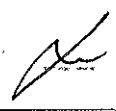


FOURTEENTH CONGRESS OF THE REPUBLIC)
OF THE PHILIPPINES)
Second Regular Session)

9 JUN 10 P2:45

SENATE
S.B. No. **3316**

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Introduced by Senator Miriam Defensor Santiago

EXPLANATORY NOTE

The Constitution, Article 14, section 10, states: "Science and Technology are essential for national development and progress. The State shall give priority to research and development, invention, innovation, and their utilization; and to science and technology education, training, and services. xxx"

Society's technological advancements have grown significantly over the years. Many electronic devices can reportedly cause serious environmental damage due to their toxic components.

Electronics that are in need of disposal are referred to as e-waste, or electronic waste. There has been a growing concern about the hazards of electronic waste due to the advancement of electronic products. Some of these concerns include: improper disposal of toxic materials, health and safety concerns for people disposing of these items, as well as dangers to the soil and water supply.

For instance, electronics are made using a considerable amount of toxic substances such as lead, cadmium, aluminum, zinc, copper, and plastics which can all leak poisonous material in the ground and water. These environmental concerns have resulted in the establishment of electronic recycling facilities and industries abroad which take old electronics, such as computers for the purpose of recycling and safe disposal.

Electronics containing materials such as metals, plastic, are valuable to the recycling companies. Disposing of electronics through a recycling company will result in fewer electronic devices going into landfills and lower carbon emissions.¹

¹ <http://www.filipinoentertainmentguide.com/articles/15038/1/Electronics-Recycling/Page1.html>.

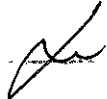
Hence, this bill seeks to authorize the Secretary of Environment and Natural Resources to award grants for electronic device recycling research, development and demonstration projects.

Miriam Defensor Santiago
MIRIAM DEFENSOR SANTIAGO
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FOURTEENTH CONGRESS OF THE REPUBLIC)
OF THE PHILIPPINES)
Second Regular Session)

9 JUN 10 P2:44

SENATE
S.B. No. **3316**

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Introduced by Senator Miriam Defensor Santiago

1 AN ACT
2 PROVIDING GRANTS FOR ELECTRONIC DEVICE RECYCLING RESEARCH,
3 DEVELOPMENT, AND DEMONSTRATION PROJECTS

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

4 SECTION 1. *Short Title.* – This Act shall be known as the “Electronic Device
5 Recycling Research and Development Act of 2009”.

6 SECTION 2. *Definition of Terms.* – For purposes of this Act, the term:

7 a. “Consortium” refers to a grant applicant or recipient that includes the
8 following:

9 1. At least one institution of higher education, non-profit research
10 institution, or government laboratory; and

11 2. At least one for-profit, including a manufacturer, designer, refurbisher,
12 or recycler of electronic devices or the components of such devices.

13 b. “Electronic device” includes computer monitors, televisions, laptops, printers,
14 wireless devices, copiers, fax machines, stereos, video gaming systems, and
15 the components of such devices.

16 c. “Secretary” refers to the Secretary of the Department of Environment and
17 Natural Resources.

18 SECTION 3. *Electronic Device Engineering Research, Development, and*
19 *Demonstration Projects.*

20 A. In General. – The Secretary shall award multiyear grants to consortia to
21 conduct research to create innovative and practical approaches to manage the

1 environmental impacts of electronic devices and through the conduct of this research, to
2 contribute to the professional development of scientists, engineers, and technicians in the
3 fields of electronic device manufacturing, design, refurbishing, and recycling. The grants
4 awarded shall support research to --

- 5 1. Increase the efficiency of and improve electronic device collection and
6 recycling;
- 7 2. Expand the uses and applications for materials recovered from electronic
8 device;
- 9 3. Develop and demonstrate environmentally friendly alternatives to the use of
10 hazardous and potentially hazardous materials in electronic devices and the
11 production of such devices;
- 12 4. develop methods to identify, separate, and remove hazardous and potentially
13 hazardous materials from electronic devices and to reuse, recycle, or dispose
14 of such materials in a safe manner;
- 15 5. Reconsider product design and assembly to facilitate and improve
16 refurbishment, reuse, and recycling of electronic devices, including an
17 emphasis on design for recycling;
- 18 6. Conduct lifecycle analyses of electronic devices, including developing tools
19 and methods to assess the environmental impacts of the production, use, and
20 end-of-life management of electronic devices and electronic device
21 components;
- 22 7. Develop product design, tools, and techniques to extend the lifecycle of
23 electronic devices, including methods to promote their upgrade and safe reuse;
24 and
- 25 8. Identify the social, behavioral, and economic barriers to recycling and reuse
26 for electronic devices and develop strategies to increase awareness, consumer
27 acceptance, and the practice of responsible recycling and reuse for such
28 devices.

1 B. Merit Review; Competition. – Grants shall be awarded under this Section on a
2 merit-reviewed, competitive basis.

3 C. Application. – A consortium shall submit an application for a grant under this
4 Section to the Secretary at such time, in such manner, and containing such information
5 and assurances as the Secretary may require. The application shall include a description
6 of:

- 7 1. The research project that will be undertaken by the consortium and the
8 contributions of each of the participating entities, including the for-profit
9 entity;
- 10 2. The applicability of the project to reduce impediments to electronic device
11 recycling in the electronic device design, manufacturing, refurbishing, or
12 recycling industries;
- 13 3. The potential for and feasibility of incorporating the research results into
14 industry practice; and
- 15 4. How the project will promote collaboration among scientists and engineers
16 from different disciplines, such as electrical engineering, materials science,
17 and social science.

18 D. Dissemination of Research Results. – Research results shall be made publicly
19 available through:

- 20 1. Development of best practices or training materials for use in the electronic
21 device manufacturing, design, refurbishing, or recycling industries;
- 22 2. Dissemination at conferences affiliated with such industries;
- 23 3. Publication on the Department of Environment and Natural Resources'
24 official website;
- 25 4. Demonstration projects; or
- 26 5. Educational materials for the public produced in conjunction with national
27 governments, local governments, or nonprofit organizations on problems and
28 solutions related to electronic device recycling and reuse.

1 E. Funding Contribution From For-Profit Member of Consortium. – The for-
2 profit entity participating in the consortium shall contribute at least 10 percent of the total
3 research project cost, either directly or with in-kind contributions.

4 F. Protection of Proprietary Information. – The Secretary:

- 5 1. Shall not disclose any proprietary information or trade secrets provided by any
6 person or entity pursuant to this section;
- 7 2. Shall ensure that, as a condition of receipt of a grant under this Section, each
8 member of the consortium has in place proper protections to maintain
9 proprietary information or trade secrets contributed by other members of the
10 consortium; and
- 11 3. If any member of the consortium breaches the conditions under paragraph (2)
12 or discloses proprietary information or trade secrets, may require the return of
13 any funds received under this section by such member.

14 G. Biennial Report. – Within 2 years after the date of enactment of this Act, and
15 every 2 years thereafter, the Secretary shall transmit a report to Congress that provides:

- 16 1. A list of the grants awarded under this Section;
- 17 2. The entities participating in each consortium receiving a grant;
- 18 3. A description of the research projects carried out in whole or in part with
19 funds made available under such a grant;
- 20 4. The results of such research projects; and
- 21 5. A description of the rate and success of the adoption or integration of such
22 research results into the manufacturing processes, management practices, and
23 products of the electronics industry.

24 SECTION 4. *Engineering Curriculum Development Grants.*

25 A. In General. – The Secretary shall award grants to institutions of higher
26 education to develop curricula that incorporates the principles of environmental design
27 into the development of electronic devices:

1 1. For the training of electrical, mechanical, industrial, manufacturing, materials,
2 and software engineers and other students at the undergraduate and graduate
3 level; and

4 2. To support the continuing education of professionals in the electronic device
5 manufacturing, design, refurbishing, or recycling industries.

6 B. Merit Review; Competition. – Grants shall be awarded under this Section on a
7 merit-reviewed, competitive basis.

8 C. Use of Funds. – Grants awarded under this Section shall be used for activities
9 that enhance the ability of an institution of higher education to broaden the undergraduate
10 and graduate-level engineering curriculum or professional continuing education
11 curriculum to include environmental engineering design principles and consideration of
12 product lifecycles related to electronic devices and increasing the recyclability of such
13 devices. Activities may include:

- 14 1. Developing and revising curriculum to include multidisciplinary elements;
15 2. Creating research and internship opportunities for students through
16 partnerships with industry, nonprofit organizations, or government agencies;
17 3. Creating and establishing certificate programs; and
18 4. Developing curricula for short courses and continuing education for
19 professionals in the environmental design of electronic devices to increase the
20 recyclability of such devices.

21 D. Application. – An institution of higher education seeking a grant under this
22 Section shall submit an application to the Secretary at such time, in such manner, and
23 with such information and assurances as the Secretary may require.

24 SECTION 5. *Appropriations.* – The funds needed for the initial implementation
25 of this Act shall be charged against the appropriations of the Department of Environment
26 and Natural Resources. Thereafter, such amount as may be necessary for its full
27 implementation shall be included in the annual General Appropriations Act as a distinct
28 and separate item.

1 SECTION 6. *Separability Clause.* – If any provision or part hereof, is held invalid
2 or unconstitutional, the remainder of the Act or the provision not otherwise affected shall
3 remain valid and subsisting.

4 SECTION 7. *Repealing Clause.* – Any law, presidential decree or issuance,
5 executive order, letter of instruction, administrative order, rule or regulation contrary to,
6 or inconsistent with the provisions of this Act is hereby repealed, modified or amended
7 accordingly.

8 SECTION 8. *Effectivity Clause.* – This Act shall take effect fifteen (15) days after
9 its publication in at least two (2) newspapers of general circulation.

10 Approved,

/fldp