

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

FIFTEENTH CONGRESS
First Regular Session

House Bill No. 4290

Introduced by Representatives
DIOSDADO MACAPAGAL ARROYO and GLORIA MACAPAGAL ARROYO

AN ACT
ESTABLISHING A COMPREHENSIVE PROGRAM FOR THE PROMOTION OF
WATERLESS TECHNOLOGIES TO CONSERVE PRECIOUS WATER
RESOURCES, PROVIDING ENABLING MECHANISMS FOR TECHNOLOGY
TRANSFER, APPROPRIATING FUNDS THEREFOR AND FOR OTHER
PURPOSES

EXPLANATORY NOTE

Article 14, Section 10 of the 1987 Constitution provides that ***"Science and technology are essential for national development and progress."*** As such, the State shall give priority to research and development and their utilization for the improvement of the lives and welfare of the general public.

Furthermore, Article II, Section 16 provides that ***"The State shall protect and advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature."***

With these provisions of the Constitution in mind, it is imperative that we conserve our precious potable water resource. Based on scientific studies, about 97.5% of all water on earth is salt water, leaving only 2.5% as fresh water. Of these available 2.5% freshwater, nearly 70% is frozen in the icecaps of Antarctica and Greenland while most of the remaining fresh water is present as soil moisture, or lies in deep underground aquifers as groundwater not accessible to human use.

As such, less than 1% of the world's fresh water is accessible for direct human consumption and utilization. This is the water found in our lakes, rivers, reservoirs and those underground sources that are shallow enough to be tapped

at an affordable cost. Only this amount is regularly renewed by rain and snowfall and is therefore available on a sustainable basis.

More than a billion people, almost one-fifth of the world's population, lack access to safe drinking water, and 40 percent lack access to basic sanitation based on a World Bank report. As a result, water shortage is becoming a perennial problem in our country with the growing scarcity of potable water in urban centers as well as rural areas. As human population increases, the difficulty of providing an adequate supply of clean water will become even more acute.

Ironically, despite the obvious problem of scarce water resources all over the world, billions of liters of precious drinking water are wasted in the flushing of urinals and cleaning our restrooms yearly. Research findings indicate that at the average, one (1) urinal can consume over 100,000 liters of water every year. Each time we flush our urinals, about 6 to 12 liters of water is used. The average commercial urinal flushes about 50 times per day which equates to more than 100,000 liters of precious water that is wasted every year.

Interestingly, available waterless technologies in the market can help consumers save an average of 40,000 gallons of water per year with just one urinal.

In waterless urinal technologies, urine flows down the bowl of the urinal past a debris-catching strainer. The urine then passes through a sealing liquid, usually a specially designed oil-based fluid or simply vegetable oil, and collects in the waste pipe below. The different densities of urine and oil mean that the urine sinks through the sealing liquid and the oil floats on top of the layer of urine below. Any air bubbles rise to the top and escape leaving the urine in a relatively low oxygen environment. Odor is therefore trapped below the oil layer and cannot find the nose of bathroom occupants.

This proposed measure seeks to promote research and development (R&D) on the utilization of waterless technologies to be used in our restrooms in order to conserve our precious water resources. This bill gives emphasis on the utilization of our precious water resource which is identified as one of the critical resources affected by the global warming phenomenon. It seeks to promote the utilization of waterless urinal technologies to be used in our establishments in order to conserve our potable water and preserve our environment.

In view of the foregoing, the passage of this measure is earnestly sought.



DIOSDADO MACAPAGAL ARROYO
Second District, Camarines Sur



GLORIA MACAPAGAL ARROYO
Second District, Pampanga

Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

FIFTEENTH CONGRESS
First Regular Session

House Bill No. 4290

Introduced by Representatives
DIOSDADO MACAPAGAL ARROYO and GLORIA MACAPAGAL ARROYO

AN ACT
ESTABLISHING A COMPREHENSIVE PROGRAM FOR THE PROMOTION OF
WATERLESS TECHNOLOGIES TO CONSERVE PRECIOUS WATER
RESOURCES, PROVIDING ENABLING MECHANISMS FOR TECHNOLOGY
TRANSFER, APPROPRIATING FUNDS THEREFOR AND FOR OTHER
PURPOSES

Be it enacted by the Senate and the House of Representatives of the Philippines in Congress assembled:

SECTION 1. *Short Title.* – This Act shall be known as the “Waterless Technology Act of 2011.”

SECTION 2. *Declaration of Policy.* – It is hereby declared the policy of the State to advance the right of the people to a balanced and healthful ecology in accord with the rhythm and harmony of nature. The State shall ensure the protection, conservation and sustainability of our water resources. It shall promote the efficient use of water resources and adopt waterless technologies.

Towards this end, the State commits itself to the adoption of state-of-the-art technologies and promote the development of modern, appropriate and cost effective and environment friendly technology.

SECTION 3. *Definition of Terms.* – For purposes of this Act, the following terms are defined as follows:

(1) Department – refers to the Department of Science and Technology (DOST);

(2) Secretary – refers to the Secretary of the Department of Science and Technology (DOST);

(3) Waterless Urinal Technologies – For purposes of this Act, the term “Waterless Urinal Technologies” refer to gadgets specifically designed and formulated to neutralize and encapsulate urine odor. It works by countering and neutralizing the ammonia oxide coming from urine with its proprietary elements and at the same time releasing fragrant smell to completely eliminate any smell. Waterless urinal technologies operate with absolutely no water. In waterless urinal technologies, urine flows down the bowl of the urinal past a debris-catching strainer. The urine then passes through a sealing liquid, usually a specially designed oil based fluid or simply vegetable oil, and collects in the waste pipe below. The different densities of urine and oil mean that the urine sinks through the sealing liquid and the oil floats on top of the layer of urine below. Any air bubbles rise to the top and escape leaving the urine in a relatively low oxygen environment.

SECTION 4. *Comprehensive Research and Development (R&D) on Waterless Technology Applied in Commercial Use.* – The Department, together with the Department of Environment and Natural Resources and other concerned government agencies shall establish a research and development program that promotes the utilization and use of waterless technologies in order to conserve water resources.

The research and development program shall include the following areas of study:

- 1) Existing waterless technologies and processes available in the market that enable the efficient conservation of water resources;
- 2) Behavioral, social and economic enabling factors that promote the greater utilization of waterless technologies;
- 3) Impact of legislation on consumer behavior and utilization of waterless technologies; and
- 4) Technologies and processes likely to achieve the greatest increases in water use efficiency and conservation.

The Secretary shall support research and development (R&D) activities to expand the knowledge and understanding of waterless technology to be used commercially, including a renewed investment into advance technology research

in order to adopt state-of-the-art technologies to promote the conservation of water resources

For purposes of this Act, the Secretary is hereby mandated to conduct a comprehensive information, education and communication (IEC) campaign on the benefits of waterless technology applied in commercial use.

SECTION 5. *Promotion of Technology Transfer of Waterless Technology.* – Technology transfer shall be facilitated under this Act.

The Department is hereby mandated to undertake the following activities to promote technology transfer:

1. Facilitate the adoption of waterless technologies and processes to promote water use efficiency and conservation;
2. Collect and disseminate information on waterless technologies and processes to promote water use efficiency and conservation such as:
 - a. Incentives and impediments to development and commercialization;
 - b. Best practices in the utilization of waterless technologies; and
 - c. Anticipated increases in water use efficiency and conservation resulting from the implementation of specific technologies and processes.

SECTION 6. *Designation as "Environment-Friendly Establishment".* – The Department shall certify an establishment that utilizes waterless urinal technologies as "Environment-Friendly Establishment." An establishment that utilizes waterless technology may use the designation "Environment-Friendly Establishment" in its promotional and marketing materials. The establishment shall submit proof of compliance to the Department, which shall thereafter issue the certificate.

The Department shall maintain a list of "Environment-Friendly Establishments" and make the list available for public inspection.

SECTION 7. *Informational, Education, Communication (IEC) Materials.* – The Department, in coordination with the various local government units, is mandated to develop and formulate, produce and make available relevant information and materials to inform establishments and the general public of the benefits of utilizing waterless technologies to conserve precious water resources.

SECTION 8. *Appropriation.* – The amount necessary to carry out the provisions of this Act shall be included and incorporated in the annual general appropriations of the Department.

SECTION 9. *Implementing Rules and Regulations (IRR).* – Within six (6) months from the date of effectivity of this Act, the Department, in consultation with the Department of Environment and Natural Resources and the Department of Trade and Industry, shall promulgate the necessary implementing rules and regulations to implement the provisions of this Act.

SECTION 10. *Repealing Clause.* – All laws, decrees and executive orders inconsistent with this provisions of this Act are hereby repealed or modified accordingly.

SECTION 11. *Separability Clause.* – If any provision or part of this Act, or the application thereof to any person or circumstance, is held unconstitutional or invalid, the remainder of this Act shall not be affected thereby.

SECTION 12. *Effectivity Clause.* – This Act shall take effect fifteen (15) days from the date of its complete publication in the Official Gazette or in at least two (2) national newspapers of general circulation.

Approved,