average number of persons per household) ,computing national "public sewerage sewer available rate " and "sewage treatment rate," this two indicators, using current the county (city) (the average number of persons per household) , computing the county (city) "public sewerage sewer available rate " and "sewage treatment rate," this two indicators.

By the end of 2017, the number of sewage treatment units of the country was 4,822,698 and the sewage treatment rate was 55.86% which increases 2.51% in comparison with 53.35% in 2016. The unit number of public sewage sewer was 2,759,652 (31.96% available rate) which increases 2.01% in comparison with 29.95% in 2016; 893,554 units (10.35% available rate) of special sewage sewer (in the scale of 100 units / 500 people or more in the communities and industrial districts) which increases 0.06% in comparison with 10.29% in 2016 and units with the implementation of building sewage systems are 1,169,492 (13.54% implementation rate) which increases 0.42% in comparison with 13.12% in 2016. In terms of the sewage treatment rate, New Taipei City is the highest (82.39%), followed by Taipei City (81.81%), Lienchiang County (78.57%), Hsinchu County (64.99%), Keelung City (64.14%), Kaohsiung City (60.36%), and Hsinchu City (56.25%), Taoyuan City (54.66%); other counties and cities are not over 50%. The CMY was 1,165,184,000 tons, which decreased 13.3% compared with that in 2016. In which, the CMY in New Taipei City (382,750,000 tones) is the highest, followed by Taipei City (306,140,000 tones) and Kaohsiung City (280,930,000 tones).

(2) Expense of sewage sewer construction

The sewage sewer is urban public construction. The construction period is long and the investment is large. Therefore, the government must invest more than 10 billions in it every year. The construction expense comes from the government and the folk. As for the part of the government, the expense will be processed from the public budget planned by central government and local government.

The total expense of sewage sewer construction was 15,071,956,000 dollars in 2017, indicating an increase ratio of 24.2% and budget decrement of 2,935,422,000 dollars over the previous year (2016); the highest expense was 14,335,671,000 dollars (95.1%) of construction expense, followed by 566,484,000 dollars (3.8%) of planning design expense and 169,801,000 dollars (1.1%) of land expense. In terms of geological location, the expense of New Taipei City , 2,952,208,000 dollars, was the highest, and was followed by 2,910,066,000 dollars for Taichung City, and 2,301,003,000 dollars for Taipei City.

(3) Sewage sewer system management fee and income

The sewage sewer system management fee in 2017 was 3,169,424,000 dollars which increases 1.0% (3,137,142,000 dollars) in comparison with previous year (2016); the highest expense was 920,941,000 dollars (29.1%) of The power rate fee, followed by 811,355,000 dollars (25.6%) for Personnel fee, and 211,535,000 dollars of Maintain fee (6.7%).

As to the usage fee, some counties and cities have not finished the self-government ordinances in charges of sewage usage. In considering the low piping coverage of sewage, only Taipei City and Kaohsiung City charge to the users. Taichung City, Taoyuan City, Chiayi County, Pingtung County, Keelung City and Hsinchu City charge to the users in Industry Park, only. Other counties and cities do not charge for it. The usage fee in 2017 was 1,661,987,000 dollars which decreased 9.5% compared with that in 2016.

(4) Sewage sewer pipes and facilities

The constructed length of sewage sewer pipe diameter 600mm or above was 1,136,148 meters till the end of 2017. The constructed length of pipe diameter 300mm–600mm was 3,041,690 meters. The constructed length of sewage sewer pipe diameter below 300mm was 5,887,962 meters. In terms of sewage treatment facilities, the constructed wastewater treatment plants was 96 till the end of 2017. The constructed pumping stations were 255.