

118TH CONGRESS
1ST SESSION

S. 661

To require an interagency study on the environmental and energy impacts of crypto-asset mining, to assess crypto-asset mining compliance with the Clean Air Act, and for other purposes.

IN THE SENATE OF THE UNITED STATES

MARCH 6, 2023

Mr. MARKEY (for himself, Mr. MERKLEY, and Mr. SANDERS) introduced the following bill; which was read twice and referred to the Committee on Environment and Public Works

A BILL

To require an interagency study on the environmental and energy impacts of crypto-asset mining, to assess crypto-asset mining compliance with the Clean Air Act, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

3 **SECTION 1. SHORT TITLE.**

4 This Act may be cited as the “Crypto-Asset Environ-
5 mental Transparency Act of 2023”.

6 **SEC. 2. DEFINITIONS.**

7 In this Act:

1 (1) ADMINISTRATOR.—The term “Adminis-
2 trator” means the Administrator of the Environ-
3 mental Protection Agency.

4 (2) AIR POLLUTANT.—The term “air pollutant”
5 has the meaning given the term in section 302 of the
6 Clean Air Act (42 U.S.C. 7602).

7 (3) BLOCK.—The term “block” means a group
8 of data stored as a single record in a blockchain.

9 (4) BLOCKCHAIN.—The term “blockchain”
10 means a distributed ledger technology in which—

11 (A) the data are shared across a network
12 that creates a digital ledger of verified trans-
13 actions or information among network partici-
14 pants; and

15 (B) the data are typically linked using
16 cryptography to maintain the integrity of the
17 ledger and execute other functions, including
18 transfer of ownership or value.

19 (5) CONSENSUS MECHANISM.—The term “con-
20 sensus mechanism” means a process to achieve
21 agreement among network participants on the cur-
22 rent state of a blockchain.

23 (6) CRYPTO-ASSET.—The term “crypto-asset”
24 means a digital asset, which may be a medium of ex-
25 change, a representation of value, or both, for which

1 generation or ownership records of the digital asset
2 are recorded in a distributed ledger technology that
3 relies on cryptography.

4 (7) CRYPTO-ASSET MINING.—The term “crypto-
5 asset mining” means the process of performing com-
6 putations to add a valid block of data to the
7 blockchain, typically in exchange for a reward or fee.

8 (8) POWER LOAD.—The term “power load”
9 means the amount of electrical power, in megawatts,
10 that can be consumed by a qualifying crypto-asset
11 mining operation.

12 (9) QUALIFYING CRYPTO-ASSET MINING OPER-
13 ATION.—The term “qualifying crypto-asset mining
14 operation” means—

15 (A) an individual crypto-asset mining facil-
16 ity that has a power load that is greater than
17 or equal to 5 megawatts; or

18 (B) multiple crypto-asset mining facilities
19 that—

20 (i) are owned by the same company;

21 and

22 (ii)(I) each have a power load that is
23 less than 5 megawatts; but

1 (II) have a cumulative power load
2 that is greater than or equal to 5
3 megawatts.

4 (10) SCOPE 1 EMISSIONS.—The term “scope 1
5 emissions” means greenhouse gas emissions directly
6 from sources that are operated, controlled, or owned
7 by an individual or entity performing a qualifying
8 crypto-asset mining operation.

9 (11) SCOPE 2 EMISSIONS.—The term “scope 2
10 emissions” means indirect greenhouse gas emissions
11 associated with the purchase of electricity, steam,
12 heat, or cooling by an individual or entity per-
13 forming a qualifying crypto-asset mining operation.

14 (12) SECRETARY.—The term “Secretary”
15 means the Secretary of Energy.

16 **SEC. 3. COMPLIANCE WITH THE CLEAN AIR ACT.**

17 (a) RULEMAKING REQUIRED.—

18 (1) PROPOSED REGULATION.—Not later than 1
19 year after the date of enactment of this Act, the Ad-
20 ministrator shall, pursuant to section 114(a) of the
21 Clean Air Act (42 U.S.C. 7414(a)), issue a notice of
22 proposed rulemaking to revise part 98 of title 40,
23 Code of Federal Regulations (as in effect on the
24 date of enactment of this Act)—

1 (A) to require qualifying crypto-asset min-
2 ing operations to report as covered facilities
3 under subpart A of that part;

4 (B) to add a new subpart to that part that
5 includes qualifying crypto-asset mining oper-
6 ations as a source category;

7 (C) to include in the new subpart created
8 under subparagraph (B) appropriate calculation
9 methodologies, reporting guidelines, and moni-
10 toring operations of, with respect to qualifying
11 crypto-asset mining operations, scope 1 emis-
12 sions and scope 2 emissions; and

13 (D) to designate the qualifying crypto-
14 asset mining operations source category estab-
15 lished pursuant to subparagraph (B) as a
16 source category that is subject to greenhouse
17 gas reporting requirements and related moni-
18 toring, recordkeeping, and reporting require-
19 ments under section 98.2 of that title, regard-
20 less of whether a qualifying crypto-asset mining
21 operation emits at least 25,000 metric tons of
22 carbon dioxide-equivalent.

23 (2) FINAL RULE.—Not later than 180 days
24 after the date on which the public comment period
25 on the proposed rule under paragraph (1) closes, the

1 Administrator shall issue a final rule revising part
2 98 of title 40, Code of Federal Regulations.

3 (b) ASSESSMENT.—Not later than 1 year after the
4 date on which the Administrator finalizes the rule required
5 under subsection (a), the Administrator shall, pursuant to
6 section 114(a) of the Clean Air Act (42 U.S.C. 7414(a)),
7 issue requests for information for the purpose of con-
8 ducting an assessment of, with respect to qualifying
9 crypto-asset mining operations, the permit programs
10 under the Clean Air Act (42 U.S.C. 7401 et seq.), which
11 shall include identifying the extent to which any qualifying
12 crypto-asset mining operations are improperly operating
13 without a valid and current permit under that Act.

14 (c) AUTHORIZATION OF APPROPRIATIONS.—There is
15 authorized to be appropriated to the Administrator to
16 carry out this section \$5,000,000 for fiscal year 2023, to
17 remain available until expended.

18 (d) SAVINGS PROVISION.—Nothing in this section
19 limits the ability of the Administrator to require the re-
20 porting of emissions of any type in another source cat-
21 egory.

22 **SEC. 4. IMPACT STUDY.**

23 (a) IN GENERAL.—Not later than 1 year after the
24 date of enactment of this Act, the Administrator, in con-
25 sultation with the Secretary, the Administrator of the En-

1 ergy Information Administration, the Federal Energy
2 Regulatory Commission, and the head of any other Fed-
3 eral agency the Administrator or the Secretary determines
4 appropriate, shall conduct a study on the environmental
5 impacts of crypto-asset mining in the United States.

6 (b) STUDY REQUIREMENTS.—The study required
7 under subsection (a) shall include—

8 (1) the number and location of any existing or
9 planned qualifying crypto-asset mining operation;

10 (2) the amount of greenhouse gas emissions
11 and other air pollutants that are—

12 (A) released by an onsite energy source;

13 and

14 (B) attributable to offsite-generated elec-
15 tricity, steam, heat, or cooling provided to a
16 qualifying crypto-asset mining operation;

17 (3) the anticipated increase of new, and expan-
18 sion of existing, qualifying crypto-asset mining oper-
19 ations;

20 (4) the potential impacts of electric energy con-
21 sumption by qualifying crypto-asset mining oper-
22 ations, including by prolonging the use of fossil fuel
23 generators, on the ability of the United States to
24 achieve the greenhouse gas emission reductions nec-

1 essary to keep global warming below 1.5 degrees
2 Celsius compared to pre-industrial levels;

3 (5) the ecological impacts, including ecological
4 impacts associated with electronic waste generation
5 and the use or discharge of cooling water, caused by
6 qualifying crypto-asset mining operations;

7 (6) the potential public health impacts due to
8 the reduced air and water quality and increased
9 water stress on communities near qualifying crypto-
10 asset mining operations;

11 (7) the potential public health impacts from
12 greenhouse gas emissions released by qualifying
13 crypto-asset mining operations;

14 (8) the potential public health and ecological
15 impacts from noise generated by qualifying crypto-
16 asset mining operations;

17 (9) the amount of electric energy consumed by
18 each qualifying crypto-asset mining operation, in-
19 cluding the time of use of electricity and the poten-
20 tial grid stress posed by the power load of the quali-
21 fying crypto-asset mining operation;

22 (10) the source of electric energy consumed by
23 each qualifying crypto-asset mining operation;

1 (11) the aggregated energy-use statistics and
2 greenhouse gas emissions statistics for qualifying
3 crypto-asset mining operations in the United States;

4 (12) an analysis of energy use and greenhouse
5 gas emissions by type of consensus mechanism;

6 (13) an analysis of demand-response programs
7 negotiated between qualifying crypto-asset mining
8 operations and electric utilities;

9 (14) an analysis of potential rate-design meas-
10 ures that could be implemented by State and local
11 regulators to reduce the energy consumption and de-
12 pendence on fossil fuel energy sources of crypto-
13 asset mining operations;

14 (15) a geospatial assessment of the extent to
15 which crypto-asset mining operations are located
16 within environmental justice communities, as defined
17 by the Administrator or within the Climate and Eco-
18 nomic Justice Screening Tool of the Council on En-
19 vironmental Quality; and

20 (16) an identification of, and recommendations
21 for, best practices for data types, data sources, and
22 methodologies for accurately measuring, modeling,
23 and tracking the environmental impacts of crypto-
24 asset mining operations in the United States in the
25 future.

1 (c) PUBLIC COMMENT.—Before conducting the study
2 required by subsection (a), the Administrator shall provide
3 an opportunity for public comment and advice relevant to
4 conducting the study.

5 (d) REPORT TO CONGRESS.—Not later than 18
6 months after the date of enactment of this Act, the Ad-
7 ministrator shall submit to the Committees on Energy and
8 Commerce and Science, Space, and Technology of the
9 House of Representatives and the Committees on Environ-
10 ment and Public Works and Energy and Natural Re-
11 sources of the Senate, and publish on the public websites
12 of the Environmental Protection Agency and the Depart-
13 ment of Energy, a report that contains the results of the
14 study required by subsection (a).

15 (e) AUTHORIZATION OF APPROPRIATIONS.—There is
16 authorized to be appropriated to the Administrator to
17 carry out this section \$5,000,000 for fiscal year 2023, to
18 remain available until expended.

19 **SEC. 5. ENERGY EFFICIENCY OF DATA CENTER BUILDINGS.**

20 Section 453(a)(1) of the Energy Independence and
21 Security Act of 2007 (42 U.S.C. 17112(a)(1)) is amend-
22 ed—

23 (1) in subparagraph (A), by striking “or” at
24 the end after the semicolon;

1 (2) in subparagraph (B), by striking the period
2 at the end and inserting “; or”; and

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

4 “(C) a facility in which 2 or more com-
5 puters perform logical operations to mine or
6 create crypto-asset (as defined in section 2 of
7 the Crypto-Asset Environmental Transparency
8 Act of 2023).”.

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