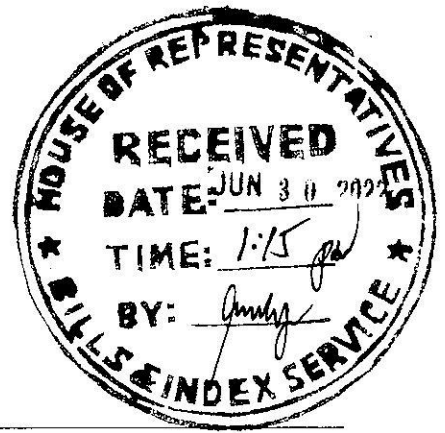


Republic of the Philippines
HOUSE OF REPRESENTATIVES
Quezon City

NINETEENTH CONGRESS
First Regular Session

House Bill No. 89



Introduced by **Hon. Robert Ace S. Barbers**

**AN ACT PROMOTING THE RESEARCH AND DEVELOPMENT OF DEUTERIUM AS A
POSSIBLE SOURCE OF ALTERNATIVE ENERGY, CREATING THE PHILIPPINE
DEUTERIUM RESEARCH AND DEVELOPMENT AUTHORITY, PROVIDING FUNDS
THEREFORE, AND FOR OTHER PURPOSES**

EXPLANATORY NOTE

Energy is becoming more expensive and the consequences of their consumption is having an impact on our environment and climate including but not limited to greenhouse gas effect. As such, many countries nowadays are investing to explore all sources of renewable energy with little or no detriment impact to the environment.

Deuterium which is an isotope of hydrogen, known as fuel for nuclear fusion reactions is said to be a game-changer in the world energy crisis. Unlike other fuel, it does not cause any harmful carbon monoxide and its emissions are nothing but water vapor or steam.

Scientific community identified the Philippines to hold the greatest deuterium deposits somewhere in the "Mindanao Trench" near Surigao Island. If this energy fuel is extracted, it could propel the Philippines as the biggest hydrogen fuel (Li-Hy) producer in an oil-depleted world economy.

With the growing concerns on energy security and global warming resulting from the use of conventional fossil fuel, it is high time that our government should build resilience to the mounting threats by developing alternative energy using deuterium.

To support the government and promote the production of clean energy using renewable energy sources, this bill seeks to establish the Philippine Deuterium Research and Development Authority which will lay the foundation for the development of deuterium in the country.

In view of the foregoing, the immediate passage of this bill is hereby requested.

HON. ROBERT ACE S. BARBERS
2nd District, Surigao del Norte

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

CHAPTER I
TITLE AND DECLARATION OF POLICY

SECTION 1. *Title.* - This Act shall be known as "*The Philippine Deuterium Research and Development Authority Act of 2022*".

SEC. 2. *Declaration of Policy.* - It is hereby declared the policy of the State to encourage the development and utilization of renewable energy sources to ensure energy security and sustainability. Towards this end, the government shall provide an avenue for the research and development of deuterium, an isotope of hydrogen, as a source of alternative energy as this chemical element has been considered as the "fuel of the future".

SEC. 3. *Definition of Terms.* - As used in this Act, the following terms shall mean as follows:

- a. **"Alternative Energy"** refers to any amount of energy derived from non-fossil fuel sources.
- b. **"Deuterium"** refers to an isotope of hydrogen that has one proton and one neutron in its nucleus and that has twice the mass of ordinary hydrogen. It is commonly known as "heavy water" and is used as fuel for nuclear fusion reactions.
- c. **"Hydrogen"** refers to a non-metallic gaseous chemical element with atomic number 1 that is the simplest and lightest of the elements. It is considered as the most abundant chemical element in the universe. It has three common isotopes, namely: protium, deuterium and tritium.
- d. **"Green Hydrogen"** refers to the by-product of hydrogen production through chemical process called electrolysis (electric current) using renewable energy sources;

- e. **“Alternative Fuel or Alternative Fuel System”** refers to the use of materials, machinery, and/or equipment to generate power using non-petroleum fuels.
- f. **“Renewable Energy Sources”** refers to those energy resources whose common characteristic is that they are non-depletable or naturally replenishable. These include solar energy, geothermal energy, wind energy, tidal energy, ocean thermal energy, hydropower and biomass etc.
- g. **“Energy security”** refers to the uninterrupted availability of energy sources at an affordable price.
- h. **“Authority”** refers to the Philippine Deuterium Research and Development Authority (PDRDA).
- i. **“Board”** refers to Board of Trustees of the PDRDA.

CHAPTER II ORGANIZATION

SEC. 4. *The Philippine Deuterium Research and Development Authority.* – There is hereby established a Philippine Deuterium Research and Development Authority, hereinafter referred to as the **“Authority”**, which shall be attached to the Department of Science and Technology (DOST) for policy and program coordination.

SEC. 5. *Purposes and Functions.* – The Authority shall exercise the following purposes and functions:

- a. To formulate and implement a comprehensive policy framework which shall be aimed at promoting the research and development of deuterium as a source of alternative energy in the country;
- b. To provide all necessary and appropriate support services in the implementation of the deuterium research policy including the facilitation of entry of foreign expertise and resources in order to accelerate the scientific information and technology transfer of local expertise on the research and development of deuterium-based power;
- c. To identify the specific geographical location in the country where large amount of deuterium deposit could be mined or extracted for purposes of research and development operations;
- d. To promote and encourage the production of green hydrogen or the production of deuterium using renewable energy sources;
- e. To institute appropriate measures to establish a monitoring and evaluation system for the deuterium research and development operation facilities that utilize public funds;
- f. To serve as the core network of foreign investments on the research and development of deuterium;
- g. To exercise control and supervision over the deuterium research and development operations that may be undertaken, under conditions to be determined by the Authority, by the departments, agencies, academe, organizations or persons conducting research and development activities with government funding;
- h. To initiate and/or encourage inventions of machineries, equipment, vehicles and the like to be powered by alternative fuel system using deuterium;

- i. To develop and implement specific policies and procedures encouraging the participation of private sector, private individuals, non-governmental organizations, academe and other interested individuals;
- j. To perform such acts as may be necessary for the effective implementation of this Act.

SEC. 6. Board of Trustees. – The administration of the Authority and the exercise of its powers are vested exclusively in its Board of Trustees which is composed of the following:

- a. Secretary of the Department of Science and Technology, as chairperson;
- b. Secretary of the Department of Energy, as vice-chairperson;
- c. Secretary of the Department of Environment and Natural Resources;
- d. President of the Philippine National Oil Company;
- e. President of the National Academy of Science and Technology;
- f. President of the National Research Council of the Philippines;
- g. President of the University of the Philippines (UP);
- h. Two (2) representatives from the UP science and technology department to be chosen by the UP President;
- i. Four (4) representatives from organizations of scientists and/or engineers engaged in research and development;
- j. Two (2) representatives from the private sector, as members.

The representatives from the private sector and from organizations of scientists and engineers engaged in research and development shall be appointed by the President of the Philippines upon the recommendation by the Secretary of Science and Technology. They shall serve for a term of five (5) years without reappointment.

In case of vacancy by reason of death, resignation, removal for cause of incapacity of the representatives from the private sector and from organizations of scientists and engineers, the successor shall hold office for the unexpired portion of the term.

SEC. 7. Powers and Functions of the Board. – The Board of Trustees shall exercise the following powers and functions:

- a. To promulgate rules and regulations not contrary to law as may be necessary to carry out the purposes and functions of the Authority;
- b. To collect, receive and maintain funds from government appropriations and from donations, grants, gifts, bequests, loans from domestic and foreign sources, and to apply them for the promotion of its aims and purposes;
- c. To own, manage and hold such real and personal property as shall be necessary for purposes of this Authority;
- d. To receive and appropriate all sums as may be provided for the support of the Authority in the manner it may determine to carry out the purposes and functions of the Authority;
- e. To receive in trust legacies, gifts and donations of real and personal properties of all kinds and administer or dispose of the same when necessary for the benefit of the Authority, subject to limitations, directions and instructions of the donor, if any.

Such donations are exempt from the donor's tax and are considered as allowable deductions from the gross income in the computation of the income tax of the donor, in accordance with the provisions of the National Internal Revenue Code, as amended: *Provided*, That such donations shall not be disposed of, transferred or sold;

- f. To authorize the construction or repair of buildings, equipment and facilities, and the purchase and acquisition of real and personal properties, including necessary supplies, materials and equipment;
- g. To appoint, upon the recommendation of the Executive Director of the Authority, the officials and employees of the Authority in accordance with the staffing pattern approved by the Board of Trustees;
- h. To fix and adjust the salaries of officials and employees subject to the provisions of the Revised Compensation and Position Classification System, as amended, and other pertinent budget and compensation laws governing hours of service, and such other duties and conditions as it may deem proper, to grant them at its discretion, leaves of absence under regulations as it may promulgate, any provision of existing law to the contrary notwithstanding and to remove them for cause in accordance with the requirements of due process;
- i. To delegate any of its powers and duties to the Executive Director or other officials of the Authority as it may deem appropriate so as to expedite the administration of the affairs of the Authority;
- j. To develop consortia and other forms of linkages with LGUs, special economic zones, institutions and agencies, both public and private, local and foreign, in furtherance of the purposes and objectives of the Authority
- k. To develop arrangements for institutional capability building with appropriate institutions and agencies, public or private, local or foreign, and appoint experts or specialists as consultants, or visiting or exchange researchers, as the case may be; and
- l. To establish policy guidelines and procedures for participative decision-making and transparency within the Authority.

SEC. 8. Board Meetings; Quorum. – The Board of Trustees shall regularly convene at least once every quarter. The Chairperson of the Board of Trustees may call a special meeting whenever necessary: *Provided*, That members are notified in writing at least three (3) days prior to the special meeting.

A majority of all members holding office constitutes quorum for board meetings. The members shall serve without compensation but they shall be reimbursed for necessary expenses incurred in their attendance of meetings of the Board of Trustees or in connection with their official business authorized by resolution of the Board of Trustees, subject to existing laws and regulations.

SEC. 9. Executive Director of the Authority; Term of Office. – The Board of Trustees shall appoint an Executive Director who shall render full time service as the chief executive of the Authority. The Executive Director shall have a term of four (4) years and is eligible for reappointment for another term.

In case of vacancy by reason of death, compulsory retirement, resignation, removal for cause or incapacity of the Executive Director to perform the functions of the office, the Board shall designate an officer-in-charge within six (6) months from the date of vacancy, pending the appointment of a new Executive Director. In case of vacancy in the office of the Executive Director, the successor shall hold office only for the unexpired portion of the term.

The salary of the Executive Director of the Authority is in accordance with the Revised Compensation and Position Classification System, as amended, and other pertinent budget and compensation laws. The salary of the Executive Director shall be equivalent to that being received by a Department Undersecretary.

SEC. 10. *Powers and Duties of the Executive Director.* – The Executive Director of the Authority shall exercise the following powers and duties:

- a. Submit for the consideration of the Board of Trustees the policies and measures necessary to carry out the purpose and objectives of the Authority.
- b. To recommend, coordinate and administer the research and development programs of the Authority;
- c. To direct and supervise the operations and internal administration of the Authority, and to delegate administrative responsibilities in accordance with the rules and regulations of the Authority;
- d. To submit an annual report to the Board of Trustees setting forth the work of the Authority during the year, its financial operations and status, and a program and budget for the ensuing year; and
- e. To exercise such other powers and to discharge such other functions as may be vested in him by the Board of Trustees.

SEC. 11. *Secretary.* – The Board of Trustees shall appoint a Secretary, who shall serve as such for both Authority and the Board of Trustees, and the Secretary shall keep all records of the Board.

CHAPTER III RESEARCH AND TECHNICAL WORKING GROUP

SEC. 12. *Research and Development Plan; Organizational and Administrative Structure.* – Within one hundred twenty (120) days after the approval of this Act, the Authority shall accomplish the following:

- a) Submit to the President of the Philippines and to both Houses of Congress a five (5) year deuterium research and development plan, including its program budget; and
- b) Set up its organizational and administrative structure including the creation of various research and technical working groups and the appointment of its

key officials and secretariat personnel in order to effectively accomplish the purposes and functions of the Authority.

The Secretary of Science and Technology shall identify available government buildings which may be utilized by the Authority initially as its head office. The Authority is also allowed to utilize other idle or available government real property to fulfill its mandate.

CHAPTER V GENERAL INCENTIVES

SEC. 13. *Incentives for Deuterium Research and Development Operations.* – All deuterium research and development facilities, as duly certified by the Board, shall be entitled to the following privileges:

a. *Tax and Duty-free Importation of Machinery, Equipment and Materials.* – Within the duration of the research and development operations, importation of machinery and equipment and materials and parts thereof, whether or not shipped with such machinery and equipment, shall not be subject to tariff duties and value-added tax: *Provided*, however, that the said machinery, equipment, materials and parts are:

1. not manufactured domestically in reasonable quantity and quality; and
2. directly and actually needed and shall be exclusively used for deuterium research and development facilities:

Provided further, prior approval of the Board is obtained before the importation of such machinery, equipment and materials; and

b. *Real Estate Tax Exemption.* – Any provision of existing Laws to the contrary notwithstanding, all lands, including easement, equipment, machinery, and other improvements actually and exclusively used for deuterium research and development operation facilities shall be exempted from the payment of any real estate tax.

CHAPTER VI GENERAL PROVISIONS

SEC. 14. *Appropriations.* – The amount of One Hundred Million Pesos (P100,000,000.00) for the initial operation of the Authority is hereby appropriated out of the funds in the National Treasury. Thereafter, such sum as may be necessary for the continued operation of the Authority is included in the annual General Appropriations Act.

SEC. 15. *Roles of Other Agencies and Institutions.* – This Act mandates the following agencies and institutions to perform or carry out specific functions and responsibilities:

- a. The Board of Investments, in consultation with the Department of Science and Technology, shall include deuterium research and development

operations in its annual Investment Priorities Plan to attract both domestic and foreign investors; and

- b. The Department of Finance and the Department of Budget and Management shall provide sufficient fund allocations for the full implementation of this Act.

SEC. 16. *Exemption from Republic Act No. 9184.* – The provisions of Republic Act No. 9184, otherwise known as the “*Government Procurement Reform Act*” shall not apply to the procurement for all items, supplies, materials and general support services, including consulting services, which may be needed by the Authority in the pursuit of deuterium research and development operations.

For this purpose, the Board of Trustees shall certify such procurement whether in the nature of equipment, furniture, stationery, materials for construction, or personal property of any kind, including non-personal or contractual services, including the repair and maintenance of equipment and furniture, as well as trucking, hauling, and related analogous services.

SEC. 17. *Compliance with Environmental Regulations.* – All deuterium research and development operations shall be conducted in accordance with existing environmental regulations as prescribed by the DOE and/or any other government agency.

SEC. 18. *Implementing Rules and Regulations.* – The Board of Trustees shall promulgate the rules and regulations necessary to implement the provision of this Act within sixty (60) days after its effectivity.

CHAPTER VII FINAL PROVISIONS

SEC. 19. *Separability Clause.* – If any provision or part of this Act is declared invalid or unconstitutional, the remaining parts or provisions not affected by such declaration shall remain in full force and effect.

SEC. 20. *Repealing Clause.* – All other laws, orders, issuances, rules and regulations or parts thereof, which are inconsistent with the provisions of this Act are hereby repealed, modified, or amended accordingly.

SEC. 21. *Effectivity Clause.* – This Act shall take effect fifteen (15) days after its publication in the Official Gazette or in two (2) newspapers of general circulation.

Approved,