To require a study on spectrum occupancy and use.

IN THE SENATE OF THE UNITED STATES

Ms. Snowe (for herself and Mr. Kerry) introduced the following bill; which was read twice and referred to the Committee on

A BILL

To require a study on spectrum occupancy and use.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Spectrum Measurement and Policy Reform Act”.

SEC. 2. DEFINITIONS.

As used in this Act—

(1) the term “Administration” means the National Telecommunications and Information Administration;

(2) the term “Commission” means the Federal Communications Commission;
(3) the term “National Academies” means the National Academy of Sciences, the National Academy of Engineering, the Institute of Medicine; and the National Research Council;

(4) the term “spectrum sharing” means the temporary use by a secondary user of unused spectrum in a band at a geographical location licensed to a primary user during idle periods of the primary license use;

(5) the term “spectrum reuse” means the temporary use by a secondary user of unused spectrum in a band at a geographical location where there is no primary licensed user;

(6) the term “temporary dynamic short-term use”—

(A) means the assignment of a temporary spectrum license to a user that is not the incumbent licensee for the use of spectrum in a given band and specified location for a short period of time in which the spectrum will be unoccupied or in which the incumbent licensee temporarily relinquishes rights to use; and

(B) includes short-term spectrum sharing and short-term spectrum reuse; and
the term “spectrum layering” means the temporary use by a secondary user of unused spectrum in a band at an altitudinal level where there is no primary user or during idle periods of the primary license use.

SEC. 3. SPECTRUM SURVEY AND MEASUREMENT STUDY.

(a) Survey and Study.—

(1) In general.—The Commission and the Administration shall jointly conduct a study of occupancy on the electromagnetic spectrum based on the extent of the use of such spectrum, including the amount and percentage of spectrum used in the band and the duration and percentage of time such spectrum is in use.

(2) Expert Consultation.—In carrying out the study required under paragraph (1), the Commission and the Administration may consult with the National Academies, other agencies, or nongovernmental organizations with relevant expertise in developing appropriate measurement procedures and systems, data analysis methodologies, or another other aspect related to the surveying and measurement of electromagnetic spectrum.

(3) Required Content.—The study required under paragraph (1) shall—
(A) examine occupancy measurements and usage patterns on the electromagnetic spectrum between, at least, 100 megahertz and 10 gigahertz;

(B) record occupancy measurements on the electromagnetic spectrum in several diverse geographical locations across the nation over an appropriate period of time, as determined jointly by the Commission and the Administration.

(C) provide band-by-band commentary as appropriate; and

(D) predict occupancy and usage patterns from existing licensee and government user spectrum data, and correlate such predictions with the findings made under subparagraphs (A) and (B) in order to determine the accuracy of the data from each agencies’ databases or an inventory of the electromagnetic spectrum and what additional data, if any, would be beneficial to collect in the future.

(b) National Security; Classified Information.—

(1) In general.—If the head of a Federal agency determines that disclosure of information to the Commission and the Administration as part of
the study required by subsection (a) would be harmful to the national security of the United States, the agency shall—

(A) notify the Commission and the Administration of its determination; and

(B) provide to the Commission and the Administration—

(i) the other publicly releasable information required by subsection (a);

(ii) to the maximum extent practicable, a summary description of the information with respect to which the determination was made; and

(iii) an annex containing the information with respect to which the determination was made.

(2) CLASSIFIED INFORMATION.—If the head of a Federal agency determines that any information required to be disclosed as part of the study required by subsection (a) is classified in accordance with Executive Order 13526 of December 29, 2009, or any successor Executive Order establishing or modifying the uniform system for classifying, safeguarding, and declassifying national security information, the agency shall—
(A) notify the Commission and the Administration of its determination; and

(B) provide to the Commission and the Administration—

(i) the information required by subsection (a)(3) that is not classified;

(ii) to the maximum extent practicable, a summary description of the information that is classified; and

(iii) an annex containing the information that is classified.

(3) ANNEX RESTRICTION.—Neither the Administration nor the Commission may make any annex under this subsection available to the public pursuant to subsection (d)(3) or to any unauthorized person through any other means.

(c) PUBLIC SAFETY NONDISCLOSURE.—

(1) IN GENERAL.—If a licensee of non-Federal spectrum determines that public disclosure of certain information held by that licensee and required to be included in the study under subsection (a) would reveal information for which public disclosure would be detrimental to public safety, or that the licensee is otherwise prohibited by law from disclosing, the licensee may petition the Commission and the Admin-
istration for a partial or total exemption from inclusion in the public report required under subsection (d)(3).

(2) BURDEN.—A licensee seeking an exemption under this subsection bears the burden of justifying the exemption and shall provide clear and convincing evidence to support the requested exemption.

(3) INFORMATION REQUIRED.—If the Commission and the Administration grant an exemption under this subsection, the licensee shall provide to the Commission and the Administration—

(A) the publicly releasable information required by subsection (a)(3);

(B) to the maximum extent practicable, a summary description, suitable for public release, of the information for which public disclosure would be detrimental to public safety or that the licensee is prohibited by law from disclosing; and

(C) an annex, under appropriate cover, containing the information that the Commission and the Administration has determined should be withheld from public disclosure.

(d) REPORT.—
(1) **IN GENERAL.**—Not later than 2 years after the date of enactment of this Act, the Commission and the Administration shall jointly submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Energy and Commerce of the House of Representatives that includes—

(A) the findings of the study required under subsection (a); and

(B) recommendations on the feasibility of promoting alternative types of services or systems that result in more effective and efficient use of the electromagnetic spectrum.

(2) **NONDISCLOSURE OF ANNEXES.**—The report required under paragraph (1) shall be submitted in unclassified form, but may include 1 or more annexes as provided for by subsections (b)(1)(B)(iii), (b)(2)(B)(iii), and (c)(3)(C). Notwithstanding paragraph (3), no Congressional committee may make any such annex available to the public or to any unauthorized person.

(3) **PUBLIC AVAILABILITY.**—Subject to paragraph (2), the Commission and the Administration shall make publicly available on the website of each agency the report required under paragraph (1).
(c) Authorization of Appropriations.—There are authorized to be appropriated to the Chairman of the Federal Communications Commission and the Assistant Secretary at the National Telecommunications and Information Administration for carrying out this section $5,000,000 for fiscal year 2011 and $5,000,000 for fiscal year 2012.

SEC. 4. SPECTRUM ANALYSIS AND UTILIZATION STUDY.

(a) Determination of Utilization Definition.—

(1) In general.—Not later than 1 year after the date of enactment of this Act, the Commission and the Administration, in consultation with the Office of Science and Technology Policy and the National Security Council as needed on frequencies or bands related to national security, shall determine appropriate benchmarks for assessing—

(A) the utilization of each electromagnetic spectrum band based on the occupancy, activities, capabilities, functions, and missions supported in that band, as well as any additional factors the Commission and the Administration deem appropriate; and
(B) the availability of similar services operating in other bands capable of offering substitutable services.

(2) USE OF COMMON METRICS.—The benchmarks developed under paragraph (1) shall include a set of common metrics that apply to respective broad classes of services, allowing comparison of measurements and analysis in multiple bands providing similar classes of services across the electromagnetic spectrum.

(b) IDENTIFY SPECTRUM SHARING AND REUSE OPPORTUNITIES PILOT PROGRAM.—

(1) IDENTIFICATION.—Not later than 1 year after the completion of electromagnetic spectrum survey and measurement study required under section 3, the Commission and the Administration shall identify, based on an analysis of utilization using such benchmarks and with the benefit of public comment —

(A) 120 megahertz below 4 gigahertz worth of close proximity electromagnetic spectrum that is most feasible for spectrum sharing opportunities for commercial and government users;
(B) 120 megahertz below 4 gigahertz worth of close proximity electromagnetic spectrum that is most feasible for spectrum reuse opportunities for commercial and government users;

(C) 120 megahertz below 4 gigahertz worth of electromagnetic spectrum that is most feasible for temporary or dynamic short-term assignment and use;

(D) 120 megahertz below 4 gigahertz worth of close proximity electromagnetic spectrum that is most feasible for spectrum layering opportunities for commercial and government users.

(2) Sharing and reuse opportunities pilot program.—Not later than 12 months after the time period set forth in paragraph (1), the Commission and the Administration shall jointly establish and implement pilot programs to advance and promote spectrum sharing and reuse activities for the bands of spectrum identified under paragraph (1).

(3) Pilot program report and recommendation.—Not later than 8 months after the conclusion of the sharing and reuse opportunities
pilot program established under paragraph (2), the Commission and the Administration shall jointly submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Energy and Commerce of the House of Representatives that summarizes the feasibility of such programs. If the Commission and the Administration jointly deem such programs viable, each agency shall begin to implement similar permanent programs within 18 months after the date on which the report is submitted.

(c) IDENTIFICATION OF SPECTRUM REALLOCATION.—Not later than 12 months after the adoption of the utilization benchmarks described under subsection (a), the Commission and the Administration shall, based on an analysis of utilization using such benchmarks and after notice and opportunity for public comment on such utilization analysis—

(1) jointly prepare and submit to the President and the Committee on Commerce, Science, and Transportation of the Senate and the Committee on Energy and Commerce of the House of Representatives a report that identifies, by relevant geographic area, not less than 200 megahertz of spectrum below 4 gigahertz of the least utilized or most appropriate
blocks of electromagnetic spectrum and an explanation of the basis for that identification; and

(2) develop a plan, taking into consideration whether the primary service on a band may be deemed essential to national security or public safety, or otherwise determined to serve the public interest, convenience, and necessity, for reallocation of any entities or services currently operating in the spectrum described under paragraph (1), along with an estimate for the costs of relocating such entities or services to an alternative band of such spectrum.

SEC. 5. RELOCATION COST-BENEFIT ANALYSIS.

(a) IN GENERAL.—The Commission and the Administration, in consultation with the Office of Management and Budget, the Office of Science and Technology Policy, and the National Security Council, shall perform a cost-benefit analysis on electromagnetic spectrum relocation opportunities to move certain Federal users and services currently operating in a specific band of the spectrum to more efficient spectrum bands.

(b) REQUIRED CONSIDERATIONS.—The relocation analysis required under subsection (a) shall—

(1) include projected overall costs and time-frames of any potential move; and
be consistent with the processes set forth in the Commercial Spectrum Enhancement Act (47 U.S.C. 901 note).

(c) SYSTEM UPGRADES.—In bands determined to be necessary and appropriate for continued primary Federal use, the Administration, in consultation with the Commission, shall determine what, if any, radio system or service upgrades or other changes could be implemented to enhance spectrum efficiency or the ability to share unused capacity on the spectrum with other agencies or private sector users.

SEC. 6. GENERAL SPECTRUM MANAGEMENT.

(a) SPECTRUM COORDINATION.—Section 112 of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 922) is amended—

(1) by striking “The Assistant Secretary” and inserting “(a) JOINT SPECTRUM PLANNING.—The Assistant Secretary”; and

(2) by adding at the end the following new subsection:

“(b) REPORTING REQUIREMENT.—

“(1) IN GENERAL.—The Assistant Secretary and the Chairman shall, on an annual basis, submit a report to the Committee on Commerce, Science, and Transportation of the Senate and the Com-
mittee on Energy and Commerce of the House of Representatives that provides a summary of the biannual meetings required under this section, as well as the action items, deliverables, and the status of such action items and deliverables related to the issues identified in subsection (a).

“(2) CONTENTS.—The report required under paragraph (1) shall include—

“(A) an identification of emerging technologies and ideas for test-bed programs that expand opportunities for spectrum sharing by Federal and non-Federal users, increased public transparency into spectrum databases, and a progress report on reallocation and sharing efforts required by the Spectrum Measurement and Policy Reform Act;

“(B) a list of any recommendations made by the Commerce Spectrum Management Advisory Committee and the status of each such recommendation; and

“(C) a score card that includes the amount of spectrum shared by Federal and non-Federal users, the geographical extent of coverage, as well as the number of requests for sharing and
their geographical locations that were rejected and the reasons for such rejections.”.

(b) Spectrum Efficiency.—

(1) NTIA Authority.—Section 104(d)(2) of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 903(d)(2)) is amended to read as follows:

“(2) Ensuring efficient use of spectrum.—

“(A) In general.—In order to further the goal of making efficient and cost-effective use of the spectrum, the Secretary of Commerce shall have the authority to—

“(i) withhold or refuse to assign frequencies for mobile radio service or other radio service;

“(ii) assess and collect from each Federal user an annual fee for the spectrum assigned to such Federal user that is based on the fair market commercial value of that spectrum, using a methodology adopted by the Secretary, after providing notice and opportunity for public comment; and

“(iii) develop an auction revenue sharing plan where in exchange for relin-
quishing spectrum usage rights, Federal
users currently operating in an assigned
spectrum band would receive as an auction
incentive award under section 118 a per-
centage of the auction revenue from any
resulting auction, provided that only spec-
trum assigned to a Federal user prior to
the date of the enactment of the Spectrum
Measurement and Policy Reform Act
would be eligible to participate in any such
sharing plan.

“(B) Disposition of proceeds to spec-
trum relocation and efficiency fund.—
60 percent of all fees collected under subpara-
graph (A)(ii) shall be deposited in the Spectrum
Relocation and Efficiency Fund established
under section 118, and shall be available in ac-
cordance with such section.”.

(2) FCC authority.—Section 309(j)(8) of the
Communications Act of 1934 (47 U.S.C. 309(j)(8))
is amended by adding at the end the following:

“(F) Auction revenue sharing plan.—
Notwithstanding subparagraph (A), if the Com-
mission determines that it is consistent with the
public interest in utilization of the spectrum for
a licensee to relinquish some or all of its licensed spectrum usage rights in order to permit the assignment of new initial licenses or the allocation of spectrum for unlicensed use subject to new service rules, the proceeds from the use of a competitive bidding system under this subsection may be shared, in an amount or percentage determined in the discretion of the Commission, with any licensee who agreed to participate in relinquishing such auction usage rights.

“(G) Spectrum license fee.—

“(i) In general.—The Commission shall have the authority to assess and collect from each licensee an annual fee for the spectrum assigned to such licensee that is based on the fair market commercial value of that spectrum and the public interest of the service the spectrum is being used for, using a methodology adopted by the Commission, after providing notice and opportunity for public comment.

“(ii) Disposition of proceeds to spectrum relocation and efficiency fund.—Thirty percent of all fees collected
under clause (i) shall be deposited in the Spectrum Relocation and Efficiency Fund established under section 118 of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 928), and shall be available in accordance with such section.”.

(c) Amendments to Spectrum Relocation and Efficiency Fund.—Section 118 of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 928) is amended—

(1) in subsection (c)—

(A) by amending the heading to read as follows: “(c) Uses of Fund.—”;

(B) by striking the period and inserting the following: “, and to pay auction incentive rewards as provided in subsection (e)(3).”; and

(C) by adding at the end the following: “Amounts in the Fund may also be used to fund planning and research in order to improve the efficiency of Federal use of spectrum, and to cover the costs of eligible Federal entities to upgrade their equipment and facilities as long as such upgrades including but not limited to spectrum sharing, reuse, and layering, result in
more efficient use of spectrum by such entities.”.

(2) in subsection (d)(1), by striking the period and inserting the following: “and auction incentive awards as provided in subsection (e)(3).”;

(3) in subsection (d)(2), after “subsection” by inserting “to pay relocation costs”; 

(4) in subsection (d)(3), after “relocation costs” by inserting the following: “and auction incentive awards”; and

(5) in subsection (e), by adding at the end the following new paragraph:

“(3) AUCTION INCENTIVE AWARDS.—

“(A) IN GENERAL.—In addition to the transfers described in paragraphs (1) and (2), any eligible Federal entity that voluntarily relinquishes eligible frequencies for non-Federal use shall receive a one-time transfer from the Fund of an amount (in this section referred to as an ‘auction incentive award’) equal to a percentage of the proceeds from the auction of licenses covering such frequencies to be determined by the Secretary of Commerce in consultation with the Federal Communications Commission.
“(B) CREDIT.—Any amounts transferred pursuant to subparagraph (A) shall be credited to the appropriations account of the eligible Federal entity that voluntarily relinquished such frequencies.”.

(d) MODIFICATIONS TO SPECTRUM RELOCATION AND EFFICIENCY FUND.—

(1) IN GENERAL.—Section 118(d)(3) of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 928(d)(3)), as amended by subsection (c), is further amended in subsection (d)(3), by striking “8 years” and inserting “20 years”.

(2) TECHNICAL AND CONFORMING AMENDMENTS.—

(A) NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION ORGANIZATION ACT.—The National Telecommunications and Information Administration Organization Act is amended—

(i) in section 113(g)(1), by inserting “and Efficiency” after “Relocation”; and

(ii) in section 118—
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(I) in the section heading, by inserting “AND EFFICIENCY” after “RELOCATION”; and

(II) in subsection (a)—

(aa) in the heading, by inserting “AND EFFICIENCY” after “RELOCATION”; and

(bb) by inserting “and Efficiency” after “Relocation”.

(B) COMMUNICATIONS ACT OF 1934.—Section 309(j)(8)(D) of the Communications Act of 1934 (47 U.S.C. 309(j)(8)(D)) is amended by inserting “and Efficiency” after “Relocation”.

(e) NATIONAL STRATEGIC SPECTRUM PLAN.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, and every 3 years thereafter, the Assistant Secretary of Commerce for Communications and Information and the Chairman of the Commission assisted by the Radio Spectrum Advisory Committee, shall develop an initial 10-year National Strategic Spectrum Plan that includes the following:

(A) Long-range spectrum planning of both commercial, State and local government, and Federal users.
(B) New technologies or expanded services requiring spectrum.

(C) The nature and characteristics of the new radio communication systems required and the nature and characteristics of the spectrum required.

(D) Efficient approaches to meeting the future spectrum requirements of all users, including—

(i) requiring certain standards-based technologies that improve spectrum efficiencies;

(ii) spectrum sharing and reuse opportunities;

(iii) possible reallocation; and

(iv) any other approaches that promote efficient use of spectrum.

(E) An evaluation of current auction processes to determine their effectiveness in the promotion of competition and spectrum use efficiency.

(2) SUBMISSION OF THE PLAN.—The Assistant Secretary of Commerce for Communications and Information and the Chairman of the Commission shall, on an annual basis, jointly submit, after notice
and opportunity for public comment on, to the Presi-
dent and the Committee on Commerce, Science, and
Transportation of the Senate and the Committee on
Energy and Commerce of the House of Representa-
tives a report summarizing the progress made with
respect to the National Strategic Spectrum Plan re-
quired under paragraph (1).

(f) RADIO SPECTRUM ADVISORY COMMITTEE.—

(1) ESTABLISHMENT.—Not later than 60 days
after the date of enactment of this Act, the Chair-
man of the Commission and the Administrator of
the Administration shall establish a working group,
to be known as the Spectrum Advisory Committee.

(2) MEMBERSHIP.—

(A) APPOINTMENT; CO-CHAIRS.—The
Chairman of the Commission and the Adminis-
trator of the Administration shall appoint an
equal number of members of the Working
Group as soon as practicable after the date of
enactment of this Act and shall serve as its co-
chair. In appointing members of the Working
Group, the co-chairs shall ensure that the num-
ber of members appointed provides appropriate
and adequate representation for all stakeholders
and interested and affected parties.
(3) **MEETINGS.**—

(A) **INITIAL MEETING.**—The initial meeting of the Working Group shall take place not later than 60 days after the date of the enactment of this Act.

(B) **OTHER MEETINGS.**—After the initial meeting, the Working Group shall meet at the call of the co-chairs.

(C) **NOTICE; OPEN MEETINGS.**—Any meetings held by the Working Group shall be duly noticed at least 14 days in advance and shall be open to the public.

(4) **RESOURCES.**—

(A) **FEDERAL AGENCIES.**—The Working Group shall have reasonable access to—

(i) materials, resources, data, and other information from the National Institute of Standards and Technology, the Department of Commerce and its agencies, and the Federal Communications Commission; and

(ii) the facilities of any such agency for purposes of conducting meetings.

(B) **GIFTS AND GRANTS.**—The Working Group may accept, use, and dispose of gifts or
grants of services or property, both real and personal, for purposes of aiding or facilitating the work of the Working Group. Gifts or grants not used at the expiration of the Working Group shall be returned to the donor or grantor.

(5) Rules.—

(A) Quorum.—One-third of the members of the Working Group shall constitute a quorum for conducting business of the Working Group.

(B) Subcommittees.—To assist the Working Group in carrying out its functions, the co-chairs may establish appropriate subcommittees composed of members of the Working Group and other subject matter experts as deemed necessary.

(C) Additional Rules.—The Working Group may adopt other rules as needed.

(6) Federal Advisory Committee Act.—

Neither the Federal Advisory Committee Act (5 U.S.C. App.) nor any rule, order, or regulation promulgated under that Act shall apply to the Working Group.
(g) **IRAC Shot Clock.**—Section 104(b) of the National Telecommunications and Information Administration Organization Act (47 U.S.C. 903(b)) is amended—

(1) in paragraph (4), by striking ‘‘; and’’ and inserting a semicolon;

(2) in paragraph (5), by striking the period at the end and inserting ‘‘; and’’; and

(3) by adding at the end the following new paragraph:

‘‘(6) in the event that a spectrum related project is referred to the Interdepartmental Radio Advisory Committee from the Commission, require that a public notice detailing the project be provided, and that the Committee shall act within 30 days to complete the item, provided that a 30-day extension may be provided upon a finding of extraordinary circumstances by NTIA.’’.

**SEC. 7. AUTHORIZATION OF APPROPRIATIONS.**

Except as otherwise specifically provided for under section 1, there are authorized to be appropriated, in addition to amounts otherwise available for such purposes, such sums as may be necessary for each fiscal year to carry out the purposes and duties of this Act.