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(Original Signature of Member)

117TH CONGRESS  
2D SESSION

# H. RES.

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Expressing the sense of the House of Representatives that the United States should support the expansion of domestic nuclear energy and advanced nuclear technology as a viable source of power in order to promote United States nuclear energy leadership and global energy independence.

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## IN THE HOUSE OF REPRESENTATIVES

Mr. DONALDS submitted the following resolution; which was referred to the Committee on \_\_\_\_\_

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# RESOLUTION

Expressing the sense of the House of Representatives that the United States should support the expansion of domestic nuclear energy and advanced nuclear technology as a viable source of power in order to promote United States nuclear energy leadership and global energy independence.

Whereas nuclear energy has generated one-fifth of the electricity used in the United States since 1990;

Whereas the Secretary of Energy has stated that, “nuclear energy is clean energy and it is vital to creating good-paying jobs, supporting our energy transition, and saving our planet”;

Whereas the International Energy Agency determined that nuclear power forms the cornerstone of zero-carbon electricity generation;

Whereas conventional nuclear energy plants are highly reliable and consistently operate over 92 percent of the time;

Whereas the generation of electricity from nuclear energy is up to 2 times more reliable than the generation of electricity from natural gas and coal, and up to 3.5 times more reliable than the generation of electricity from wind and solar;

Whereas nuclear reactors produce substantially more energy relative to their land footprint than solar and wind projects, which require over 30 times and 100 times, respectfully, the land area for the same generating capacity;

Whereas, in 2019, 476,000,000 metric tons of greenhouse gas emissions were not released into the atmosphere due to the utilization of nuclear energy in the United States, which is equivalent to removing 100,000,000 cars off the road;

Whereas conversely, in 2014, Vermont's Yankee Nuclear Plant closed and the State saw a 650,000-metric ton increase in carbon dioxide emissions within just 2 months;

Whereas electricity demand throughout the United States is predicted to increase by approximately 34 percent by 2050;

Whereas, as of July 8, 2020, there are 28 States in which at least 1 commercial nuclear reactor operates;

Whereas many States around the United States have enacted nuclear energy-related laws and are in the process of

adopting policies and appropriating funding for the expansion of nuclear energy in their State;

Whereas nuclear energy facilities can easily repurpose retired fossil fuel power plants by using existing infrastructure and transitioning fossil fuel power plant workers that already understand the basics of the plant to easily operate the nuclear energy facility;

Whereas, in 2022, nuclear energy supports over 475,000 jobs in the United States;

Whereas building a conventional nuclear reactor employs up to 7,000 workers at peak construction;

Whereas nuclear energy worker salaries are, on average, 50 percent higher than the salaries of employees that work in other electricity generation facilities;

Whereas the United States nuclear energy industry spends roughly \$11,000,000,000 annually on labor, which is approximately \$100,000,000 per reactor per year;

Whereas, for every 100 jobs at a nuclear power plant in the United States, 66 other jobs are created in the local community;

Whereas nearly 1 in 4 nuclear energy workers are veterans;

Whereas nuclear energy adds approximately \$60,000,000,000 to the United States gross domestic product each year;

Whereas, unlike most energy sources, nuclear power plants have up to 2 years of fuel stored securely on-site, which makes nuclear power plants hardened against fuel-related supply disruptions;

Whereas a uranium pellet the size of a pencil eraser contains the same amount of energy as 17,000 cubic feet of natural gas, 1,780 pounds of coal, or 149 gallons of oil;

Whereas global uranium supply is vastly available and the United States can generate nuclear power at its current levels for more than a century with just the natural uranium ore deposits that have already been identified;

Whereas nuclear power plants offer a level of protection against natural and adversarial threats that goes far beyond most other elements of the electrical grid in the United States;

Whereas nuclear power plants' infrastructure and facilities are built to withstand extreme weather, as proven during recent hurricanes and freezing temperatures driven by polar vortex events;

Whereas the safe operation of nuclear energy in the United States has resulted in no radiation-related deaths or long-term evacuation of surrounding communities;

Whereas the utilization of conventional and advanced nuclear energy technologies will significantly reduce energy costs, although the initial investment burden of licensing and constructing any type of nuclear reactor will be substantial;

Whereas the production of nuclear energy has become a much safer and more efficient process with the development and commercialization of innovative advanced nuclear reactors;

Whereas advanced nuclear reactors present uniquely innovative options for the sustainable generation of clean energy in the United States and around the world;

Whereas a typical 1,000-megawatt nuclear power plant in the United States requires a little more than one square mile to operate, however an advanced nuclear reactor requires about 3 times less land area compared to a conventional

nuclear power plant, depending on the reactor type and the specific characteristics of the community;

Whereas the Nuclear Regulatory Commission regulates 31 research and test reactors;

Whereas approximately 98 universities in the United States offer a nuclear engineering program and several universities have expressed interest in advanced nuclear reactors as a power source for their campuses;

Whereas more than 45 companies and research organizations across the United States have advanced nuclear energy projects underway;

Whereas many advanced nuclear reactors, in comparison to conventional nuclear reactors, can operate at much higher temperatures without water, have built in safety features (such as automatic shutoff mechanisms), can operate autonomously without disruption for several years at a time, and have a naturally enhanced resistance to nuclear proliferation;

Whereas low-emission heat and steam from advanced nuclear reactors can supply reliable, clean energy for hard-to-decarbonize sectors, such as the industrial sector and chemical production sector;

Whereas the total amount of spent nuclear fuel that the United States nuclear energy industry produced over the past 60 years could fit within the bounds of a football field at a depth of less than 10 yards;

Whereas spent nuclear fuel can—

- (1) be safely stored in a deep geological repository;
- (2) be repurposed and recycled using innovative technology; and

(3) potentially be safely stored underground using techniques such as deep borehole drilling;

Whereas certain advanced nuclear reactors have the capability to use spent nuclear fuel from another nuclear reactor as a fuel source;

Whereas recycling spent nuclear fuel could significantly reduce the burden of storing spent nuclear fuel, which would make the nuclear fuel cycle more sustainable and further reduce the already-low carbon footprint of nuclear energy;

Whereas 96 percent of spent nuclear fuel content is reusable energy, and recycling spent nuclear fuel can cut the use of natural uranium resources by 25 percent, reduce the volume of high-level waste slated for disposal by 75 percent, and reduce the waste's toxicity by approximately 90 percent;

Whereas, by 2050, energy produced by advanced nuclear reactors may account for a significant amount of the clean energy generated in the United States, with certain estimates predicting that up to 50 percent of total United States electricity generation could come from conventional and advanced nuclear energy sources;

Whereas the offsite component fabrication and modular manufacturing process for advanced nuclear reactors will likely lead to cheaper and faster installation, reduced regulatory burdens, and ultimately a streamlined commercial deployment of advanced nuclear reactors;

Whereas advanced nuclear reactors offer seamless integration to complement other renewables within microgrids, balancing out variations in generation over time to reliably meet United States electricity demand;

Whereas, in the aftermath of a natural disaster when power outages persist, an easily transportable advanced nuclear reactor could provide electricity or heat for essential services, such as hospitals and water purification facilities, instead of diesel generators, thereby producing a cleaner and more efficient source of power that can last up to 20 years without refueling;

Whereas nuclear medicine, including the use of medical radioactive isotopes, can be used to diagnose and treat different diseases with pinpoint precision, which will ultimately save American lives;

Whereas the Armed Forces have intentions to utilize advanced nuclear reactors at United States military bases, both domestically and internationally, because of advanced nuclear reactor's ability to generate clean electricity consistently and reliably in locations that experience severe weather patterns;

Whereas the Armed Forces are currently using diesel for generators in these remote locations to provide electricity, such as in Alaska, which require refueling approximately every 72 hours;

Whereas, since 1954, the Naval Nuclear Propulsion Program has maintained and operated more than 100 naval nuclear reactors, serviced and supplied by thousands of American workers, to power United States aircraft carriers, submarines, and other vessels;

Whereas advanced nuclear thermal and nuclear electric propulsion provides an alternative clean energy source to power commercial ships to cut emissions and remove the costly refueling infrastructure needs for liquid-based energy carriers;

Whereas the advantages of using advanced nuclear thermal and nuclear electric propulsion include long refueling intervals, faster transit speeds, production of heat or cooling for cargo, faster turn-around times due to elimination of refueling, reduced draft allowing increased cargo capacity, eliminating the need to transport huge quantities of engine fuel, and reducing the probability of environmental damage from fuel leakages;

Whereas nuclear thermal propulsion and nuclear electric propulsion vehicles are to be made at one-third to one-half the size of comparable chemical propulsion vehicles, which would increase travel speeds and cut costs of space missions;

Whereas the National Aeronautics and Space Administration and private companies are creating technologies that use advanced nuclear radioisotopes to channel heat into electricity, even in temperatures below -280° F on the lunar surface, for both manned and unmanned missions to Earth's satellites, the Earth's Moon, Mars, and deep space;

Whereas nuclear energy may be used to desalinate highly salty waters and industrial wastewater to ultimately produce multiuse potable water;

Whereas nuclear energy has the potential to cleanly power large-scale hydrogen production facilities and utilize direct heat from the nuclear reactor to assist with the hydrogen production process;

Whereas advanced nuclear reactors offer the possibility of a clean source of energy to power energy intrusive mining operations that are typically powered by diesel generators;



Whereas advanced nuclear reactors can produce clean, consistent, and reliable energy to data centers which typically require large amounts of energy; and

Whereas the future of cryptocurrency mining, which requires extensive energy output, will greatly benefit from utilizing a noncarbon-emitting, stable, and cost-competitive nuclear power source: Now, therefore, be it

1       *Resolved*, That it is the sense of the House of Rep-  
2       resentatives that, in order to meet the growing energy de-  
3       mands of the United States in a domestically favorable  
4       fashion and to promote American nuclear energy leader-  
5       ship while retaining the United States economic viability  
6       in the worldwide nuclear energy marketplace, it is nec-  
7       essary to expand the use of nuclear energy by—

8               (1) embracing efforts to maintain the existing  
9               nuclear fleet and promoting efforts that seek to uti-  
10              lize emerging innovative nuclear energy technologies,  
11              such as advanced nuclear reactors, to promote in-  
12              creased energy output, improve public safety, more  
13              effectively reduce greenhouse gas emissions, and al-  
14              leviate the continuous challenge relating to storing  
15              spent nuclear fuel;

16              (2) recognizing nuclear energy as one of the  
17              cleanest power sources in regard to greenhouse gas  
18              emissions, while simultaneously understanding nu-  
19              clear energy's capability of being coupled with other  
20              clean energy sources, and stressing the importance

1 of nuclear energy being recognized on a level regu-  
2 latory playing field that is similar to other clean en-  
3 ergy generating sources;

4 (3) supporting initiatives by the Department of  
5 Defense for the deployment of nuclear reactors to  
6 enhance energy resiliency and electricity assurance  
7 for critical missions, systems, and assets in con-  
8 tested logistical environments where fuel supplies are  
9 targeted or denied;

10 (4) addressing critical domestic gaps in the pro-  
11 curement of nuclear reactor construction material,  
12 resolving current barriers and obstacles that relate  
13 to a domestic supply of nuclear fuel, and other nu-  
14 clear supply chain challenges;

15 (5) encouraging sustainable domestic mining of  
16 uranium, in addition to increasing uranium enrich-  
17 ment capabilities in the United States to efficiently  
18 secure America's energy independence and power  
19 United States nuclear reactors without the need to  
20 rely on other countries;

21 (6) actively increasing public awareness sur-  
22 rounding the safety of nuclear energy and continu-  
23 ously combating false information relating to nuclear  
24 power, including nuclear energy's negative connota-  
25 tion in the United States which originates from the

1       only 3 nuclear accidents in the history of the world,  
2       including the only event that took place in the  
3       United States in March of 1979 at Three Mile Is-  
4       land Nuclear Generating Station Facility, in which  
5       no deaths or medical symptoms were directly tied to  
6       the nuclear incident;

7               (7) streamlining the regulatory process, pro-  
8       viding the Nuclear Regulatory Commission the nec-  
9       essary resources to effectuate positive change, and  
10       reducing the regulatory barriers that currently de-  
11       rive from the Nuclear Regulatory Commission's cau-  
12       tious and traditionalistic approach to the licensing  
13       and constructing of new nuclear reactors, which  
14       such regulatory approach is based on outdated tech-  
15       nology standards dating back over 50 years when  
16       the agency was first established and solely focused  
17       on safely regulating conventional nuclear reactors, to  
18       ultimately bolster innovation and encourage the use  
19       of emerging technologies, such as advanced nuclear  
20       reactors, to secure America's energy independence  
21       and allow for the greater exercise of free enterprise,  
22       including participation by America's small busi-  
23       nesses that seek to get involved in the nuclear indus-  
24       try, without reducing safety precautions; and

1           (8) promoting the use of new advanced nuclear  
2           technologies within energy, water, medicine, manu-  
3           facturing, space, digital assets, and other public pol-  
4           icy areas.