TAXPAYERS for COMMON SENSE

FACT SHEET

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Fast Facts about the Golden Dome

In January 2025, President Trump issued a memo outlining plans for "the Iron Dome for America," a multi-layered missile defense shield intended to defend the United States "against ballistic, hypersonic, advanced cruise missiles, and other next-generation aerial attacks from peer, near-peer, and rogue adversaries." The effort has since been rebranded as "Golden Dome for America." In a new report, "Missing the Mark: Why Golden Dome is Bad for American Taxpayers," Taxpayers for Common Sense examines the program's potential costs, viability problems, strategic risks, and conflict-of-interest concerns. This fact sheet focuses on cost and viability problems.

Astronomical Costs

President Trump suggested that Golden Dome would cost $175 billion to develop and deploy. **Independent estimates suggest that Golden Dome could cost trillions of dollars.**

- The Congressional Budget Office estimated in May 2025 that the cost of deploying a constellation of space-based interceptors designed to intercept missiles in their boost phase (before they leave the atmosphere) could cost up to $542 billion. But the report explains that these calculations are based on a system theoretically capable of intercepting only "one or two" missiles fired from North Korea, based on North Korea's technological capabilities more than a decade ago. It also warns that a system like Golden Dome designed to defend against peer- and near-pear attacks would require a more expansive system of space-based interceptors.
- The American Enterprise Institute (AEI) conducted a more comprehensive set of cost estimates for Golden Dome based on a range of potential architectures for the program, and found that **an expansive approach could cost $3.6 trillion over 20 years**, or $4.4 trillion adjusted for projected inflation, and would still fall short of 100 percent effectiveness. **However, $3.6 trillion is not the upper limit of potential costs**—AEI projected that an expansive approach for boost-phase space-based interceptors alone could cost more than $6 trillion over 20 years.

Viability Problems

To be theoretically capable of defending the entire United States, **Golden Dome would require the deployment of far more interceptors than the number of missiles it would need to defend against**. The ratio could be as high as 1,600 interceptors for each missile fired.

- The American Physical Society found that intercepting one North Korean missile during its boost phase could require a constellation of 1,600 space-based interceptors.
- Russia and China possess more sophisticated nuclear missiles than North Korea, and far more of them. China currently fields an estimated 400 intercontinental ballistic missiles (ICBMs), and 72 submarine-launched ballistic missiles (SLBMs). Russia currently fields an estimated 350 ICBMs and 192 SLBMs.
- AEI found that intercepting a salvo of 250 missiles during their boost phase would require a constellation of 249,500 space-based interceptors, which would cost more than $6 trillion over 20 years.
- AEI found that intercepting a salvo of 250 missiles during their midcourse phase would require a constellation of 100,000 space-based interceptors, which would cost nearly $1.5 trillion over 20 years.

Midcourse and terminal-phase interceptors would need to overcome complex countermeasures.

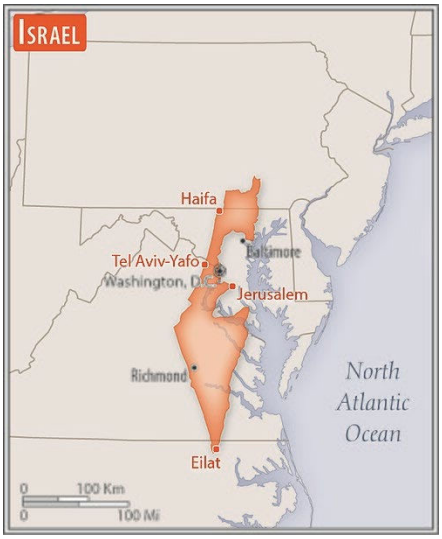
- ICBM boosters separate from the warhead, and can be designed to break into multiple pieces. This debris can then travel at the same speed and along the same trajectory as the warhead, requiring missile defense radars capable of differentiating between the warhead (or multiple warheads) and the debris field.
- Countermeasures can be designed to jam radars, mimic the appearance of warheads, or conceal actual warheads within balloon-like structures.
- Warheads and countermeasures can be designed to maneuver in space, compounding the challenge of tracking and intercepting targets.

Nuclear detonations in atmosphere or in space could confuse radar systems and make it impossible to track and discriminate targets.

- Regardless of their phase of flight, nuclear warheads can be designed to detonate when impacted by an interceptor, or upon coming into close enough proximity to an interceptor.
- A nuclear detonation in space could blind missile defense radars to an area spanning hundreds of miles.
- A nuclear detonation in atmosphere could also have serious impacts on missile defense radars, and could have severe environmental and human health impacts.

Golden Dome draws its inspiration from Israel's Iron Dome missile defense system, but the comparison to Iron Dome masks critical differences in the challenges facing these systems.

- Israel's missile defenses only defend an area of about 8,500 square miles. To defend the entire United States, Golden Dome would need to defend an area of roughly 3.8 million square miles.
- Israel's missile defenses are designed to defend against short- and medium-range missiles and rockets armed with conventional bombs, while Golden Dome aims to protect against nuclear-armed, intercontinental-range nuclear weapons. Intercontinental-range **nuclear weapons can reach speeds of 7 km/s**, or more than 15,600 miles per hour—far faster than the maximum speeds of targets Israel's missile defenses were designed to intercept.



A map of Israel superimposed over a map of the Eastern United States. Image: CIA World Factbook, 2015.

No missile defense system has ever demonstrated the capability to reliably intercept intercontinental-range nuclear weapons.

- The only deployed system designed to defend against intercontinental-range missiles is the Ground-based Midcourse Defense (GMD) system. However, the Pentagon's 2022 Missile Defense Review stated that "GMD is neither intended for, nor capable of, defeating the large and sophisticated ICBM, air-, or sea-launched ballistic missile threats from Russia and the PRC [People's Republic of China]."
- While the system has a nominal 60 percent success rate in flight tests, this success rate is inflated because testing conditions were unrealistic and manufactured for success. As of 2021, none of these tests included complex countermeasures. When decoys were used, they were designed to look significantly different from the target, and sensors were programmed in advance to use these differences to identify the target. None of the GMD tests have attempted to intercept a salvo of missiles.