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### Inherency

#### The People’s Republic of China has expressed interest in Sino-US space cooperation – funds have already been appropriated for international projects; it is only a question of whether or not the United States will join.

Xinhua 16 (Xinhua. "China Open to Sino-US Space Cooperation." *- China*. China Daily, 25 Apr. 2016. Web. 08 June 2016. <http://www.chinadaily.com.cn/china/2016-04/25/content\_24813817.htm>.) // VS

BEIJING -- China is open to space cooperation with all nations including the United States, the heavyweights of China's space program said on Sunday, the anniversary of China's first satellite launch 46 years ago. "China will not rule out cooperating with any country, and that includes the United States," said Yang Liwei, China's first astronaut. Payload has been reserved in the Chinese space station, due to enter service around 2022, for international projects and foreign astronauts, said Yang on the occasion of the first China Space Day, an annual celebration newly designated by the government. Upon request, China will also train astronauts for other countries, and jointly train astronauts with the European space station, Yang said. "The future of space exploration lies in international cooperation. It's true for us, and for the United States too," according to the senior astronaut. His words were echoed by Zhou Jianping, chief engineer of China's manned space program. Zhou said, "It is well understood that the United States is a global leader in space technology. But China is no less ambitious in contributing to human development." "Cooperation between major space players will be conducive to the development of all mankind," Zhou added. Citing security reasons, the US Congress passed a law in 2011 to prohibit NASA from hosting Chinese visitors at its facilities and working with researchers affiliated to any Chinese government entity or enterprise. **The ban remains in effect**. The US-dominated International Space Station, which unsurprisingly blocks China, is scheduled to end its service in 2024. China's space station could be the only operational one in outer space, at least for a while. Commenting on Sino-US space relations earlier this week, Xu Dazhe, the head of China's National Space Administration, cites Hollywood sci-fi blockbuster "The Martian," in which a US astronaut gets stranded on Mars and is eventually brought back to Earth by NASA, with help from China. Xu Dazhe noted that China and the United States established a special dialogue mechanism last year and talks would continue this year. For chief engineer Zhou, the movie simply reflects what most people want. "Many American astronauts and scientists that I have met said they would like to work with us, if given the freedom of choice." The China Space Day was designated to mark the launch of China's first satellite on April 24, 1970.

#### AND, The People’s Republic of China has initiated bilateral discussions with the United States regarding civil space cooperation, in an attempt to mitigate the current prohibition on NASA and the Office of Science Technology and Policy (OSTP) on spending funds to engage in bilateral space cooperation with China under the “Wolf Amendment.”

Smith 15 (Smith, Marcia S. "U.S., China Agree to Bilateral Civil Space Cooperation Dialogue." *Spacepolicyonline.com*. Space and Technology Policy Group, 26 June 2015. Web. 8 June 2016. <http://www.spacepolicyonline.com/news/u-s-china-agree-to-bilateral-civil-space-cooperation-dialogue>.) // VS

During recent meetings with Chinese officials, Secretary of State John Kerry agreed to establish a "U.S.-China Civil Space Cooperation Dialogue." A State Department spokesman says the first meeting will be held before the end of October, but could not provide any other details. The lengthy [list](http://www.state.gov/r/pa/prs/ps/2015/06/244205.htm) of "outcomes" from the seventh round of the U.S.-China Strategic and Economic Dialogue (S&ED) held in Washington, DC June 22-24, 2015, includes a section on cooperation in science, technology and agriculture. Under that heading, the two countries agreed as follows: "101.***Space***: The United States and China decided to establish regular bilateral government-to-government consultations on civil space cooperation. The first U.S.-China Civil Space Cooperation Dialogue is to take place in China before the end of October Separate from the Civil Space Cooperation Dialogue, the two sides also decided to have exchanges on space security matters under the framework of the U.S.-China Security Dialogue before the next meeting of the Security Dialogue." NASA and the White House Office of Science and Technology Policy (OSTP) have been prohibited by law from dealing with China on space cooperation on a bilateral basis for several years. The prohibition was originally inserted in the appropriations bills that fund NASA by Rep. Frank Wolf (R-VA), who chaired the House Appropriations Commerce-Justice-Science (CJS) subcommittee before retiring last year. The final law that he put in place (P.L. 113-235, the Consolidated and Further Continuing Appropriations Act, 2015), which is **in effect today**, states that no funds may be spent by NASA or OSTP to "develop, design, plan, promulgate, implement, or execute a bilateral policy, program, order, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China or any Chinese-owned company unless such activities are specifically authorized by law after the date of enactment of this Act." The new House CJS chairman, Rep. John Culberson (R-TX), agrees with Wolf's position and the prohibition is continued in the House-passed version of the FY2016 Commerce-Justice-Science appropriations bill (H.R. 2578). The agreement signed by Kerry reflects State Department activities with China, which are not prohibited by law. The State Department has a Bureau of Oceans and International and Scientific Affairs -- often referred to as Oceans, Environment and Science (OES) -- that oversees international civil space cooperation and presumably will be the official host of these meetings. If and how NASA will be involved apparently is yet to be determined. The agreement also says (section 102) that the two countries will continue bilateral consultations on satellite collision avoidance and the long-term sustainability of space as part of the new U.S.-China Civil Space Cooperation Dialogue. Elsewhere in the list (section 31), the State Department says that the two countries decided to "enhance communication and coordination in the multilateral frameworks of the region, such as the East Asia Summit and the ASEAN Regional Forum." As part of those activities, they will undertake joint projects in three areas, one of which is space security (the others are oil spill response and earthquake emergency response). Also, section 106 reports that the two countries "enhanced cooperation and exchange in space weather monitoring programs, forecasts and services."

#### Despite this open dialogue, the “Wolf Amendment” is “vigorously enforced.”

Smith 15 (Smith, Marcia S. "Culberson Will ‘Vigorously Enforce’ Restrictions on NASA-China Relationship -- UPDATED." *Spacepolicyonline.com*. Space and Technology Policy Group, 26 June 2015. Web. 8 June 2016. <http://www.spacepolicyonline.com/news/culberson-will-vigorously-enforce-restrictions-on-nasa-china-relationship>.) // VS

Rep. John Culberson (R-TX) said today that NASA did not fully inform Congress about the recent State Department-led meeting in Beijing on bilateral U.S.-China civil space cooperation as required by law. He stressed that he plans to "vigorously enforce" the law, which requires NASA to notify Congress in advance of such meetings that technology transfer, for example, will not occur. In a statement to SpacePolicyOnline.com, Culberson said: “NASA has failed to provide the committee with details on the depth and scope of the meetings hosted by the Department of State. China’s Space program is owned and controlled entirely by the People’s Liberation Army and the Chinese government have proven to be the world’s most aggressive in cyber espionage. I intend to vigorously enforce the longstanding prohibitions designed to protect America’s space program.” Culberson chairs the House Appropriations Commerce-Justice-Science (CJS) subcommittee, which funds NASA. His predecessor, former Rep. Frank Wolf (R-VA), led the effort to include language in NASA's appropriations bills prohibiting NASA or the White House Office of Science and Technology Policy (OSTP) from spending any funds related to bilateral space cooperation with China unless certain certifications are made to Congress in advance. Culberson echoes Wolf's views and continues the precedent. In June, the State Department [announced](http://www.spacepolicyonline.com/news/u-s-china-agree-to-bilateral-civil-space-cooperation-dialogue) the initiation of a U.S.-China Civil Space Dialogue with the first meeting scheduled to take place before the end of October. Reaction to the announcement was [muted](http://www.spacepolicyonline.com/news/muted-response-from-critics-as-state-department-prepares-for-space-talks-with-china) despite the controversy. The [first meeting](http://www.spacepolicyonline.com/news/u-s-china-hold-first-civil-space-dialogue-meeting) took place in Beijing last month and another is planned in 2016. NASA confirmed that it participated in the Beijing meeting. Section 532 of the FY2015 appropriations law (P.L. 113-235) that funds NASA states that NASA may not spend any funds to "develop, design, plan, promulgate, implement or execute a bilateral policy, program, order, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China or any Chinese-owned company unless such activities are specifically authorized by law enacted after the date of enactment of this Act." Those limitations do not apply if "no later than 30 days prior to the activity in question," NASA certifies that the activity poses no risk of the transfer of "technology, data, or other information with national security or economic security implications" and does not "involve knowing interactions with officials who have been determined by the United States to have direct involvement with violations of human rights." Any such certification "shall include a description of the purpose of the activity, its agenda, its major participants, and its location and timing." In an emailed statement to SpacePolicyOnline.com on October 27, NASA responded to Culberson's comments as follows: “All discussions under the U.S.-China Civil Space Cooperation Dialogue, including NASA's participation, were conducted in full accordance with U.S. law and regulations.” SpacePolicyOnline.com requested a copy of any correspondence NASA might have sent to Congress in fulfillment of the legal obligations, but nothing was provided. In a related development, Culberson issued a press release last week following the indictment of two NASA supervisors as a result of the [Bo Jiang espionage](http://www.spacepolicyonline.com/news/nasa-ig-blames-confusion-lax-implementation-at-nasa-for-bo-jiang-episode) case. He said the indictment is "further proof of the widespread negligence at NASA and throughout the Obama Administration when it comes to protecting U.S. intellectual property and sensitive information."

### Plan

#### Thus the plan: The United States federal government should increase economic and diplomatic engagement with the People’s Republic of China by repealing the Wolf Amendment to allow for Sino-American cooperation in outer space exploration and development.

### Advantage 1: Space Race

#### China is currently expanding in long-term space developments closely tied with military activity – this sets up the United States to come in second place in the second round of the space race. Only Sino-U.S. space cooperation can mitigate these concerns.

Dillow 16 (Dillow, Clay. "Is China's Race to Space a Military Ploy?" *CNBC.com*. CNBC LLC, 20 Feb. 2016. Web. 8 June 2016. <http://www.cnbc.com/2016/02/18/chinas-space-missions-in-2016-tied-to-military-ambitions.html>.) // VS

A sequel to "Star Wars" may arrive sooner than anyone expects, as China funnels vast resources into an outer space program that may stoke new tensions with the United States. The country plans to launch more than [20 space missions in 2016](http://phys.org/news/2016-01-china-space.html), making the year ahead the busiest ever for the nation's rapidly growing space program. After successfully launching 19 missions in 2015, the People's Republic plans a range of civilian and military missions that will test new rockets, launch a space laboratory, hone China's manned spaceflight capability and loft new satellites into orbit — all while furthering plans to bring a habitable space station online by 2022 and put Chinese astronauts on the moon in the mid-2020s. At the same time, the Asian colossus is investing in anti-satellite technologies that would destroy or disable space-based assets in the event of conflict. Considering the fact that the U.S. relies upon satellites for a lot of its intelligence collection and communication, it's a worrisome trend. And it is exacerbating tensions with [U.S. defense](http://www.cnbc.com/aerospace-defense/) officials and security analysts concerned by China's focus on enhancing its military capabilities in space. Behind the red curtainRight now China spends $2 billion to $3 billion on its space program annually, a fraction of the $19 billion [NASA](http://www.cnbc.com/nasa/) will spend this year. Although China remains decades behind the U.S. in terms of space technology and know-how, it has managed to fast-forward innovation by leveraging existing technologies and its inexpensive labor and material markets. The strategy is working: Over the last 15 years, it's been able to start closing the gap with U.S. and Russian rivals — likely helped along by funding from the Chinese military. The accelerating tempo of China's civilian space activities now presents a **further threat to U.S. space dominance**. The fear is that at some point in the foreseeable future, the Chinese could overtake — and even rocket past — the U.S. industry. "You've got this combination of civilian projects for prestige and military projects for power," said James Andrew Lewis, a senior fellow and director of the Strategic Technologies Program at the Center for Strategic and International Studies (CSIS). "It shows that **the Chinese are moving to be a leader in space — if not the leader."** Among the 20-plus launches scheduled for this year are maiden flights of China's Long March 7 and Long March 5 rockets, the latter being its heaviest and most technically sophisticated rocket to date. China will launch communications and Earth-imaging satellites into orbit for Argentina and Belarus (marking the first time China has exported a satellite to Europe) as well as several satellites of its own. At least two scientific satellites, two navigation satellites and three spacecraft to augment China's High-Resolution Earth Observation System are slated for launch before the end of the year. The most visible and most ambitious mission will launch in the second half of the year, when a Long March 2F rocket sends the Shenzhou XI spacecraft and its crew of three astronauts to dock with China's[Tiangong 2 space laboratory](http://www.popularmechanics.com/space/a14480/china-space-station-2016-tiangong-2/), a habitable module that will launch into orbit separately sometime in the first half of the year. Tiangong 2, while not designed for long-term habitation, is an important steppingstone toward building a Chinese space station that can be inhabited long term, similar to Russia's Mir or the International Space Station. The Shenzhou XI mission will allow Chinese scientists to research technologies and identify potential engineering flaws or other issues before launching the core module of its permanent space station sometime later this decade. If the schedule holds, China hopes to have its very own space station online by 2022 — a space station that some security analysts worry could be used for military applications. Those missions will join an already lengthy Chinese mission portfolio as several ongoing science and technology programs launched in previous years continue to progress. Those missions include a lunar orbiter that is presently scouting locations for a future robotic landing on the lunar surface (likely in 2017) that will pave the way for Chinese astronauts to land on the moon by the mid-2020s — a feat that would make China the only nation capable of putting astronauts on the moon a full five decades after Americans terminated the Apollo program. "The significance of all this is that China clearly intends to have a competitive space capability," said Dr. John Logsdon, a space policy expert and professor emeritus at George Washington University. If the Chinese hit all the milestones they've set for themselves, they'll still be where the U.S. and Soviets were three decades ago, but they'll also have ticked many of the boxes on the modern space-power checklist. "These are steps in the logical development of a highly capable space program," Logsdon noted. "They're not successes or milestones to get worried about as long as our own program moves forward." Given the huge lead the U.S. enjoys over China in space in the entire spectrum of technology and capability, the notion of China's space program leapfrogging the United States' in the foreseeable future is somewhat alarmist, Logsdon said. But the fact that China's civilian space program is so closely linked to its [military space activity](http://thediplomat.com/2015/10/should-the-us-fear-chinas-new-space-weapons/) is worrisome, particularly for the U.S. Alongside its civilian and scientific space programs, China has invested heavily in [anti-satellite technologies](http://news.usni.org/2015/05/11/pentagon-china-developing-new-anti-satellite-weapons-jammers) that would destroy or disable space-based assets in the event of conflict — [weapons like ground-based missiles capable of destroying targets in orbit, as well as experimental lasers and signal jammers that could disable or otherwise "blind" satellites that can be used in a military conflict](http://www.space.com/29437-china-antisatellite-test-pentagon-review.html). In 2007, China publicly demonstrated one such weapon by launching a ground-based interceptor missile at one of its own defunct satellites in orbit, destroying it (and creating a cloud of dangerous space debris). The test was largely viewed as a shot across the bow for U.S. military planners that rely heavily on military satellites for everything from navigation and communication to intelligence gathering, weapons targeting and piloting its drone aircraft. While the Pentagon retains its own means of interfering with an adversary's satellites in orbit — including ship-based anti-satellite missiles — U.S. military and commercial interests maintain a far greater presence in orbit and thus have the most assets to lose there. "There are a lot of avenues to go after satellites, and what worries people is that the Chinese are pursuing all of them," CSIS's Lewis said. "The question becomes: If they're so into peace, why are they building so many weapons?" What lies ahead?The uptick in Chinese space activity has political ramifications as well, Lewis said, even on the purely civilian side of things. In the last space race, putting astronauts on the moon represented the pinnacle of space-based capability, catapulting the U.S. ahead of the Soviet Union in terms of international prestige. With the U.S. space program now focused on abstract goals like a [manned mission to Mars](http://www.cnbc.com/2016/02/09/nasa-gives-tour-of-mars-with-360-degree-video.html) at some vague point in the future, China is making concrete plans to return humans to [the moon](http://arstechnica.com/science/2016/01/china-to-attempt-a-space-first-landing-on-the-far-side-of-the-moon/) at a time when U.S. astronauts rely on the Russian Soyuz spacecraft for rides to the International Space Station. "The Chinese are persistent and will probably get back on the moon before we do, so in round two of the space race, we come in second place," Lewis said. "When China lands on the moon and we aren't there, what's the world going to think?" But the Chinese space program still remains several years away from doing so, and in the meantime, its increasing presence in space also creates room for cooperation if China and the U.S. can push past their mutual distrust on national security matters. While **the military aspects of Chinese space ambitions need to be monitored and understood**, Logsdon said, **the best way to do that is to engage with the Chinese and their space program.** "We can get more done if countries in space work together," he said. "The days of one country being the dominant space power are behind us."

#### These developments prove that current deterrence policy is failing and is fueling an arms race with China. Change in strategy is necessary to prevent space war.

Gargasz 10 (Michael Luke, Major, United States Air Force, Maxwell Air Force Base, Alabama, “We’ve Rattled Our Sabers…Now What? The Future of US/China Space Relations”// -sb)

[Traditionally. US deterrent means have been largely based on technology. Those efforts involved developing advanced offensive and defensive capabilities and successfully demonstrating them. This, in theory, deters other nations from challenging our position of strength. Besides theoretically preventing war. another advantage of this strategy is preparedness. By developing advanced capabilities, the US would be prepared to defend its space interests should they be threatened. A major disadvantage of pursuing deterrence for space is cost because "[t]he quest for unassailable space technology, arguably an impossible goal, will certainly be obscenely expensive."1 Another disadvantage is that an aggressive deterrent strategy can be viewed as threatening and lead to an arms race and '"even great insecurity.""18 Another aspect of deterrence (that could be viewed as an advantage or disadvantage depending on your viewpoint) is that it does not require extensive engagement between the rival parties. It is apparent (rhetorically speaking) that **the US was on the deterrence path in recent years in regards to space war prevention**. Unfortunately, much of this rhetoric stepped far beyond what was technologically feasible and left the US vulnerable to countermeasures developed by an undeterred part)' (despite the futuristic capabilities being conveyed in US "vision" statements). China received the message of US power but was not fully deterred. They decided to counter US strength by quietly developing countermeasures to stop the US's march toward "space dominance"\*. During this period, there was very limited contact between the US and China on space matters. This lack of interaction has led to a very '"high level of suspicion.. .setting up an antagonistic if not adversarial relationship'" between the two space powers.'9 The 2007 Chinese ASAT demonstration was a clear indication that US deterrence efforts have not produced the intended results. Perhaps **a change in strategy is necessary to prevent space war** between the Chinese and the US and to avoid the crippling economic ramifications of such an endeavor.

#### Chinese weaponization is a response to U.S. space unilateralism – China’s need to counter US space power sets the stage for a space war that causes space debris.

Gargasz 10 (Michael Luke, Major, United States Air Force, Maxwell Air Force Base, Alabama, “We’ve Rattled Our Sabers…Now What? The Future of US/China Space Relations”//-sb)

Similar to the traditional US view of peaceful uses of space. China has longed advocated a weapons-free space. But faced with the US's hegemonic power and belligerent rhetoric. China clearly decided to take action to counter US space power. The country quietly built anti-space capabilities throughout the last decade such as ground-based lasers, satellite jammers, and anti-satellite (ASAT) weaponry and intensified its rhetoric.9 In January 2006. China released its 2006 Defense White Paper which no longer included language "preventing an arms race in outer space".10 Subtle as this change may have seemed, the rhetorical die was cast. The next two years saw laser dazzling of US spacecraft and a successful direct-ascent ASAT demonstration by the Chinese (the US responded in kind with a successful satellite shoot down of its own in 200S).11 With anti-space capability demonstrated, recent Chinese rhetoric has gotten more aggressive in its tone. For instance. China's air force commander Xn Qiliang recently said "[a]s far as the revolutions in military affairs in concerned, the competition between military forces is moving Towards outer space" and militarization of space is inevitable. " Is Xu Qiliang correct? Is militarization of space inevitable? Is it in the interest of China or the US to engage in a space war? Perhaps **the answer to all these questions is an emphatic no**! The US and Chinese economies are symbiotically linked. For example. US and China trade in 2008 amounted to greater than 400 billion dollars.15 Outset of war between the US and China would have horrific economic ramifications to both parties. In addition, both countries have thriving space programs and rely heavily upon space platforms for military and economic purposes (albeit the US is far more reliant). So. the resulting acts in space would asymmetrically affect both nations. **China and the US would be foolish to instigate a space shooting war because the "ensuing debris could quickly render Earth orbital space unusable for centuries."**14 Also, there would be great pressure from other international space powers to avoid space war since they could eventually become collateral damage of a US China kinetic conflict in space. Given that space war is not advisable, what can the US do to prevent it?

#### \*\*\*Sino-U.S. space war escalates and goes nuclear – causes extinction.

Forden 8 (Geoffrey Forden, National Security research associate at MIT, "How China Loses the Coming Space War (Pt. 2)", 1/10/08, www.wired.com/dangerroom/2008/01/inside-the-ch-1/)

If China did decide to destroy these early warning satellites, it would greatly reduce the area covered by US missile defenses in Taiwan against SCUD and longer range missiles. This is because the area covered by a theater missile defense system is highly dependent on the warning time it has; the greater the warning time, the more effective the missile defense system’s radar is. Thus a Patriot battery, which might ordinarily cover the capital of Taiwan, could be reduced to just defending the military base it was stationed at. Some analysts believe that China would gain a tremendous propaganda coup by having a single missile make it through US defenses and thus might consider this use of its deep-space ASATs highly worthwhile even if it could not increase the probability of destroying military targets. On the other hand, China would run a tremendous risk of the US believing it was under a more general nuclear attack if China did destroy these early warning satellites. Throughout the history of the Cold War, the US has had a policy of only launching a “retaliatory” nuclear strike if an incoming attack is detected by both early warning satellites and radars. Without the space leg of the early warning system, the odds of the US misinterpreting some missile launch that it detected with radar as a nuclear attack would be greatly increased even if the US did not view the satellite destruction as a sufficiently threatening attack all by themselves. Such a misinterpretation is not without precedent. In 1995, Russia’s early warning radars viewed a NASA sounding rocket launch off the coast of Norway and flagged it as a possible Trident missile launch. Many analysts believe that Russia was able to not respond only because it had a constellation of functioning early warning satellites. Any Chinese attacks on US early warning satellites would risk both intentional and mistaken escalation of the conflict into a nuclear war without a clear military goal.

#### \*\*\*AND space warfare creates dangerous space debris that will alter the Earth’s atmosphere and threaten the survival of humanity.

The Space Review 8**,** (Taylor Dinerman, “Messy Battlefields,” 3-24-2008 <http://www.thespacereview.com/article/1089/1> EL)

When it happens, war in space is going to be a very messy business, especially in low Earth orbit (LEO), where most of the really lucrative targets are. Big high-performance spy satellites are especially important. They provide those nations that own and operate them with very high-resolution imagery across swaths of the electromagnetic spectrum. Knocking them out in the first moments of a conflict is going to be a priority. During the Cold War this was expected and planned for. The US expected to USSR to knock out its big Keyhole satellites as a prelude to an all-out nuclear attack. It was one of the reasons why some leaders in the US figured they could count on at least a small margin of early warning. Today, when the possibility of a major nuclear war has receded, space warfare may be fought without the cloud of atomic uncertainty hanging over every operation. According to one report in *Aviation Week*, the US is now building a pair of advanced Keyhole satellites at a cost of about $15 billion. The idea that the US will launch a defenseless military asset that costs $7.5 billion seems to defy logic, yet that is exactly what the National Reconnaissance Office (NRO) seems to have in mind. As space technology spreads, the incentives for small and medium-sized states to seek space warfare capability increases. A dictator who does not want to end the way Saddam Hussein did may seek way to hurt US warfighting capability in such a way as to impose major costs and casualties on the US early on. The destruction of a major US satellite would be both a substantive and a symbolic victory over the US. Hitting a number of satellites would increase the effect. Such an attack would result in a major increase in the amount of debris orbiting the Earth. This would be the equivalent of a “scorched earth” policy if enough deadly debris were created. One possibility that has not been publicly examined might be to build highly- or ultra-destructive ASAT weapons that would literally pulverize the target and leave nothing behind but bits of dust. Even small particles can do some damage, but paint flakes like those that sometimes hit space shuttles have not managed to destroy an orbiter.

### Advantage 2: China Cooperation

#### **Lack of cooperation in space impedes bilateral negotiations on non-space-related issues.**

Kulacki 6/23/11 (Gregory, a senior analyst and the China Project manager for the Union of Concerned Scientists, Volume 474, Nature, “US and China need contact, not cold war”, <http://www.ucsusa.org/assets/documents/nwgs/Kulacki_US-China-coop_Nature_6-23-11.pdf//sb>)

This April, a US congressman used budget negotiations to ram through a potentially unconstitutional assault on the president’s ability to conduct scientific diplomacy. A bill was passed stipulating that, until September 2011 at least, no appropriated funds may be used by NASA or the White House Office of Science and Technology Policy (OSTP) “to develop, design, plan, promulgate, implement, or execute a bilateral policy, program, order, or contract of any kind to participate, collaborate, or coordinate bilaterally in any way with China”. The move, instigated by Representative Frank Wolf (Republican, Virginia), chair of the commerce, justice and science subcommittee of the House appropriations committee, which funds NASA and the OSTP, is part of a decades-old congressional tradition of concerns about China’s space programme. Nevertheless, this latest shot has wideranging implications. It has already led to the suspension of a geodynamics research project between the Chinese Academy of Sciences and NASA, for example. And it will impede ongoing bilateral negotiations on climate change and nuclear security that are part of the US–China Strategic and Economic Dialogue, a high-level forum established by presidents Barack Obama and Hu Jintao in 2009. My experience working in China for the Union of Concerned Scientists suggests that the ban will have a chilling effect on both government-funded scientific cooperation and on non-governmental activities. The ban should be lifted. The progress of Chinese space activity during the previous US administration suggests that **the prohibitions that have stifled Sino–American scientific cooperation** for decades **have not achieved their aims, and have** arguably **been counterproductive**. China has shown that it has the talent and resources to go it alone. The sanctions have only severed links between the countries and made a new generation of Chinese intellectuals resentful and suspicious of the United States. And they stand in contrast to the tradition of scientists strengthening diplomatic relations.

#### **US-China cooperation over space is k2 cooperation on formulating international solutions for climate change, nuclear terrorism and space debris.**

Kulacki 6/23/11 (Gregory, a senior analyst and the China Project manager for the Union of Concerned Scientists, Volume 474, Nature, “US and China need contact, not cold war”, <http://www.ucsusa.org/assets/documents/nwgs/Kulacki_US-China-coop_Nature_6-23-11.pdf//sb>)

Some see a moral argument behind the bans on US–China collaboration, arguing that China’s human-rights record necessitates a certain distance. Wolf is one such person. He challenged Holdren to justify cooperation with a regime still guilty of the same human-rights abuses that precipitated the Tiananmen sanctions. Holdren explained that the administration’s pursuit of scientific and technological cooperation was not an endorsement of the Chinese government or a reward for good behaviour, but was necessary to address complicated threats to US interests, including climate change, nuclear terrorism and space debris. These are problems that require international solutions, and if China fails to address them it will harm the US public.

#### WE SOLVE WARMING -- This fosters dialogue and information exchanges that are key to mitigating global warming.

Davidson 10 (Michael, Michael Davidson is a visiting fellow at Asia Policy Point., “US, China: A green security blanket?”, http://www.atimes.com/atimes/China/LE14Ad01.html//SB)

To meet the new transnational threat of climate change, the QDR calls for collaborations with "both traditional allies and new partners". The US and China are natural new partners. Neither can confront alone the human dislocation and resource competition caused by environmental degradation. Furthermore, of all the governmental agencies examining climate change, only militaries have the necessary logistical structures to react cooperatively and quickly. A new US-China security partnership would complement the 2009 inter-governmental memorandum of understanding to Enhance Cooperation on Climate Change, Energy and the Environment that established a regular policy dialogue on these topics. It could also build on the Strategic and Economic Dialogue (S&ED). The S&ED was designed to address a large range of shared concerns, including regional security and global issues such as climate change. A new track on climate security cooperation can strengthen ties in both dialogues. Cooperation has already begun. For example, last May, China and the US participated multilaterally in the ASEAN Regional Forum's First Voluntary Demonstration of Response on Disaster Relief. The US and China should go the next step to initiate a joint exercise focusing specifically on climate change-induced disasters. In addition, climate security extends beyond traditional disaster preparedness, into climate change mitigation and scientific research. The Office of Naval Research wants to establish scientific exchanges with the Chinese on alternative energy and other basic science through its proposed joint forces Hong Kong office. The Office of Naval Research, the Air Force Office of Scientific Research and the US Army Research, Development and Engineering Command already support basic science research projects with other Asian countries on superconductors and biofuels. By focusing on scientific research and disaster preparedness, the US and China can reframe existing military exchanges to focus on areas of critical cooperation: energy security concerns as well as human security needs such as cheap energy, food shortages and refugee relief. Instead of bickering over borders and air space, it is first better to establish a working day-to-day relationship over matters of mutual concern and interests. A US-China climate security partnership can draw on the best instincts and science of both countries, both of which are firm ground to build trust and understanding.

#### The US and China are the top two emitters in the world -- cooperation with China is the only way to solve global warming.

Brookings 9 (Brookings Institute, A FOREIGN POLICY AND JOHN L. THORNTON CHINA CENTER EVENT, “U.S.-China Climate Change Cooperation: Overcoming Obstacles”, http://www.brookings.edu/events/2009/0205\_climate\_change.aspx//sb)

Any solution to global warming will require substantial activity in the United States and China, the world’s top two emitters of greenhouse gases. Working together, the two countries could make important progress in addressing this challenge. Recent developments—including new leadership in the U.S., dire scientific warnings and an aggressive international negotiating schedule—are dramatically raising the profile of this issue on the U.S.-China bilateral agenda. Yet different histories, cultures and national circumstances create substantial barriers to large-scale cooperation.

#### AND WE SOLVE NUCLEAR TERROR -- high risk of nuclear terrorist attacks prompt an international solution – the threat is real and the impact is death, socio-economic panic, and “a radical transformation of the global order.”

Dvorkin 12 (Vladimir Z., Major General (retired), doctor of technical sciences, professor, and senior fellow at the Center for International Security of the Institute of World Economy and International Relations of the Russian Academy of Sciences. The Center participates in the working group of the U.S.-Russia Initiative to Prevent Nuclear Terrorism, 9/21/12, "What Can Destroy Strategic Stability: Nuclear Terrorism is a Real Threat," belfercenter.ksg.harvard.edu/publication/22333/what\_can\_destroy\_strategic\_stability.html)

Hundreds of scientific papers and reports have been published on nuclear terrorism. **International conferences have been held on this threat** with participation of Russian organizations, including IMEMO and the Institute of U.S. and Canadian Studies. Recommendations on how to combat the threat have been issued by the International Luxembourg Forum on Preventing Nuclear Catastrophe, Pugwash Conferences on Science and World Affairs, Russian-American Elbe Group, and other organizations. The UN General Assembly adopted the International Convention for the Suppression of Acts of Nuclear Terrorism in 2005 and cooperation among intelligence services of leading states in this sphere is developing.¶ At the same time, these efforts fall short for a number of reasons, partly because various acts of nuclear terrorism are possible. Dispersal of radioactive material by detonation of conventional explosives (“dirty bombs”) is a method that is most accessible for terrorists. With the wide spread of radioactive sources, raw materials for such attacks have become much more accessible than weapons-useable nuclear material or nuclear weapons. The use of “**dirty bombs**” will not cause many immediate casualties, but it will result into long-term radioactive contamination, contributing to the spread of **panic and socio-economic destabilization**.¶ Severe consequences can be caused by sabotaging nuclear power plants, research reactors, and radioactive materials storage facilities. Large cities are especially vulnerable to such attacks. A large city may host dozens of research reactors with a nuclear power plant or a couple of spent nuclear fuel storage facilities and dozens of large radioactive materials storage facilities located nearby. The past few years have seen significant efforts made to enhance organizational and physical aspects of security at facilities, especially at nuclear power plants. Efforts have also been made to improve security culture. But these efforts do not preclude the possibility that **well-trained terrorists may be able to penetrate nuclear facilities**.¶ Some estimates show that sabotage of a research reactor in a metropolis may expose hundreds of thousands to high doses of radiation. A formidable part of the city would become uninhabitable for a long time.¶ Of all the scenarios, it is building an improvised nuclear device by terrorists that poses the maximum risk. **There are no engineering problems that cannot be solved if terrorists decide to build a simple “gun-type” nuclear device.** Information on the design of such devices, as well as implosion-type devices, is available in the public domain. It is the acquisition of weapons-grade uranium that presents the sole serious obstacle. Despite numerous preventive measures taken, we cannot rule out the possibility that such materials can be bought on the black market. **Theft of weapons-grade uranium is also possible**. Research reactor fuel is considered to be particularly vulnerable to theft, as it is scattered at sites in dozens of countries. There are about 100 research reactors in the world that run on weapons-grade uranium fuel, according to the International Atomic Energy Agency (IAEA).¶ A terrorist “gun-type” uranium bomb can have a yield of least 10-15 kt, which is **comparable to the yield of the bomb dropped on Hiroshima**. The explosion of such a bomb in a modern metropolis can kill and wound hundreds of thousands and cause serious economic damage. There will also be long-term sociopsychological and political consequences.¶ The vast majority of states have introduced unprecedented security and surveillance measures at transportation and other large-scale public facilities after the terrorist attacks in the United States, Great Britain, Italy, and other countries. These measures have proved burdensome for the countries’ populations, but the public has accepted them as necessary. A nuclear terrorist attack will make the public accept further measures meant to enhance control even if these measures significantly restrict the democratic liberties they are accustomed to. Authoritarian states could be expected to adopt even more restrictive measures.¶ If a nuclear terrorist act occurs, nations will delegate tens of thousands of their secret services’ best personnel to investigate and attribute the attack. Radical Islamist groups are among those capable of such an act. We can imagine what would happen if they do so, given the anti-Muslim sentiments and resentment that conventional terrorist attacks by Islamists have generated in developed democratic countries. Mass deportation of the non-indigenous population and severe sanctions would follow such an attack in what will cause **violent protests in the Muslim world**. **Series of armed clashing terrorist attacks may follow**. The prediction that Samuel Huntington has made in his book “The Clash of Civilizations and the Remaking of World Order” may come true. Huntington’s book clearly demonstrates that it is not Islamic extremists that are the cause of the Western world’s problems. Rather there is a deep, intractable conflict that is rooted in the fault lines that run between Islam and Christianity. This is especially dangerous for Russia because these fault lines run across its territory. To sum it up, the political leadership of Russia has every reason to revise its list of factors that could undermine strategic stability.  BMD does not deserve to be even last on that list because its effectiveness in repelling massive missile strikes will be extremely low. BMD systems can prove useful only if deployed to defend against launches of individual ballistic missiles or groups of such missiles. Prioritization of other destabilizing factors—that could affect global and regional stability—merits a separate study or studies. But even without them I can conclude that nuclear terrorism should be placed on top of the list. **The threat of nuclear terrorism is real, and a successful nuclear terrorist attack would lead to a radical transformation of the global order**.  All of the threats on the revised list must become a subject of thorough studies by experts. States need to work hard to forge a common understanding of these threats and develop a strategy to combat them.

#### AND WE SOLVE SPACE DEBRIS -- Repealing the Wolf amendment is k2 cleaning up space debris to lessen the threat of catastrophic collisions.

Anzaldua 15 (Anzaldua, Al, and Dave Dunlop. "Overcoming Non-technical Challenges to Cleaning up Orbital Debris." *The Space Review: (page 1)*. The Space Review, 9 Nov. 2015. Web. 09 June 2016. <http://www.thespacereview.com/article/2863/1>.) // VS

There is nothing for the US and other countries to lose and much to gain by reaching out to Russia to clean up orbital debris. The same goes for reaching out to China, which has recently signed agreements with Russia regarding cooperation in space (Song 2015). Although the 2011 Wolf amendment effectively bars NASA from engaging in bilateral space agreements with China, there is growing debate over whether that legislation is counterproductive and should therefore be overturned (David 2015). For dealing with either country, provisions of the International Traffic in Arms Regulations (ITAR) may also need also to be addressed. Continuing to exclude China from civil space cooperation will not prevent it from developing its own capabilities (Weeden 2015). Space weather, scientific research, exploration, disaster response, and global environmental monitoring are areas where the US and China could collaborate with each other and other interested countries in a way that would lower tensions while achieving positive gains (Weeden 2015). No country alone can affordably clean up enough debris to remove the threat of catastrophic collisions, and both Russia and China are key players in cleaning up orbital debris. We therefore recommend that the United States actively seek to include both countries in its international, public-private efforts to clean up orbital debris. To facilitate cooperation with China, we also recommend that the US Congress repeal the 2011 Wolf amendment, which bars the use of federal funds by NASA to conduct bilateral science exchanges with China. Instead, Congress might consider the option of limiting science exchanges to areas of overwhelming common interest, such as orbital debris, planetary defense, and space weather.

### Solvency

#### The annulment of the Wolf Amendment is key to collaboration with China in outer space.

Baldavs 15 (Vid Baldavs, 2015, The Space Review, December 7, Prospects for US-China Space Cooperation, <http://www.thespacereview.com/article/2878/1> DOA: 5-10-16)

Vidvuds (Vid) Beldavs has been engaged in thinking about space industrial development since he taught the first college class in the US on the topic in 1977 at Coe College in Cedar Rapids, Iowa on executive leave from his duties as business trends advisor (corporate futurist) for Cummins, Inc. Vid now works for the FOTONIKA-LV photonics research center of the University of Latvia . A self-sustaining space economy is one where investment generates positive returns. **The breakthrough to a self-sustaining space economy would mark a historical inflection point where investment in space is businesses will start to see exponential growth.** Achieving that breakthrough is in the interests of all participating states insofar as that will mark the point at which significant gains in the benefits of space to all of Earth’s people will exceed the investment required to achieve them.

**To engage China as a strategic partner in the opening of the space frontier the following actions are needed:**

* **The Wolf Amendment needs to be annulled.**
* **The Administration needs to take steps to engage China in space collaboration. In the longer term this would include measures such as the Space Development Investment Bank. Immediate steps would include collaboration on remote sensing for disaster relief, space debris research, and space situation awareness. Appropriate steps in the intermediate term would include measures such as opening ISS and its successor facilities to China.**
* The [International Lunar Decade](https://ildwg.wordpress.com/) could provide a unifying framework for international collaboration in space development through 2030.

#### **US-China space cooperation is key – spills over to broader cooperation on a plethora of global issues.**

Zhou 8 (Yi Zhou, Center for Space Science and Applied Research, Chinese Academy of Sciences, George Washington University, "Perspectives on Sino-US cooperation in civil space programs", 7/14/08, [www.sciencedirect.com/science/article/pii/S0265964608000404//avi](http://www.sciencedirect.com/science/article/pii/S0265964608000404//avi))

 Benefits for geopolitical issues and global stability. A country's strategic interests may provide the primary motivation for engaging partner nations in cooperative space ventures. The International Space Station (ISS) is a good example of this. China and the USA are both important countries and a stable relationship between them is a key factor in global stability. Space could be a focal point for promoting this kind of stability. Several European countries and Russia have undertaken cooperative activities in space with China to satisfy their geopolitical demands and other interests. Chinese participation in US-led space exploration would send a strong signal to the world of good US–China relations [8], which would be good for US international relations and would provide geopolitical benefits. • The United States will be able to understand more about China's space development and direction through actual cooperation. At the moment the USA observes China's space policy and capabilities through statements in China's white papers. But studying one paper every five years is too limited and does not provide sufficient detail. Some American consulting and research institutions may simply rely on graduate students’ superficial papers to try to gain insight into the direction of China's space development. These are not full-scale or always entirely accurate, and may sometimes result in misunderstandings. If NASA signed an agreement with CNSA and began joint space projects, they would more easily and directly understand China's space activities and directions. They may even be able to make some good suggestions for China's space projects and policies. These win–win suggestions should be readily adopted by China's policy makers to extend the two countries’ space and national benefits.

#### AND we have a solvency advocate – The Wolf Amendment is nothing more than an impediment on U.S. potential in space.**Baldavs 15** (Vid Baldavs, 2015, The Space Review, December 7, Prospects for US-China Space Cooperation, <http://www.thespacereview.com/article/2878/1> DOA: 5-10-16) // VS

Clearly sensitive technologies need to be protected. But, protecting US intellectual property is not known to be a domain where the House Appropriations Committee of the US Congress has recognized expertise or where it has been invested with any specific authority. Additionally, NASA is a relatively tiny domain in the vast territory of advanced technology under development by the US. The Wolf Amendment, in fact, offers no protection of American technology but instead empowers members of a Congressional committee with no relevant expertise or authority to play a foreign policy role. Congressman Culbertson clearly recognizes that space technology is key to addressing major challenges facing not only the US, but the entire world community. To bar the United States from participation in global initiatives in the peaceful uses of outer space because China is also involved is, at best, is an overemotional response to the potential for illicit technology transfer with a totally inappropriate instrument. Far more relevant to US national interests would be for Rep. Culbertson to support developing more effective strategies to advance US commercial interests in space. Otherwise, the Chinese, not bounded by ineffective legislation, will eat our lunch. No one has yet developed the technologies for ISRU whether on the Moon, the asteroids, Mars, or beyond. Yet ISRU technologies are central to the whole idea of asteroid and lunar mining. If the Chinese can work with everyone else on the planet, but the US can only work with a short list as approved by the Appropriations Committee, it should be expected that the Chinese, drawing on the knowledge base of the entire world, will advance more quickly. We have no lead in ISRU, and our lead in other domains of space technology may not be particularly relevant to this challenge. It is time for Congress to wake up to the emerging commercial space future and work to fully unleash our commercial space potential rather than complaining about a very high level meeting in Beijing where common challenges in the peaceful uses of outer space were discussed with NASA experts present.