Lewis (GA)
Linder
Lipinski
LoBiondo
Loebsack
Lowey
Lucas
Luetkemeyer
Luján
Lummis
Lungren, Daniel E.
Lynch
Mack
Maffei
Maloney
Manzullo
Marchant
Markey (CO)
Markey (MA)
Marshall
Massa
Matheson
Matsui
McCarthy (CA)
McCarthy (NY)
McCaul
McClintock
McCollum
McCotter
McDermott
McGovern
McHenry
McIntyre
McMahon
McMorris Rodgers
McNerney
Meek (FL)
Meeks (NY)
Melancon
Mica
Michaud
Miller (FL)
Miller (MI)
Miller (NC)
Miller, Gary
Miller, George
Minnick
Mitchell
Mollohan
Moore (KS)
Moore (WI)
Moran (KS)
Moran (VA)
Murphy (CT)
Murphy (NY)
Murphy, Patrick
Murphy, Tim
Murtha
Myrick
Nadler (NY)
Napolitano
Neal (MA)
Neugebauer
Nunes
Nye
Oberstar
Obey
Olson
Olver
Ortiz
Pallone
Pascrell
Pastor (AZ)
Paul
Paulsen
Payne
Pence
Perlmutter
Perriello
Peters
Peterson
Petri
Pitts
Platts
Poe (TX)
Polis (CO)
Pomeroy
Posey
Price (GA)
Price (NC)
Putnam
Quigley
Rahall
Rangel
Rehberg
Reichert
Reyes
Rodriguez
Roe (TN)
Rogers (AL)
Rogers (KY)
Rogers (MI)
Rohrabacher
Rooney
Ros-Lehtinen
Roskam
Ross
Rothman (NJ)
Roybal-Allard
Royce
Ruppersberger
Rush
Ryan (OH)
Ryan (WI)
Salazar
Sánchez, Linda T.
Sanchez, Loretta
Sarbanes
Scalise
Schakowsky
Schiff
Schmidt
Schock
Schrader
Schwartz
Scott (GA)
Scott (VA)
Sensenbrenner
Serrano
Sessions
Sestak
Shadegg
Shea-Porter
Sherman
Shimkus
Shuler
Shuster
Simpson
Sires
Skelton
Slaughter
Smith (NE)
Smith (NJ)
Smith (TX)
Smith (WA)
Snyder
Souder
Space
Speier
Spratt
Stark
Stearns
Stupak
Sullivan
Sutton
Tanner
Taylor
Teague
Terry
Thompson (CA)
Thompson (MS)
Thompson (PA)
Thornberry
Tiahrt
Tiberi
Tierney
Titus
Tonko
Towns
Tsongas
Turner
Upton
Van Hollen
Velázquez
Visclosky
Walz
Wasserman Schultz
Waters
Watt
Waxman
Welch
Westmoreland
Wexler
Whitfield
Wilson (OH)
Wilson (SC)
Wittman
Wolf
Woolsey
Wu
Yarmuth
Young (FL)

NOT VOTING—17

Abercrombie
Barrett (SC)
Bean
Davis (AL)
Gohmert
Hinojosa
Lofgren, Zoe
McKeon
Pingree (ME)
Radanovich
Richardson
Schauer
Walden
Wamp
Watson
Weiner
Young (AK)

ANNOUNCEMENT BY THE SPEAKER PRO TEMPORE

The SPEAKER pro tempore (during the vote). There are 2 minutes remaining in this vote.

□ 1219

So (two-thirds being in the affirmative) the rules were suspended and the resolution was agreed to.

The result of the vote was announced as above recorded.

A motion to reconsider was laid on the table.

GENERAL LEAVE

Mr. GORDON of Tennessee. Mr. Speaker, I ask unanimous consent that all Members may have 5 legislative days within which to revise and extend their remarks and to include extraneous material on the bill, H.R. 3585

The SPEAKER pro tempore. Is there objection to the request of the gentleman from Tennessee?

There was no objection.

SOLAR TECHNOLOGY ROADMAP ACT

The SPEAKER pro tempore. Pursuant to House Resolution 846 and rule XVIII, the Chair declares the House in the Committee of the Whole House on the state of the Union for the consideration of the bill, H.R. 3585.

□ 1219

IN THE COMMITTEE OF THE WHOLE

Accordingly, the House resolved itself into the Committee of the Whole House on the State of the Union for the consideration of the bill (H.R. 3585) to guide and provide for United States research, development, and demonstration of solar energy technologies, and for other purposes, with Mr. SABLAN in the chair.

The Clerk read the title of the bill.

The CHAIR. Pursuant to the rule, the bill is considered read for the first time.

The gentleman from Tennessee (Mr. GORDON) and the gentleman from Texas (Mr. HALL) each will control 30 minutes.

The Chair recognizes the gentleman from Tennessee.

Mr. GORDON of Tennessee. Mr. Chairman, I yield myself such time as I may consume.

I am pleased that we're considering H.R. 3585, the Solar Technology Roadmap Act sponsored by Science and Technology Subcommittee Chair GABRIELLE GIFFORDS. This bipartisan bill has a number of cosponsors including myself, subcommittee Chair BRIAN BAIRD, and DAN LIPINSKI, as well as committee members MICHAEL MCCAUL and ROSCOE BARTLETT.

I assume solar power is not the first name that comes to your mind when you think of the State of Tennessee; but over the last few years we have really seen firsthand the major potential that solar energy has to create new jobs across the country and reduce our dependency on foreign oil in the process.

Recently, two major producers of special materials used in solar panels have chosen Clarksville and Cleveland, Tennessee, as sites for their next large factories, each with over $1 billion investment creating hundreds of jobs, plus many more jobs in larger investment with the supply chain, as well as universities now setting up courses in management for the solar panel industries. And this is happening all across the State and communities all across our Nation. And that's why we need a national plan, and that's why we are discussing this important bill today.

H.R. 3585 establishes a comprehensive road mapping process for solar technology research, development, and demonstration activities conducted by the Federal Government in partnership with industry. The Secretary of Energy is also directed to award grants to carry out these programs by merit-based review specifically to provide awards to industry-led consortia research, development, and demonstration in solar manufacturing.

The road map provision in the bill is molded on the successful National Technology Roadmap for Semiconductors, which has been instrumental in helping semiconductor technology advance rapidly over the past two decades.

H.R. 3585 incorporates recommendations of the witnesses who appeared at the Science and Technology Committee, as well as input from a variety of academic, government, and industry experts. Science and Technology Committee staff closely consulted with the minority in the development of this bill. We accepted several minority amendments, and the vast majority of items in our manager's amendment in committee were also suggested or requested by the minority. The bill was voted out of committee on a bipartisan voice vote.

H.R. 3585 has been officially endorsed by the U.S. Chamber of Commerce, the National Association of Manufacturers, the Solar Energy Industries Association, British Petroleum, IBM, Intel, and National Semiconductor.

I look forward to voting for several good amendments today and strongly urge my colleagues here to support a bill that will help our country take back the leadership position in this fast-growing industry and put our best minds to work to meet our future energy needs.

Once again, I want to commend Ms. GIFFORDS, Mr. MCCAUL on their leadership on this issue. I would also like to take a moment to recognize staff who worked on this bill: Adam Rosenberg, Wyatt King, and Elaine Ulrich on the majority side; and Elizabeth Chapel and Tara Rothschild on the minority side. Without the hard work of the staff on both sides of the aisle, producing good bills like this one would not be possible.

Mr. Chairman, I reserve the balance of my time.

Mr. HALL of Texas. Mr. Speaker, I rise today, of course, to speak on H.R. 3585, the Solar Technology Roadmap Act.

I would first like to thank the sponsor of the bill, Representative GIFFORDS, and also Chairman GORDON, for working with our side of the aisle to address concerns and incorporating suggestions to the extent that you were able to. While we didn't come to an agreement on everything, we came to an agreement on a lot of things. But I do feel that we were given the opportunity to state our case and make our arguments. Unfortunately, the areas in which we were not able to reach an agreement remain of concern.

Let me start by saying that as a conference, we're supportive of solar energy, and we have so voted—most of the people on my side of the aisle. We certainly see the great potential it has to be a contributor of energy to our constituents. However, as already stated, there's some lingering concerns in the bill before us today.

First, the bill authorizes $2.25 billion over 5 years. This is not an insignificant amount, especially in our current financial climate. The question was raised during consideration of the bill in committee whether or not investment tax credits for solar energy, long-term incentives to develop renewable energy in general or an easing of burdensome regulations would be a better way to encourage the development and use of solar energy.

Solar energy has been on the forefront for over 30 years, and it still only makes up 1 percent of the 7 percent of the renewable energy consumed in the United States according to the Energy Information Administration.

This authorization, coupled with the requirement that the Secretary of Energy allocate at least 75 percent of funding to those solar research, development, and demonstration projects directed under the road map, leaves little flexibility for innovations that may be viable and yet not included as part of the road map.

Second, the bill directs, not requests, it directs the Secretary to spend at least 30 percent in 2012 and culminating with at least 75 percent in 2015. It could be as much as 100 percent on the research, development, and demonstration set forth by the road map committee.

Moreover, at least one-third of the committee must be made up of industry members who are explicitly exempted from the Federal Advisory Committee Act. And this act, as you know, was intended to require an open and transparent process. While I support the Department of Energy, the university, and industry collaboration in the area of solar research, development, and demonstration, the optics of this examination are that you now have a committee, half of whose membership could be industry, telling the Department of Energy where to direct taxpayer money into R&D that could benefit their own companies while not having to answer to anyone or defend their recommendation to the entity that was set up to oversee and to require open and transparent processes.

While I appreciate the inclusion at our suggestion of language dealing with potential conflicts of interests in regard to the road map committee membership, more transparency needs to be incorporated.

During the full committee markup, Republicans attempted to address concerns through amendments that would have reduced the authorization, given the Secretary of DOE some discretion as to how much funding should go to the road map recommendations.

□ 1230

We had some suggestions to sunset the road map committee in 2015. While these amendments were all voted down, I remain hopeful that these issues can be addressed as we move forward.

I would like to point out that the Department of Energy shares some of these same concerns with this bill, and it made the Science and Technology Committee aware of those concerns earlier this week. In particular, they expressed concerns with using the road map committee to direct DOE activities; the requirement of a percentage of funds to be used to support activities identified by the committee; the Federal Advisory Committee Act exemption for the committee; and potential conflicts of interest with the members of the committee.

I support research and development into solar energy technologies, but believe me, this bill has a lot of room for improvement.

With that, I reserve the balance of my time.

Mr. GORDON of Tennessee. Mr. Chairman, I yield such time as she may consume to the passionate solar advocate and primary author of this bill, the gentlewoman from Arizona (Ms. GIFFORDS).

Ms. GIFFORDS. First of all, I would like to thank Chairman GORDON, also Ranking Member HALL, members of the committee, and our staff for helping to move this very important bill forward.

Mr. Chairman, the United States has some of the best solar resources of any industrialized country in the world—enough power, in fact, to power the entire country several times over.

These resources aren't unique or limited to the American Southwest. It turns out that our friends up north in the State of Alaska have about the same amount of solar resource energy as has the country of Germany. Yet, in 2006, Germany installed about seven times more solar power than we did here in the United States. Major companies in Europe and in China have been very aggressive over the last several years in building up their manufacturing capacities and in competing internationally to meet demand.

If our policies and innovation models for solar energy don't change, the United States is simply going to transition from importing foreign oil to importing foreign panels.

This country actually invented the first photovoltaic technologies, and we still have some of the smartest, most talented people in the world working to improve the efficiency and cost-effectiveness of solar cells today; but in order to use our precious research dollars as effectively as possible, these people—these patriots—need a serious road map. That's why I am so pleased to offer this bill today.

After many substantive discussions with a wide range of industry and academic leaders, as well as with the Department of Energy, I believe there is a lot that the solar industry can learn from the experience of our national semiconductor industry.

Twenty years ago, the United States was in danger of losing its semiconductor industry to Japan. In response, the industry created the technology road map for semiconductors. The focus of this initiative was to develop a road map to guide research and development efforts across the entire industry. By increasing communications between the diverse members of the supply chain, our American semiconductor industry was able to develop standards and to avoid the duplication of research efforts. These organized coordination efforts gave rise to the U.S. semiconductor giants like Intel and AMD, and the U.S. currently continues to lead the world in semiconductor development.

Today's solar researchers in the United States find themselves in a very similar situation. To maintain a competitive advantage, they must come together to meet their common, precompetitive goals, whether in simulation activities, in developing new materials, in energy storage, in power, in grid management or even in weather forecasting.

This bill would require the Department of Energy to engage diverse stakeholders in the solar community and to work across programs to create a comprehensive plan, a road map, to guide funding for the research needed to make the U.S. the global leader for solar innovation. The road map would be required to identify short-, medium- and long-term goals, and it would make recommendations on how to channel R&D resources to meet these goals. The bill would make the Department of Energy more responsive to our solar industry's needs, and it would encourage the needed collaboration and communication across technologies with well-vetted strategies.

I would like to thank my colleagues on both sides of the aisle for their contributions that have made this bill a better bill. In fact, about 25 of the 28 changes in our manager's amendment in the Science Committee were suggested or requested by the minority. I also look forward to supporting several good amendments offered by my colleagues today. Another sign of the time and effort put together by so many were the endorsements. Chairman GORDON talked about that.

I would like to remind members that the National Association of Manufacturers, the United States Chamber of Commerce, SEIA—the Solar Energy Industries Association—IBM, Intel, BP, and National Semiconductor are all behind this piece of legislation.

Mr. Chairman, the United States has an opportunity to be the leading developer and exporter of clean solar technologies in the coming years and decades. This bipartisan bill is designed to advance that goal, and I strongly urge my colleagues on both sides of the aisle to support it.

Mr. HALL of Texas. Mr. Chairman, I yield 3 minutes to the gentleman from Texas (Mr. MCCAUL), who is a cosponsor of the bill.

Mr. MCCAUL. I thank the ranking member.

Let me thank the author of the bill, Ms. GIFFORDS, for her great leadership on what I consider to be one of the most important issues. That's energy independence.

Mr. Chairman, I am proud to rise in support of this bill. I was proud to be a cosponsor of this bill.

One thing is certain: the sun always rises, and it is important for us as a Nation to harness that energy. This is landmark legislation that, in my view, will make the United States a true leader in solar technology and in energy independence.

What I particularly like about the bill is the collaboration between the academic, the environment, the universities, the Department of Education, and the private sector. I, personally, like the fact that the private sector is involved in this rather than just some bureaucrat behind closed doors in Washington, D.C., who is making those decisions.

I recently met with the Stanford Research Institute, and I looked at their photovoltaic technology. The University of Texas at Austin, in my district, is also involved with the manufacturing of these photovoltaics, along with countless high-tech companies, like Applied Materials and many others.

There is a lot of support for this bill in my district, and I think it's important to note that this bill has the support of the U.S. Chamber of Commerce, the National Association of Manufacturers, IBM, BP, Intel, and National Semiconductor. The Chamber recently urged us to vote for this, and said that the increased research, development and demonstration of solar technology is crucial to America's energy security needs.

We talk a lot about energy independence around here, but today, we really have something tangible that we can do about it, and that is to support this legislation.

As a former counterterrorism prosecutor, it disturbs me that we export $700 billion from this country to countries overseas which don't have our best interests at heart. We need to change our energy policy, and this is a critical piece to that. This is a great step forward for this Nation towards achieving that goal of energy independence.

My district really represents the broad spectrum of the differences—on the one hand, the Houston suburbs with oil and gas and, on the other hand, Austin, Texas, which is a green technology center. It's my view that we need all of this energy. We need to make more of this energy here in the United States, which will, in turn, create more energy for Americans and which will create more American jobs. In my view, we can have a hybrid energy policy, if you will. We can go green, and at the same time, we can drill.

So, again, I think this bill is an important step forward towards that path to energy independence. Solar energy, in my view, is one of the best potentials for alternative energies out there, and it can be placed on rooftops, and transmission is not as much of an issue. We are on the cutting edge with a huge breakthrough in this country where we can harness the sun's energy and can provide the energy that this country desperately needs.

Mr. GORDON of Tennessee. Mr. Chairman, first, let me thank Mr. MCCAUL for his significant contribution to this and, more importantly, really, for the constructive role he has played on our committee.

I yield 2 minutes to the gentleman from Rhode Island (Mr. LANGEVIN).

(Mr. LANGEVIN asked and was given permission to revise and extend his remarks.)

Mr. LANGEVIN. I thank the gentleman for yielding and for his outstanding leadership on solar technology issues.

Mr. Chairman, I also, of course, want to rise in strong support of H.R. 3585, the Solar Technology Roadmap Act.

I particularly would like to acknowledge Congresswoman GIFFORDS for her leadership on this important issue and for her work to advance our Nation's efforts to become a world leader in solar technology.

Clearly, this is an essential step as we work to transition our Nation off of our dependence on foreign oil and as we work harder to try to protect our environment.

Beyond all of this, though, my home State of Rhode Island recently reported an outstanding unemployment rate of 13 percent. Congress' top priority right now must also be creating an environment where new jobs are developed and where new industries can flourish. The Solar Technology Roadmap Act does just that by establishing a committee of government and industry officials to set short- and long-term goals for the industry as well as by providing guidance to expedite the process of improving solar technologies right here at home.

This bill is the right road map at the right time. It is visionary, and I urge my colleagues to vote ''yes'' on this important bill.

Mr. HALL of Texas. Mr. Chairman, I yield 3 minutes to the gentleman from Maryland (Mr. BARTLETT).

Mr. BARTLETT. Mr. Chairman, I recommend a ''yes'' vote for this good, bipartisan solar technology road map.

I want to thank my Democrat and Republican colleagues for their collaboration that improved H.R. 3585 with amendments in subcommittee, in full committee, as well as in the manager's amendment and in other amendments to follow on the floor. This bill ensures that solar energy technologies will contribute to the strengthening of our country's economy, environment and national security.

H.R. 3585 improves DOE policies by requiring the merit-based, competitive allocation of Federal funds. The solar road map committee will neither recommend nor select recipients of grant awards. The new solar technology road map committee will provide the DOE with advice from our national labs, universities, industry, and entrepreneurs on technological paths to accelerate the cost-effective implementation of solar power.

I am a fiscal conservative as well as a scientist and engineer. I have studied and used solar energy for more than 40 years. This bill will not spend too much money. Our country has fallen way behind. The GAO has documented that the funding level in this bill only begins to reverse 20 years of underinvestment by the Federal Government in the research and development of solar power—a domestic alternative and a renewable source of energy.

This bill will strengthen the ability of U.S. companies to regain America's world leadership in solar technology and exports. The bill expands the number of large demonstration projects over 30 megawatts, and it makes them technology neutral. The bill will reduce known vulnerabilities of our grid to natural disasters or to terrorist attacks by requiring demonstration projects to ''promote overall electric infrastructure reliability and sustainability should grid functions be disrupted or damaged.''

This bill will also maximize benefits to society and to taxpayers from these demonstration projects by encouraging DOE to consult with DHS, DOD and other agencies to locate demonstration projects at facilities that ensure sustainable energy for the continuous operations of vital government missions and functions.

Vote ''yes'' for H.R. 3585, the Solar Technology Roadmap. Using our sun to power American homes and businesses is a good bipartisan issue.

Mr. GORDON of Tennessee. Mr. Chairman, I yield 2 minutes to my friend from New Jersey, Mr. PASCRELL.

Mr. PASCRELL. Thank you, Mr. GORDON.

Mr. Chairman, I rise today in strong support of this bipartisan H.R. 3585, the Solar Technology Roadmap.

I want to thank Chairman GORDON and Congresswoman GIFFORDS for their tireless work in shepherding this legislation to the floor.

In the 111th Congress, the House of Representatives has taken many important steps towards weaning our country off foreign oil and toward reducing the dangerous carbon emissions that create global warming. This bill would authorize $2 billion to new research partnerships and demonstration projects for solar energy technologies.

Yet, Mr. Chairman, while the United States has some of the best solar resources of any industrialized nation in

the world and while America is currently a leader in solar technology development, other countries like Spain, Germany and China are devoting much more effort and attention to this field, putting the U.S. and its competitiveness within this industry in jeopardy. This is an important part of our country's clean energy future, and this legislation, which will spur the development of this renewable and efficient technology, is an important step in the right direction.

In my home State of New Jersey, our Governor has embarked on an ambitious and forward-looking energy strategy, and solar development is a top priority. It may surprise many of my colleagues to know that New Jersey is second only to California in the number of solar installations and capacity, and it is first in terms of the amount of solar installed per square mile.

Using innovative financing strategies, combined with a strong renewable portfolio standard, New Jersey recently reached the milestone of 100 megawatts of solar capacity generated from more than 4,300 solar projects Statewide.

□ 1245

Considering that 7 years ago our State only had six installations, this achievement is especially impressive.

Great Falls of Paterson, New Jersey, my hometown, was once the source of power that helped build this Nation into an industrial power. Today, new solar panels are being installed at the Great Falls hydroelectric plant to make that building more energy efficient. New Jersey and its Governor have shown their commitment to solar energy development and reducing greenhouse gas admissions.

I applaud the sponsors.

Mr. HALL of Texas. Mr. Chairman, I have no more speakers at this time.

I reserve the balance of my time.

May I ask how much time we have under general debate and how many speakers Mr. GORDON has.

The Acting CHAIR (Mr. WEINER). The gentleman from Texas has 21½ minutes remaining, and the gentleman from Tennessee has 19 minutes remaining.

Mr. GORDON of Tennessee. Mr. HALL, if the gentleman would yield, to answer your question, I have about six different speakers at about 2 minutes for most of them.

Mr. HALL of Texas. Thank you.

Mr. GORDON of Tennessee. Mr. Chairman, I yield 3 minutes to an outstanding member of our committee from Michigan, Mr. PETERS.

Mr. PETERS. Mr. Chairman, Michigan may not be considered an especially sunny State, and probably it does not immediately come to people's minds when we talk about the potential for solar energy in this country; however, my home State is currently a leader in the domestic manufacturing of solar cells. We are home to great companies like United Solar Ovonic, which support over 1,000 jobs in my area through two production facilities in Auburn Hills and global R&D headquarters in Troy. High-tech jobs like these are the source of hope in my State and provide workers an opportunity to apply their skills in a new industry and enter the workforce of the 21st century.

Federal partnership is critical to effectively develop new, renewable energies, and these investments are key to restoring jobs lost in recent years. For this reason, I am pleased to see that the bill recognizes the impact Federal investment in emerging industries can have in depressed areas and ask the Secretary to consider States that have been hit hardest by the recession and which are experiencing high unemployment rates when providing awards under this program.

We have a tremendous opportunity to revitalize our domestic manufacturing base by strengthening the domestic solar industry. While States like Michigan and many others certainly have the existing infrastructure and workforce to manufacture more solar technologies, the United States continues to lag behind China, Japan, and Europe in this field. We must commit at the Federal level to increase our domestic production, and I am pleased to see that the manager's amendment adopts language I worked on in the Science Committee that supports domestic solar manufacturing and assures that the R&D and manufacturing taking place under this bill will be carried out here in the United States.

I applaud the committee's commitment to bolstering the U.S. solar industry and the development of this road map. I would like to thank the bill's author, Representative GIFFORDS, Chairman GORDON, and Ranking Member HALL of the Science and Technology Committee for working with me on this bill, and I urge its full passage here today.

Mr. HALL of Texas. Mr. Chairman, I continue to reserve the balance of my time.

Mr. GORDON of Tennessee. Mr. Chairman, I yield myself such time as I may consume.

We have a number of other Members who wanted to speak on this bill, because it is a good bill and they participated, but I do not see them at this time. I don't think it would be respectful to the minority to hold them up with just a filibuster by me.

I yield to the gentleman to see whether he has anyone else who would like to speak.

Mr. HALL of Texas. I would yield to the chairman my time if he needs it. I may be more friendly to this bill than he thinks I am.

I yield back the balance of my time.

Mr. HARE. Mr. Chair, I rise today to voice my strong support for H.R. 3585, the Solar Technology Roadmap Act. I thank my friend and colleague from Arizona, Representative GIFFORDS, for being a leader on this issue and authoring this important piece of legislation, which moves our nation further down the path toward energy independence.

Our country faces very serious challenges, and I believe that we need serious, commonsense responses to each of them. With increasing domestic energy costs and a continued reliance on foreign sources of energy, the challenge is clear. My hope is that with the passage of the Solar Technology Roadmap Act our response will be just as clear.

This important legislation creates a unique program within the Department of Energy where stakeholders from the government, academia, the science fields, manufacturing and business leaders and many others can come together and work to help us realize the incredible potential of solar energy. This diverse group will study, conduct programs of scientific research and development, assess results and provide recommendations for how this nation can best move forward in utilizing solar energy. Because of this program's enormous potential, I strongly support the bill's creation of a ''blue ribbon'' panel to evaluate solar technologies and believe that their findings and actions undertaken as a result of their work will be beneficial for everyone from the average American to our friends at NASA.

This bill authorizes $2.25 billion and lays the framework to encourage unprecedented innovation in solar activities. Other countries like Germany and Spain, along with emerging economic powerhouses China and India, have already taken the lead in utilizing solar capabilities to their maximum extent. Their governments decided long ago to make the crucial investments in solar technologies. It is absolutely critical that this legislation is enacted so that we can once more be the leader of the pack in the sciences, innovation and alternative energy solutions.

I was disappointed to see that any reference in the bill to investing in solar technology for the purpose of combating climate change did not receive bipartisan support during markup in the Science and Technology Committee. On the contrary, I believe solar technology does, in fact, play a significant role in America's effort to lessen climate change, which is why I submitted an amendment to the overall legislation, which unfortunately was not accepted by the Rules Committee. My amendment would have added to the purposes of the Solar Technology Roadmap program to include suggestions on how solar technologies can better assist the U.S. in minimizing effects on climate change. Whether or not my colleagues believe in the legitimacy of man-made climate change, my amendment would have directed the solar panel to inform us all what exactly about solar works, what doesn't work, and how we could have improved its efficiency in minimizing our carbon footprint.

Another amendment that I had wished to offer to this bill, but was not accepted by the Rules Committee for floor consideration was one that would have directed the Secretary of Energy to provide special consideration, in the awarding of grant funding in the bill, to colleges and universities, community colleges and vocational schools already offering clean energy or green jobs training, certificates, or degrees. Several institutions of higher learning within my District would have benefited greatly from this amendment and I regret that the House will not have an opportunity to consider it. I respectfully ask that the House allow me to submit a letter of support into the CONGRESSIONAL RECORD from Black Hawk College in

support of both of my amendments that were rejected by the Rules Committee.

I am proud to have had the opportunity to join my colleagues, led by my friend, Mr. HINCHEY of New York to introduce an amendment to this bill that would require that the Secretary of Energy ensure that the membership of the blue-ribbon panel be from diverse regions of the country, and that the solar demonstration projects awarded should not be concentrated in a single region. I was happy to learn that the distinguished Chairman of the House Committee on Science and Technology, Mr. GORDON, agreed with us and moved to include our proposal in the Manager's amendment. The Solar Technology Roadmap Committee's main objective is to study how using solar energy can improve the lives of all Americans, strengthen our commercial sector and help protect our environment. I believe this amendment makes a great bill even better, which is why I urge all of my colleagues to vote in favor of the Gordon amendment.

As we all know, the beauty of solar energy is that it can be captured and put to work in every region of our country. The power of the sun can be harnessed not only in states like Arizona and California, but also in places like my home state of Illinois. Many Illinoisans are putting solar technologies to work for them, one of whom I'm proud to say is my constituents, Michael Smith of Springfield, Illinois. Mr. Smith has lived utility-free for over a decade and is proof positive of the benefits that are possible through solar energy. By investing responsibly in solar energy research and development, this Congress can move more Americans in the direction that Mr. Smith took long ago.

With jobs still being lost all across our nation, the Congress can and must begin focusing on the next generation of innovation. Similar to the ''dot-corn'' era, it is inevitable that a ''green revolution'' is upon us and the U.S. must not be left behind. The time to invest in alternative and renewable energy solutions, like solar technologies, is now. This institution knows full well that solar power is abundant, does not create greenhouse gases and has the potential to power our lives for years to come. For these obvious reasons, I strongly believe we can not afford inaction any longer.

Again, I applaud the efforts of Representative GIFFORDS in leading the charge on this bill, which passed out of committee with strong bipartisan support and ask my friends on both sides of the aisle to join me in voting for the passage of the Solar Technology Roadmap Act.

OFFICE OF THE PRESIDENT,
BLACK HAWK COLLEGE,
Moline, IL, October 20, 2009.

Hon. PHIL HARE,
House of Representatives, Cannon HOB, Washington, DC.

DEAR CONGRESSMAN HARE: I am writing in support of your Amendments #1 and #2 relating to the Solar Technology Roadmap Act H.R. 3585 and to thank you for introducing these most important amendments.

Recently we restructured the Engineering Technology Program at Black Hawk College, Quad-Cities Campus. We believe this program is important to many businesses and industries in our service district. We now offer the following majors in the Engineering Technology Program: 1. Electrical; 2. Mechanical; 3. Manufacturing Processes; and 4. Sustainable Energy.

Item #4 represents a new option in the Engineering Technology Program area, a Sustainable Energy Certificate (first in Illinois). Students take the first-year common core curriculum and complete their work with Sustainable I and II (covers beginning and advanced topics in many areas of sustainable energy: solar, biomass, wind, photovoltaic) and complete with an industry-specific internship. Looking to the future, we believe this will be a very important program. Your amendments—if adopted and eventually signed into law—could provide much needed support to our Sustainable Energy Program.

Please continue to actively support these amendments. They are critically important to the future of our country. Again, many thanks and best wishes.

Sincerely,

R. GENE GARDNER, PH.D.,
Interim President.

Mr. MARKEY of Massachusetts. Mr. Chair, I rise in strong support of H.R. 3585, the Solar Technology Roadmap Act. The solar energy that strikes the earth in a single hour is enough to power the world's energy needs for a year. This bill will help America develop the technology to harness that massive solar energy potential. I commend Representative GIFFORDS for sponsoring this legislation and Chairman GORDON for his leadership in moving it forward.

The market for solar photovoltaics is growing 40 percent annually. This scaling up of production, combined with developments in the technology, has led to a rapid reduction in the cost of solar energy. While the cost of building conventional power plants has, in many cases, doubled over the last decade, the cost of solar has fallen nearly 30 percent. Many people within the industry now believe solar photovoltaics could be competitive with conventionally-generated electricity from the grid by 2015.

Solar photovoltaic technology was born and developed in the United States. Our publicly-funded national laboratories and our universities such as MIT advanced this technology for decades until the private sector more recently adopted it and began manufacturing solar photovoltaics on a large scale. Unfortunately, we've recently watched this All-American technology become commercialized in Japan, Germany, and China. Today, only two of the world's ten largest solar companies are based in the United States. This means most of the new jobs and intellectual property in this rapidly growing field are accumulating overseas as well. The bill before us today would double down on our solar research program and ensure that solar technology can be developed here with an eye toward private-sector adoption and market deployment.

But to fully reestablish American leadership in this and other rapidly growing clean energy industries and allow the United States to lead in the creation of a clean energy economy, we must also enact into law the American Clean Energy and Security Act, which was passed by the House in June. This legislation, which I authored with Chairman WAXMAN, would put the incentives in place to stimulate demand for solar and other renewable technologies here at home while unleashing American entrepreneurs to transform the entire energy sector into America's next high-tech, innovation industry.

Ms. HARMAN. Mr. Chair, I rise today in strong support of H.R. 3585, the Solar Technology Roadmap Act. Advancing solar technology is vital to our Nation's energy security, reducing greenhouse gas emissions, and establishing the United States as a leader in green technology. This bill will create a structured plan for pursuing solar research, development and demonstration, and will foster new public-private partnerships to make clean, renewable energy more affordable and accessible for all Americans.

Solar power can help reduce greenhouse gas emissions and mitigate the effects of climate change. My home State of California is ahead of the curve: 67 percent of the United States total solar generation is in California.

The Fortunato family in Hermosa Beach, a city I represent, is retrofitting their home to be the city's first ''net zero'' home and to power all their electricity needs through renewables—mostly through the use of solar panels for electricity and solar hot water for heating.

In fact, throughout California's 36th Congressional District, my constituents are turning to solar energy as they continue the region's tradition of environmental leadership. Large installations at Harbor City College in Wilmington, BT telecommunications in El Segundo, and the Port of Los Angeles are setting the standard for solar excellence in the South Bay. At BT, flexible solar panels provide shade in the outdoor parking lot—something that could be widely copied. My family installed solar panels on our roof in Venice, California, over 8 years ago.

I worked for President Jimmy Carter, who in 1979 mandated that by the year 2000, 20 percent of power generated in the United States should come from the Sun. Three decades later, we're still far from that visionary goal. Solar power accounts for just 1.2 percent of the U.S. mix. We can—and must—do far better.

Mr. VAN HOLLEN. Mr. Chair, I rise in strong support of the Solar Technology Roadmap Act of 2009, and I commend my colleague Congresswoman GABRIELLE GIFFORDS for bringing it to the floor today.

The Solar Technology Roadmap Act of 2009 will focus and accelerate the Department of Energy's ongoing solar technology research, development and demonstration activities by creating a Solar Technology Roadmap patterned after the highly successful National Technology Roadmap for Semiconductors to guide the Nation's near-term, mid-term and long-range solar technology policy goals. The Solar Technology Roadmap will be developed by a Solar Technology Roadmap Committee appointed by the Secretary of Energy and comprised of at least 11 members, one third of whom will come from the solar industry. This bipartisan and forward-looking legislation has been endorsed by the Solar Energy Industries Association, the National Association of Manufacturers, IBM, Intel, and National Semiconductor and will optimize the role that solar technology will play in America's clean energy future.

I urge my colleagues' support.

Ms. JACKSON-LEE of Texas. Mr. Chair, I rise today in support of H.R. 3585, the Solar Technology Roadmap Act, a bill that establishes a comprehensive roadmapping process for solar technology research, development, and demonstration activities conducted by the federal government in partnership with the private sector.

As the Member of Congress representing Texas' 18th Congressional District in Houston, solar technology is near and dear to me and my constituents. My state is facing an unemployment rate of around 7.5%, the highest it

has been in the past 16 years. While this is 2% less than the national average, Texas has not seen unemployment this high since 1993. In one month alone, Texas lost 40,600 jobs.

As an energy capital of the world, it is critical for Houston to be at the forefront in the quest for clean, renewable energy. In addition to having energy companies as constituents, I have spent a career working in the energy sector, representing big and large oil companies alike. Further while Houston is home to some of the largest petroleum companies in the world, our city is also the headquarters for leading solar and wind power firms.

While energy reform making its way through Congress offers significant opportunities for Houston, it also comes with a number of challenges, particularly for our city's longstanding petroleum community. Namely, petroleum companies stand to be significantly and adversely impacted as the nation shifts from petroleum fuels to alternative energy.

Mr. Chair, I believe that America should have a diversity of energy sources, which include fossil fuels along side of wind, solar, and hydropower sources. As such, I am working diligently with our senate delegation to ensure that the current energy bill is improved to ensure that the petroleum sector remains as a valuable component of our nation's ''seamless'' energy policy.

In the interim, I offered two amendments to this bill designed to assist Houston and the rest of Texas. Specifically, one of my amendments would have supported the installation of solar panels and other solar technology systems at hospitals, universities, and public safety facilities.

* * * with solar panels, and by providing special consideration for grantees in Texas and other states that have a great potential for solar resources that have been adversely impacted by the nation's shift from fossil based fuels to solar power.

For this reason, I proposed two amendments. My first amendment focuses on Section 105b(3)(I). This provision focuses on a provision in the bill that authorizes DOE to conduct at least 10 photovoltaic demonstration projects ranging from one to three megawatts in size and three to five solar projects greater than 30 megawatts in size. The bill also requires DOE to study the performance of photovoltaic installations and identify opportunities to improve the energy productivity of these systems. In addition, DOE must establish a program of RD&D related to the reuse, recycling, and safe disposal of photovoltaic devices.

My amendment would have specifically designated hospitals, universities, and public safety facilities as potential selectees as infrastructure reliability projects. With this proposal, we would have had a chance to outfit hospitals with the latest in solar technology to create alternative power generation resources. These would prevent power disruptions that could threaten the lives of patients in hospitals in particular.

This idea was inspired by the fact that many of the places in our community that provide health care services to the sick are located in buildings that are themselves sick. As we expand health care to millions of Americans, I hope to work with my colleagues to ensure that health care is dispensed in healthy buildings that employ the latest in solar and other green building designs.

Universities could also benefit from these grants in a manner that would ensure that our institutions of higher learning could also continue operating in the event of power outages. Finally, jails, police stations, and other public safety facilities could also specifically benefit by serving as demonstration projects. Mr. Chairman, can I get your commitment to continue working with me to ensure that this proposal is incorporated as the bill proceeds in the legislative process.

Mr. Chair, my second amendment would have provided special consideration to Texas and other states with high potential for solar energy production to help businesses affected by the nation's shift from fossil fuel based energy resources to solar and other renewable energy when making awards under the bill. This language would be inserted into Section 101 D. Under my amendment, the new language would have read: ''As a criteria for providing awards under this Act, the Secretary shall consider areas with high unemployment as well as grantees in Texas and other states with high potential for solar energy production to help businesses affected by the nation's shift from fossil fuel based energy resources to solar and other renewable energy.''

Mr. Chair, given the potential for Houston and the rest of Texas to be benefitted or harmed by our shift to solar technology, can I get your commitment to incorporate this idea, at least in the conference report.

Again, I want to thank you for the opportunity to speak on behalf of the bill and urge all my colleagues to vote for this legislation to ensure building a comprehensive road for solar technology research, development, and demonstration activities. Thank you Madam Speaker. I yield back the remainder of my time.

Mr. LEVIN. Mr. Chair, I rise in strong support of the bill before the House, the Solar Technology Roadmap Act.

The solar industry is one of the fastest growing energy industries in the United States. Solar companies, including United Solar Ovonic in Michigan, have been making cutting-edge advancements in both solar technology and manufacturing. The solar industry is already creating jobs in Michigan and across the country, and this energy resource has the potential to create thousands more jobs if we make the right investments.

You can't begin a journey without knowing where you're going. If we want to expand solar energy and renewable energy jobs here in the United States, then we need to have a plan to guide solar energy research, development and demonstration. This legislation directs the Department of Energy to assemble a group of experts from industry, academia, and government labs to create a roadmap of short-, medium-, and long-term goals to guide and accelerate the development and deployment of solar energy in America.

A plan will only get us so far. In order for solar technology to reach its full potential, the federal government has to create a partnership with private industry, just as it has in other energy areas. In a word, working with the private sector, we need to invest wisely in this technology using the guidance provided by the research roadmap. The legislation calls for the Department of Energy to invest $2 billion on research, development and deployment of solar energy technologies over the next five years. It will be important for Congress to follow through and actually provide the funds to allow this to happen.

I urge my colleagues to join me in voting for the Solar Technology Roadmap Act.

Mr. KIND. Mr. Chair, I rise today in support of H.R. 3585, the Solar Technology Roadmap Act. This bill establishes an important energy tax title that will create the high-paying green jobs our economy needs, while simultaneously taking strong actions to help in our longer-term fight to combat global warming.

Even with rapid growth in solar and wind installations, most clean technologies installed in the U.S. continue to be manufactured overseas. In the case of solar, the U.S. is steadily falling behind the rest of the world in manufacturing capacity, dropping from 22 percent in 2002 to a mere 7 percent in 2007. Similarly, European firms now account for more than 85 percent of the global wind component market, and the U.S. has only a modest share of global manufacturing of other clean technologies, ranging from fuel cells to advanced batteries. We cannot continue down this path.

We are a nation of leaders and we need to start leading. We must cultivate a new mindset where sustainable technology and a clean manufacturing base are at the forefront. Initiatives like the Solar Technology Roadmap, which level the manufacturing playing field and incentivize investment, are what we need. This tax credit will create new manufacturing jobs—a need that cannot be understated given that the U.S. shed more than 1 million manufacturing jobs in the past 12 months. Correspondingly, the credit will increase the tax base and improve our trade balance. These are key components to our nation's economic recovery and long-term economic growth. Other nations are making these investments and, to remain globally competitive, we need to do the same.

I am pleased at the length to which this bill goes to create green jobs and urge my colleagues to support this measure.

Mr. HOLT. Mr. Chair, I rise today in support of H.R. 3585, the Solar Technology Roadmap Act.

The United States is currently the world's leader in solar power technologies. However, countries like China, Germany, and Spain are making major investments in this field, unless we increase our investment in research, development and demonstration, RD&D, into new solar technologies our global competitiveness will be at risk.

The Solar Technology Roadmap Act would provide this much needed funding and create a comprehensive program to strengthen and coordinate the development and improvement of our Nation's solar energy technologies. The bill creates a Solar Energy Roadmap Committee comprised of representatives from industry, academia, and government researchers responsible for developing a long-term roadmap to guide solar energy research. The Roadmap Committee would identify the RD&D activities needed to improve the performance and reliability of solar technologies, decrease cost, and reduce water use. This research plan would guide the awarding of funds for solar energy RD&D by the Department of Energy and would help commercialize new solar technologies and create new public-private partnerships to make this clean, renewable energy source more affordable and accessible for all Americans.

Unfortunately, the House Committee on Rules did not make in order two amendments

that I offered. One of my amendments would have allowed the Secretary of Energy to use a portion of the $2 billion authorized for solar energy to study the factors affecting whether consumers choose to adopt and use solar power. Unless we understand these factors it will be difficult to understand how best to encourage the widespread utilization of solar energy. I also offered an amendment that would have required small businesses to be given preference when distributing the RD&D authorized in this act. I am sorry that these amendments were not debated today.

My home State of New Jersey has made a strong investment into the deployment of solar energy. Through its Renewable Energy Incentive Program, REIP, New Jersey has encouraged the installation of over 4,300 solar electricity systems in our State's businesses, homes, and public institutions. We have more solar installations per mile than any other State in the Union, and are the second largest solar market in the country. Our solar companies, including several located within my congressional district, are conducting innovative RD&D into cutting edge solar technologies and our solar installers, dealers, and project developers have created hundreds of clean energy jobs. Supporting an increased Federal investment into RD&D would help to continue this effort. I urge my colleagues to support this legislation.

Mr. COHEN. Mr. Chair, I rise in support of this amendment.

I would first like to commend Representative GIFFORDS and the Science and Technology Committee for proposing this great piece of legislation. I would also like to thank Representatives TITUS and TEAGUE for their work on this very important amendment.

The economic competitiveness and security of the United States depend upon our ability to develop clean, affordable alternatives to oil. But this will not be cheap and it will not be easy, so I commend this legislation's promise for significant investment in the research and development of solar technology. Solar technology holds tremendous promise and has the potential to put the United States on a path to energy independence and significantly reduce greenhouse gas emissions. For in just 1 hour, enough sunlight hits the Earth's surface to supply the entire world's energy demands for 1 full year.

With significant investment in the research, development, and implementation of solar technology, we will be well on our way to energy independence. However, one obstacle to solar technology exists that is currently not being discussed—the immense water usage of many leading solar technologies. Currently, plans exist for solar plants that consume 705 million gallons of water a year and are located in the heart of desert regions which receive scant rainfall and have little groundwater reserves.

As the American population continues to grow and water demands continue to rise with our population, our water supply will be in even shorter supply. Thus, we cannot afford to use hundreds of millions of gallons of water a year to operate and maintain one solar site. It is imperative that we invest in research and development of solar technologies that are water efficient.

While our Nation needs clean, affordable energy, we cannot produce it at the expense of our future water supplies. For these reasons, I strongly urge the passage of our amendment to the Solar Technology Roadmap Act.

Mr. HASTINGS of Washington. Mr. Chair, we must get serious about producing more American-made energy in order to prevent skyrocketing energy and gas prices in the future, grow our economy and protect our national security. There is widespread and bipartisan agreement that we must move toward a cleaner, cheaper, more diverse energy system. That means expanding solar, wind, hydrogen fuel cell, biomass and other new energy sources, more hydropower, more nuclear plants, and tapping into our nation's oil and gas reserves.

My district in Central Washington state is home to massive hydropower dams, the only nuclear power plant in the region, the Pacific Northwest National Lab which is conducting world-class energy research, wind farms, and solar.

There is no question that solar power has a key role to plan in our energy future. The federal government should encourage and incentivize all types of solar power production and research. We must make tax credits for solar permanent and we must open up new opportunities for solar on our federal lands.

It is with regret, today, that I cannot vote for H.R. 3585. I have long-supported solar energy—but it need not require an expansion of the federal government and $2.25 billion dollars at a time when Congress is already spending more than ever and our nation is facing historic levels of debt. In addition to the cost of this legislation, I am concerned that it does not provide a level playing field for all types of solar technologies. The federal government should not be in the business of picking winners and losers.

I am a cosponsor and a supporter of H.R. 2846. This bill represents an all-of-the-above energy bill. Under the bill, a portion of federal government's revenue from offshore drilling would be used to provide funding for renewable energy programs such as solar, biomass, hydropower, clean coal, wind and others. In fact, over $8 billion would be directed to renewables in the first 10 years at zero cost to taxpayers.

As we move forward, I am committed to finding new opportunities to encourage all solar technologies whether it is through research support, federal land options, tax incentives and other means.

Mr. INSLEE. Mr. Chair, I thank Representative GIFFORDS, the House Leadership and the Chairman for working to pass H.R. 3585 today, which a legislative priority for the Sustainable Energy and Environment Coalition. H.R. 3585, Solar Technology Roadmap Act will strengthen the American solar technology industry through a coordinated research and development program and public-private partnerships.

The Solar Technology Roadmap Act will give even cloudy states like Washington a roadmap to solar technology deployment. The bill will help to ensure that federal funding for solar energy research is prioritized to commercialize new solar technologies to make this clean, renewable energy source more affordable and accessible for all Americans.

Harnessing the power of the sun is an economic opportunity for America, with the potential to help create tens of thousands of clean energy jobs in neighborhoods across the country.

The U.S. has some of the best solar resources of any industrialized nation in the world. Yet while America is currently a leader in solar technology development, other countries like Spain, Germany and China are devoting much more effort and attention to this field, putting U.S. competitiveness in this industry in jeopardy. This bill will strengthen America's solar industry and I urge its passage.

Unfortunately, due to a matter in Washington, I will be absent for the vote on final passage of this important bill. Had I been present, I would have voted "yes".

Mr. GORDON of Tennessee. Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. All time for general debate has expired.

Pursuant to the rule, the amendment in the nature of a substitute printed in the bill shall be considered as an original bill for the purpose of amendment under the 5-minute rule and shall be considered read.

The text of the committee amendment is as follows:

H.R. 3585

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 ''Solar Technology Roadmap Act''.

SEC. 2. DEFINITIONS.

In this Act:

(1) SECRETARY.—The term ''Secretary'' means the Secretary of Energy.

(2) SOLAR TECHNOLOGY.—The term ''solar technology'' means—

(A) photovoltaic technologies, including technologies utilizing—

(i) crystalline silicon;

(ii) cadmium telluride;

(iii) semiconductor materials containing copper, indium, and selenium;

(iv) thin film silicon;

(v) gallium arsenide alloy and multijunctions;

(vi) dye-sensitized and organic solar cell technologies;

(vii) concentrating photovoltaics; and

(viii) other photovoltaic methods identified by the Secretary;

(B) solar thermal electric technology, including linear concentrator systems, dish/engine systems, and power tower systems;

(C) solar thermal water heating technology;

(D) solar heating and air conditioning technologies;

(E) passive solar design in architecture, including both heating and lighting applications; and

(F) related or enabling technologies, including thin films, semiconducting materials, transparent conductors, optics, and technologies that increase durability or decrease cost or weight.

TITLE I—SOLAR TECHNOLOGY RESEARCH, DEVELOPMENT, AND DEMONSTRATION

SEC. 101. PROGRAM.

(a) IN GENERAL.—The Secretary shall conduct a program of research, development, and demonstration for solar technology, including—

(1) photovoltaics;

(2) solar hot water and solar space heating and cooling;

(3) concentrating solar power;

(4) lighting systems that integrate sunlight and electrical lighting in complement to each other in common lighting fixtures for the purpose of improving energy efficiency;

(5) manufacturability of low cost, high-quality solar energy systems;

(6) development of solar technology products that can be easily integrated into new and existing buildings; and

(7) other areas as the Secretary considers appropriate.

(b) AWARDS.—The Secretary shall provide awards under this section to promote a diversity of research, development, and demonstration activities for solar technology on a merit-reviewed, competitive basis to—

(1) academic institutions, national laboratories, Federal research agencies, State research agencies, nonprofit research organizations, industrial entities, or consortia thereof for research, development, and demonstration activities; and

(2) industry-led consortia for research, development, and demonstration of advanced techniques for manufacturing a variety of solar energy products.

(c) SENSE OF CONGRESS.—It is the sense of Congress that at least 75 percent of funding for solar technology research, development, and demonstration activities conducted by the Department of Energy after fiscal year 2014 support a diversity of activities identified by and recommended under the Solar Technology Roadmap as described in section 102.

(d) SPECIAL CONSIDERATION.—As a criteria for providing awards under this Act, the Secretary shall consider areas with high unemployment.

(e) COMPETITIVENESS.—In carrying out section 105, the Department of Energy shall strongly consider projects utilizing solar technologies manufactured in the United States.

SEC. 102. SOLAR TECHNOLOGY ROADMAP.

(a) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the Solar Technology Roadmap Committee established under section 103 shall develop and transmit to the Secretary of Energy and the Congress a Solar Technology Roadmap that—

(1) presents the best current estimate of the near-term (up to 2 years), mid-term (up to 7 years), and long-term (up to 15 years) research, development, and demonstration needs in solar technology; and

(2) provides guidance to the solar technology research, development, and demonstration activities supported by the Federal Government for the purposes of meeting national priorities in energy security, United States competitiveness, mitigation of adverse environmental impacts, and energy diversification.

(b) CONTENTS.—The Solar Technology Roadmap shall—

(1) identify research, development, and demonstration needs for a diversity of solar technologies to address—

(A) the key solar energy production challenges of intermittency, transience, storage, and scaling, including determining—

(i) which solar-related technological solutions are appropriate for various applications, locations, and seasons;

(ii) how to store excess solar energy in batteries, supercapacitors, compressed air, flywheels, hydrogen, synthetic fuels, thermal storage, or superconductors, or through other means;

(iii) how and when to integrate solar energy into the electricity grid effectively, including—

(I) the integration of solar technologies with a Smart Grid;

(II) electrical power smoothing;

(III) microgrid integration;

(IV) solar resource forecasting;

(V) long distance transmission options, including direct current and superconducting transmission; and

(VI) ways to address arbitrage over minutes, hours, days, weeks, and seasons with respect to the full range of project scales; and

(iv) how best to integrate solar technologies into buildings;

(B) modeling and simulation;

(C) the design, materials, and manufacture of solar technologies, as well as related factory sciences;

(D) the development of standards;

(E) the need for demonstration facilities;

(F) optimized packaging methods;

(G) environmental, safety, and health concerns including reuse, recycling, hazardous materials disposal, and photovoltaic waste issues; and

(H) other areas identified by the Secretary;

(2) identify opportunities for coordination with partner industries such as those for semiconductors, lighting, energy storage, Smart Grid, and wind that can benefit from similar advances;

(3) establish research, development, and demonstration goals with recommended timeframes with respect to solar technologies for—

(A) improving performance;

(B) decreasing cost of electricity generated;

(C) improving reliability; and

(D) decreasing potential negative environmental impacts and maximizing the environmental benefits of solar technologies;

(4) include recommendations, as appropriate, to guide solar technology research, development, and demonstration activities; and

(5) outline the various technologies and practices considered by the Committee and the benefits and shortcomings of each, as appropriate.

(c) REVISIONS AND UPDATES.—

(1) REVISIONS.—Once every 3 years after completion of the first Solar Technology Roadmap under this Act, the Solar Technology Roadmap Committee shall conduct a comprehensive review and revision of the Solar Technology Roadmap.

(2) UPDATES.—The Solar Technology Roadmap Committee shall update the Solar Technology Roadmap annually as necessary.

SEC. 103. SOLAR TECHNOLOGY ROADMAP COMMITTEE.

(a) ESTABLISHMENT.—Not later than 4 months after the date of enactment of this Act, the Secretary shall establish, and provide support for as necessary, a Solar Technology Roadmap Committee.

(b) MEMBERSHIP.—

(1) IN GENERAL.—The Solar Technology Roadmap Committee shall consist of at least 11 members. Each member shall be appointed by the Secretary from among subject matter experts representing—

(A) different sectors of the domestic solar technology industry, including manufacturers and equipment suppliers;

(B) national laboratories;

(C) academia;

(D) relevant Federal agencies;

(E) relevant State and local government entities;

(F) private research institutions; and

(G) other entities or organizations, as appropriate.

(2) TERMS.—

(A) IN GENERAL.—Except as provided in subparagraph (B), the term of a member of the Solar Technology Roadmap Committee shall be 3 years.

(B) ORIGINAL TERMS.—Of the members appointed originally to the Solar Technology Roadmap Committee, approximately 1/3 shall be appointed for a 2-year term, approximately 1/3 shall be appointed for a 3-year term, and approximately 1/3 shall be appointed for a 4-year term.

(3) LIMIT ON TERMS.—A member of the Solar Technology Roadmap Committee may serve more than 1 term, except that such member may not serve a subsequent term unless 2 years have elapsed since the end of a previous term.

(4) INDUSTRY PARTICIPATION.—At least 1/3 and not more than 1/2 of the members of the Solar Technology Roadmap Committee shall be individuals described in paragraph (1)(A).

(5) CHAIR.—The Secretary shall select a Chair from among the members of the Committee. The Chair shall not be an employee of the Federal Government.

(6) CONFLICTS OF INTEREST.—The Secretary, in appointing members to the Committee, shall make every effort to ensure that—

(A) no individual appointed to serve on the Committee has a conflict of interest that is relevant to the functions to be performed, unless such conflict is promptly and publicly disclosed and the Secretary determines that a waiver is appropriate;

(B) the Committee membership is fairly balanced as determined by the Secretary to be appropriate for the functions to be performed; and

(C) the final report of the Committee will be the result of the Committee's independent judgment.

The Secretary shall require that individuals that are appointed or intended to be to appointed to serve on the Committee inform the Department of Energy of any individual's conflicts of interest that are relevant to the functions to be performed.

(c) EXPERT ADVICE.—In developing the Solar Technology Roadmap, the Solar Technology Roadmap Committee may establish subcommittees, working groups comprised of experts outside the membership of the Solar Technology Roadmap Committee, and other means of gathering expert advice on—

(1) particular solar technologies or technological challenges;

(2) crosscutting issues or activities relating to more than 1 particular solar technology or technological challenge; or

(3) any other area the Solar Technology Roadmap Committee considers appropriate.

(d) COMPENSATION AND EXPENSES.—A member of the Solar Technology Roadmap Committee shall not be compensated for service on the Committee, but may be allowed travel expenses, including per diem in lieu of subsistence, in accordance with subchapter I of chapter 57 of title 5, United States Code.

(e) FEDERAL ADVISORY COMMITTEE ACT.—The Federal Advisory Committee Act (5 U.S.C. App.) shall not apply to the Solar Technology Roadmap Committee.

SEC. 104. INTERAGENCY COORDINATION.

The Director of the Office of Science and Technology Policy shall review and coordinate Federal interagency activities identified in and related to the Solar Technology Roadmap as appropriate.

SEC. 105. SOLAR TECHNOLOGY DEMONSTRATION PROJECTS.

(a) ESTABLISHMENT OF PROGRAM.—The Secretary shall establish a program to provide grants for demonstration projects to support the development of solar energy production, consistent with the Solar Technology Roadmap as available.

(b) IMPLEMENTATION.—In carrying out the demonstration program under this section, to the extent practicable, the Secretary shall—

(1) include at least 10 photovoltaic technology projects that generate between 1 and 3 megawatts;

(2) include at least 3 but not more than 5 solar technology projects that generate greater than 30 megawatts; and

(3) make awards for projects that—

(A) are located and can be replicated at a wide range of sites;

(B) are located and can be replicated in a variety of regions and climates;

(C) demonstrate technologies that address intermittency, transience, storage challenges, and independent operational capability;

(D) facilitate identification of optimum techniques among competing alternatives;

(E) include business commercialization plans that have the potential for production of equipment at high volumes;

(F) improve United States competitiveness and lead to development of manufacturing technology;

(G) demonstrate positive environmental performance through life-cycle analysis;

(H) provide the greatest potential to reduce energy costs for consumers;

(I) promote overall electric infrastructure reliability and sustainability should grid functions be disrupted or damaged; and

(J) satisfy other criteria that the Secretary considers necessary to carry out the program.

(c) GRANT AWARDS.—Funding provided under this section may be used, to the extent that funding is not otherwise available through other Federal programs or power purchase agreements, for—

(1) a necessary and appropriate site engineering study;

(2) a detailed economic assessment of site-specific conditions;

(3) appropriate feasibility studies to determine whether the demonstration can be replicated;

(4) installation of equipment, service, and support;

(5) operation for a minimum of 3 years and monitoring for the duration of the demonstration; and

(6) validation of technical, economic, and environmental assumptions and documentation of lessons learned.

(d) GRANT SELECTION.—Not later than 90 days after the date of enactment of this Act and annually thereafter, the Secretary shall conduct a national solicitation for applications for grants under this section. Grant recipients shall be selected on a merit-reviewed, competitive basis. The Secretary shall give preference to proposals that address multiple elements described in subsection (b).

(e) LIMITATIONS.—Funding shall not be provided under this section for more than 50 percent of the costs of the project for which assistance is provided. Not more than a total of $300,000,000 shall be provided under this section for the period encompassing fiscal years 2011 through 2015.

SEC. 106. PHOTOVOLTAIC PERFORMANCE STUDY.

(a) IN GENERAL.—Not later than one year after the date of enactment of this Act, the Secretary shall transmit to the Congress and the Solar Technology Roadmap Committee the results of a study that analyzes the performance of photovoltaic installations in the United States. The study shall assess the current performance of photovoltaic installations and identify opportunities to improve the energy productivity of these systems. Such study shall include—

(1) identification of the average energy productivity of current commercial and residential installations;

(2) assessment of areas where energy productivity is reduced, including wire loss, module mismatch, shading, dust, and other factors;

(3) identification of technology development and technical standards that improve energy productivity;

(4) analysis of the potential cost savings and energy productivity gains to the Federal, State, and local governments, utilities, private enterprise, and consumers available through the adoption, installation, and use of high-performance photovoltaic technologies and practices; and

(5) an overview of current government incentives at the Federal, State, and local levels that encourage the adoption of highly efficient photovoltaic systems and practices.

(b) PUBLIC INPUT.—The Secretary shall ensure that interested stakeholders, including affected industry stakeholders and energy efficiency advocates, have a meaningful opportunity to provide comments, data, and other information on the scope, contents, and conclusions of the study. All forums for the Department to receive this input from interested stakeholders shall be announced in the Federal Register.

SEC. 107. SOLAR ENERGY PROGRAM REAUTHORIZATION.

(a) IN GENERAL.—There are authorized to be appropriated to the Secretary to carry out section 101(a)—

(1) $350,000,000 for fiscal year 2011;

(2) $400,000,000 for fiscal year 2012;

(3) $450,000,000 for fiscal year 2013;

(4) $500,000,000 for fiscal year 2014; and

(5) $550,000,000 for fiscal year 2015.

(b) ROADMAP IDENTIFIED ACTIVITIES.—The Secretary shall dedicate a percentage of funding received pursuant to subsection (a) for research, development, and demonstration activities identified by and recommended under the Solar Technology Roadmap in the following percentages:

(1) For fiscal year 2012, at least 30 percent.

(2) For fiscal year 2013, at least 45 percent.

(3) For fiscal year 2014, at least 60 percent.

(4) For fiscal year 2015, at least 75 percent.

(c) SOLAR TECHNOLOGY ROADMAP.—The Secretary may use up to $2,000,000 of the funds appropriated pursuant to subsection (a) for each fiscal year to support the establishment and maintenance of the Solar Technology Roadmap.

(d) EXTENSION OF AUTHORIZATIONS.—Of funds authorized by subsection (a), there are authorized to be appropriated to the Secretary to carry out—

(1) section 602 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17171) $12,000,000 for each of the fiscal years 2013 through 2015;

(2) section 604 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17172) $10,000,000 for each of the fiscal years 2013 through 2015;

(3) section 605 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17173) $3,500,000 for each of the fiscal years 2013 through 2015; and

(4) section 606 of the Energy Independence and Security Act of 2007 (42 U.S.C. 17174) $2,500,000 for each of the fiscal years 2013 through 2015.

SEC. 108. EXISTING PROGRAMS.

Except as otherwise specified in this Act, this Act shall supersede any duplicative solar research, development, and demonstration programs within the Department of Energy.

SEC. 109. REPEALS.

The following are hereby repealed:

(1) The Solar Energy Research, Development, and Demonstration Act of 1974 (42 U.S.C. 5551 et seq.), except for section 10.

(2) The Solar Photovoltaic Energy Research, Development, and Demonstration Act of 1978 (42 U.S.C. 5581 et seq.).

(3) Section 4(a)(2) and (3) of the Renewable Energy and Energy Efficiency Technology Competitiveness Act of 1989 (42 U.S.C. 12003(a)(2) and (3)).

TITLE II—PHOTOVOLTAIC RECYCLING

SEC. 201. PHOTOVOLTAIC DEVICE RECYCLING RESEARCH, DEVELOPMENT, AND DEMONSTRATION.

(a) DEFINITION.—In this section, the term ''photovoltaic device'' includes photovoltaic cells and the electronic and electrical components of such devices.

(b) IN GENERAL.—In order to address the issues described in section 102(b)(1)(G), the Secretary shall award multiyear grants for research, development, and demonstration activities to create innovative and practical approaches to increase reuse and recycling of photovoltaic devices and, through such activities, to contribute to the professional development of scientists, engineers, and technicians in the fields of photovoltaic and electronic device manufacturing, design, refurbishing, and recycling. The activities supported under this section shall address—

(1) technology to increase the efficiency of photovoltaic device recycling and maximize the recovery of valuable raw materials for use in new products while minimizing the life-cycle environmental impacts such as greenhouse gas emissions and water usage;

(2) expanded uses for materials from recycled photovoltaic devices;

(3) development and demonstration of environmentally responsible alternatives to the use of hazardous materials in photovoltaic devices and the production of such devices;

(4) development of methods to separate and remove hazardous materials from photovoltaic devices and to recycle or dispose of those materials in a safe manner;

(5) product design and construction to facilitate disassembly and recycling of photovoltaic devices;

(6) tools and methods to aid in assessing the environmental impacts of the production of photovoltaic devices and photovoltaic device recycling and disposal;

(7) product design and construction and other tools and techniques to extend the life cycle of photovoltaic devices, including methods to promote their safe reuse;

(8) strategies to increase consumer acceptance and practice of recycling of photovoltaic devices; and

(9) processes to reduce the costs and environmental impact of disposal of toxic materials used in photovoltaic devices.

(c) MERIT REVIEW.—Grants shall be awarded under this section on a merit-reviewed, competitive basis.

(d) APPLICATIONS.—Each application shall include a description of—

(1) the project that will be undertaken and the contributions of each participating entity;

(2) the applicability of the project to increasing reuse and recycling of photovoltaic devices with the least environmental impacts as measured by life-cycle analyses, and the potential for incorporating the research results into industry practice; and

(3) how the project will promote collaboration among scientists and engineers from different disciplines, such as electrical engineering, materials science, and social science.

(e) DISSEMINATION OF RESULTS.—The results of activities supported under this section shall be made publicly available through—

(1) development of best practices or training materials for use in the photovoltaics manufacturing, design, refurbishing, or recycling industries;

(2) dissemination at industry conferences;

(3) coordination with information dissemination programs relating to recycling of electronic devices in general;

(4) demonstration projects; and

(5) educational materials for the public produced in conjunction with State and local governments or nonprofit research organizations on the problems and solutions related to reuse and recycling of photovoltaic devices.

(f) PHOTOVOLTAIC MATERIALS PHYSICAL PROPERTY DATABASE.—

(1) IN GENERAL.—The Secretary shall establish a comprehensive physical property database of materials for use in photovoltaic devices. This database shall include—

(A) identification of materials used in photovoltaic devices;

(B) a list of commercially available amounts of these materials;

(C) amounts of these materials projected to be available through mining or recycling of photovoltaic and other electronic devices; and

(D) a list of other significant uses for each of these materials.

(2) PRIORITIES.—The Secretary, working with private industry, shall develop a plan to establish priorities and requirements for the database under this subsection, including the protection of proprietary information, trade secrets, and other confidential business information.

(3) COORDINATION.—The Secretary shall coordinate with the Director of the National Institute of Standards and Technology and the Administrator of the Environmental Protection Agency to facilitate the incorporation of the database under this subsection with any existing database for electronic manufacturing and recycling.

The Acting CHAIR. No amendment to the committee amendment is in order except those printed in House Report 111–304. Each amendment may be

offered only in the order printed in the report, by a Member designated in the report, shall be considered read, shall be debatable for the time specified in the report equally divided and controlled by the proponent and an opponent, shall not be subject to amendment, and shall not be subject to a demand for division of the question.

AMENDMENT NO. 1 OFFERED BY MR. GORDON OF TENNESSEE

The Acting CHAIR. It is now in order to consider amendment No. 1 printed in House Report 111–304.

Mr. GORDON of Tennessee. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 1 offered by Mr. GORDON of Tennessee:

Page 4, line 21, amend paragraph (1) to read as follows:

(1) photovoltaics and related electronic components, including inverters, charge controllers, and energy monitors;

Page 5, line 16, insert ''Federally-Funded Research and Development Centers,'' after ''national laboratories,''.

Page 6, lines 9 through 12, amend subsection (e) to read as follows:

(e) LIMITATION.—The Department of Energy shall provide awards to projects for research, development, and demonstration of solar technologies and solar manufacturing in the United States.

Page 8, line 9, strike ''and''.

Page 8, line 11, insert ''and'' after the semicolon.

Page 8, after line 11, insert the following new clause:

(v) the technologies used to condition solar energy, including inverters, DC/DC converters, and battery chargers;

Page 8, line 21, strike ''; and'' and insert a semicolon.

Page 8, line 22, redesignate subparagraph (H) as subparagraph (I).

Page 8, after line 21, insert the following new subparagraph:

(H) ways to reduce regional disparity in the use of solar technologies; and

Page 9, line 8, strike ''and''.

Page 9, line 11, strike the semicolon and insert ''; and''.

Page 9, after line 11, insert the following new subparagraph:

(E) improving the cost effectiveness and quality control of domestic manufacturing of implements and devices used in the production of solar energy;

Page 9, lines 12 and 15, redesignate paragraphs (4) and (5) as paragraphs (5) and (6), respectively.

Page 9, after line 11, insert the following new paragraph:

(4) identify best practices for Department of Energy national laboratories in their collaborations with institutions of higher education and private industry to more efficiently and effectively bring new solar technologies to the marketplace;

Page 10, after line 3, insert the following new subsection:

(d) CONSULTATION.—The Solar Roadmap Committee shall consult with the Department of the Interior, the National Park Service, the Department of Defense, and the General Services Administration on the potential for solar demonstration projects on Federal lands.

Page 10, line 15, insert '', solar applications developers,'' after ''including manufacturers''.

Page 12, after line 21, insert the following new paragraph:

(7) GEOGRAPHIC DISTRIBUTION.—The Secretary shall consider individuals that represent diverse geographic regions of the United States for membership of the Committee.

Page 13, line 3, insert '', applications,'' after ''solar technologies''.

Page 13, line 16, redesignate subsection (e) as subsection (f).

Page 13, after line 15, insert the following new subsection:

(e) LIMITATION.—The Committee shall provide guidance on technological goals and activities but, consistent with requirements for the selection of recipients of funding on a merit-reviewed, competitive basis under section 101(b), shall not recommend or select specific recipients of funds.

Page 14, lines 17 and 18, amend subparagraph (A) to read as follows:

(A) are located in geographically dispersed regions of the country and are not concentrated in any single geographical region of country;

Page 15, line 10, insert '', as well as promote accessibility and community implementation of demonstrated technologies,'' after ''energy costs''.

Page 16, lines 3 and 4, amend paragraph (5) to read as follows:

(5) operation for a minimum of 3 years, using a monitoring methodology approved by Secretary; and

Page 16, after line 19, insert the following new subsection:

(f) ORGANIC PHOTOVOLTAIC CELL TECHNOLOGIES.—At least 1 demonstration project awarded under this section during fiscal year 2011 shall be for the demonstration of organic photovoltaic cell technologies.

Page 17, line 17, strike ''; and'' and insert a semicolon.

Page 17, line 21, strike the period and insert ''; and''.

Page 17, after line 21, insert the following new paragraph:

(6) assessment of current financing models available to consumers used to offset high upfront costs by accounting for the long term economic benefits of solar energy.

Page 18, line 5, and page 19, lines 18 and 22, redesignate sections 107 through 109 as sections 108 through 110, respectively.

Page 18, after line 4, insert the following new section:

SEC. 107. REPORT.

Not later than 180 days after the date of enactment of this Act, the Secretary shall commence a study evaluating potential applications of micro power stations using solar power technology in underserved communities lacking in basic electric or traditional power infrastructure, and make recommendations to Congress for increasing access to and implementation of solar energy technology in such underserved communities.

Page 20, after line 9, insert the following new section:

SEC. 111. SOLAR TECHNOLOGY EQUIPMENT THEFT.

(a) PILOT PROGRAM.—Not later than 1 year after the date of enactment of this Act, the Secretary of Energy shall establish a pilot program to make grants for projects to protect against solar technology equipment theft, including projects for mapping of large-scale solar projects and equipment serial number registries.

(b) REPORT TO CONGRESS.—Not later than 1 year after the establishment of the pilot program under subsection (a), the Secretary of Energy shall transmit to the Congress a report on the effectiveness of projects supported under this section, which shall include recommendations for the continuation or alteration of the program under this section or any other appropriate Federal legislation.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Tennessee (Mr. GORDON) and a Member opposed each will control 15 minutes.

The Chair recognizes the gentleman from Tennessee.

Mr. GORDON of Tennessee. Mr. Chairman, I yield myself such time as I may consume.

This amendment includes a number of good ideas from my colleagues who today were not fortunate enough to be on our committee, so I am happy to support them all, and I appreciate their contribution to making this a better bill.

The amendment also incorporates important clarifying language that the our staff worked out with our committee colleagues and partner, Dr. BARTLETT, to ensure that the road map committee only has the power to provide guidance on technological goals and activities and cannot recommend or select specific recipients of funds. This amendment provides further protection against any conflicts of interest on the road map committee, and I strongly urge my colleagues to support it.

I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not necessarily opposed to all of them.

The Acting CHAIR. Without objection, the gentleman from Texas is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, the manager's amendment includes 14 separate amendments that were submitted to the Rules Committee. I am supportive of a number of the provisions, including those that promote solar demonstration projects on Federal lands and those that promote geographic diversity for members of the solar road map committee. Most of these amendments make minor changes, and I don't oppose those. I have some questions with a few of the provisions, which I hope the chairman might be able to speak to.

Mr. HASTINGS' amendment would fund community implementation of solar technologies, which I am not sure is an appropriate use of funds in the bill. Mr. POLIS' amendment seems to be the attempt to study financial incentives available to convince people to use solar energy, but I am uncertain what he really seeks to accomplish.

Can the chairman shed some light on the need for this language and whether this is an appropriate use of funds in the bill?

Finally, Mr. THOMPSON's amendment that would use funding in the bill for demonstration projects to protect against solar technology equipment theft, I am concerned about the cost of this project and whether or not this is

an appropriate research and development project for the bill, it is a research and development project, and how big of a problem is this and what types of products are being stolen.

Mr. Chairman, I reserve the balance of my time.

Mr. GORDON of Tennessee. Mr. Chairman, I yield to the gentlewoman from San Diego, Mrs. DAVIS, for as much time as she may consume.

Mrs. DAVIS of California. I thank my colleague for yielding the time.

Mr. Chairman, I rise today in strong support of H.R. 3585, the Solar Technology Roadmap Act. I think that it is so important.

I am very proud of my community of San Diego because we are known, as everyone is aware, of our perennial sunshine. I also wanted to assure our colleagues that we are not just basking in those rays; in fact, we are putting them to work. San Diego has been working to put that sun to use for some time.

Our city ranks first among California cities for use of solar energy according to a recent report by the Environment California Research & Policy Center. Our city's solar friendly policies, such as our quicker permitting for buildings that use solar power and a pilot program to offer homeowners incentives for solar installations, has made us really a bellwether for clean energy operations.

The other very, very critical issue that I want to applaud is our military and our Navy, because the Navy Region Southwest has taken great advantage of this wonderful resource that we have in our sun by investing in solar panels throughout San Diego bases, saving both energy and taxpayer dollars. There are a number of parking lots that are shielded by solar panels, a number of the buildings that have been transferred over the years. So this kind of sustainability of many of our military installations and buildings in San Diego is critically important for us. It makes a huge difference.

I certainly hope that other cities can take a look at what we have been able to accomplish and that San Diego's leadership can serve as a road map for other cities. As we guarantee our country's leadership for providing a road map for financial and structural investments in the research and development of solar energy, we can continue to move forward with the kind of momentum that is really critical, and that is what this bill is providing.

The public-private partnerships that will result from this bill will help make solar energy more affordable and accessible for all Americans. I see in my own neighborhood the changes that are occurring, pilot projects, solar projects in front of homes throughout the community. That sends a very powerful message to people.

I am thrilled to be a cosponsor of this legislation, and I encourage my colleagues on both sides of the aisle to support H.R. 3585.

Mr. HALL of Texas. Mr. Chairman, I continue to reserve my time.

Mr. GORDON of Tennessee. Mr. Chairman, I yield myself such time as I may consume.

Ranking Member HALL, to respond to your question, the manager's amendment was a compilation of a variety of amendments that had been presented to the Rules Committee. In an effort to expedite the process here today, there was no mention of opposition to these. The minority staff had access to these amendments at the same time that we had them. We heard no opposition, so we tried to batch them together so that the process could move forward more expeditiously.

Mr. Chairman, I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I yield back the balance of my time.

Mr. MITCHELL. Mr. Chair, I rise in support of the Manager's Amendment to the Solar Technology Roadmap Act, H.R. 3585.

We're lucky in Arizona to enjoy over 300 days of sunshine. We have a real opportunity to brighten our state's future by investing in solar energy research and technology.

As solar technology advances, I believe that Arizona will be a leader in clean, alternative energy production. Refocusing our energy production on alternative sources such as solar is critical for our national security and the environment.

Moreover, investing in solar energy is vital to Arizona's economy.

With the help of solar tax credits, Abengoa Solar and Arizona Public Service are developing the world's largest solar energy plant outside of Gila Bend. The Solana solar generating station will create 1,500 to 2,000 jobs and provide clean, emission-free energy for 70,000 homes. Solana is expected to ultimately spur $1 billion in economic development.

H.R. 3585, the Solar Technology Roadmap Act, is critical in order to spur further research and development of solar technology. This legislation would establish a Solar Technology Roadmap Committee tasked with creating a Solar Technology Roadmap to evaluate near-term, mid-term, and long-term research, development, and demonstration needs in solar technology. This Committee would include stakeholders in the solar industry to provide insights on the deployment of this technology.

I would like to thank Chairman GORDON for working with me to ensure that the Solar Technology Roadmap would also address an important obstacle blocking the advancement of solar technology today—namely that this technology is expensive.

I offered an amendment to H.R. 3585 to ensure that the Solar Technology Roadmap includes research and development goals for improving the cost-effectiveness of domestic manufacturing of implements and devices used in the production of solar energy.

The Chairman graciously agreed to include my amendment in the manager's amendment.

If we are serious about making large-scale solar energy production a reality, it is critical that we focus our research efforts on ensuring that solar technology is affordable and competitive with other sources of energy.

I would also like to take a moment to thank Congresswoman GIFFORDS for her hard work on this bill.

I urge my colleagues to support the manager's amendment as well as the underlying legislation.

Mr. GORDON of Tennessee. Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from Tennessee (Mr. GORDON).

The amendment was agreed to.

AMENDMENT NO. 2 OFFERED BY MR. BROUN OF GEORGIA

The Acting CHAIR. It is now in order to consider amendment No. 2 printed in House Report 111–304.

Mr. BROUN of Georgia. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 2 offered by Mr. BROUN of Georgia:

Page 18, lines 7 through 12, strike ''section 101(a)'' and all that follows through ''2015'' and insert ''section 101(a) $250,000,000 for each of the fiscal years 2011 through 2013''.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Georgia (Mr. BROUN) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from Georgia.

(Mr. BROUN of Georgia asked and was given permission to revise and extend his remarks.)

Mr. BROUN of Georgia. Mr. Chairman, I yield myself as much time as I may consume.

Energy independence and innovation are essential to America's national as well as economic security. Current rising energy costs only reinforce this critical need. Last summer's record-breaking prices of fuel exposed the consequences of the failure to have a comprehensive national energy strategy, one that makes America energy independent.

Many believe the debate is oil and gas versus wind, solar, and renewable sources of energy. That assumption is absolutely false. We need all of the sources of fuel that we know about, both current and any possible ones that we can develop in the future.

Today's bill focuses on one of those sources of very much needed energy, solar energy. The technological advances in solar-generated energy are growing every day. Specifically, during committee markup, our friend and colleague, Dr. EHLERS, shared with us an ingenious new technology that may only be a year away from the market, a solar shingle.

These new shingles, which are being developed by the private sector, will be able to produce more than enough energy to power almost any modern home. I hope they get on the market very quickly. These shingles have dual purposes—the protection of the home on the roof and providing a clean energy source to the home. Further, the costs to the consumer would eventually be comparable to regular wood

shingles. This is the marketplace at its best.

Despite my strong support of these innovative and cleaner technologies, this Congress must recognize a simple fact: We do not have enough money to do all the programs that we would all like to do.

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In order to balance the noble goals of this legislation with the overwhelming pressures placed on the budget, I offer this amendment which would freeze the amount of money authorized in this bill to $250 million a year for 3 years.

In this fiscal year's Energy and Water appropriations bill, $225 million was appropriated for solar energy programs. This is in addition to the $117 million that was appropriated in the so-called stimulus—I call it the ''non-stimulus'' bill—earlier this year.

This is more than Congress can and should be doing for solar and other renewable resources, reduce and streamline regulatory burden in developing and building green technologies, actions which would not expand or increase our debt.

I urge my colleagues to support this commonsense, economically responsible amendment and reduce the burden of adding to the debt which will be passed along to our children and grandchildren.

Mr. Chairman, we have to stop the outrageous spending that this Congress is doing, and my amendment will help to do that.

I reserve the balance of my time.

Mr. GORDON of Tennessee. Mr. Chairman, I rise to claim time in opposition to the amendment.

The Acting CHAIR. The gentleman is recognized for 5 minutes.

Mr. GORDON of Tennessee. I yield the gentlewoman from Arizona 3 minutes.

Ms. GIFFORDS. Mr. Chairman, I would like to respond to some of the concerns that are addressed in Mr. BROUN's amendment.

Mr. BROUN's amendment would freeze the authorization level for solar R&D at $250 million per year, the same level last authorized for fiscal year 2009 in the Energy Policy Act of 2005. And note that at this funding level, it would almost be completely impossible to carry out the tasks of the robust demonstration program in this bill, in addition to the critical research that is required through the road map committee.

But I frankly believe that the best justification for the proposed authorizations in this bill comes from taking a look backward in time at the historical levels of investment in energy R&D in this country.

Mr. Chairman, between 1978 and fiscal year 2007, the United States Government spent $30 billion on R&D for nuclear energy alone. We spent another $24 billion on fossil fuel research. During that same time, however, we spent less than $6.5 billion on solar energy. And more than half of that research was performed prior to 1985.

Now, maybe some people thing these disparities are appropriate. Maybe they think that solar does not merit the same levels of investment because it is not able to provide as much energy as those technologies. However, looking at the research and where we are with the technology today, that is simply false.

Our solar resources are absolutely vast in scale, and they are capable of making a significant contribution to our energy needs. Using technology available today, solar power could meet the electricity demands of the entire United States on a square piece of land 100 by 100 miles, or 10,000 square acres. That is just one-quarter of the land currently covered by artificial lakes behind hydroelectric dams, which provide less than 7 percent of our Nation's electricity.

Scott Stephens, an engineer with the Solar Energy Technology Program at the Department of Energy, recently stated publicly that with the right incentives, solar power has the potential to provide 20 percent of America's electricity needs by 2030. That's equal to the amount of power currently provided by nuclear power plants. Yet to date, we have spent just one-tenth the resources developing solar technologies than we have spent in developing nuclear power. In the last 30 years, we have spent four times more money developing coal technology than solar, and burning coal is a technology that was developed 150 years ago.

At the end of the term covered by my bill, it would authorize $550 million to solar R&D. At the peak of the energy crisis in the 1970s, we spent $3 billion a year on nuclear power development and $1.8 billion on fossil fuels, using 2007 dollars.

Let me be clear. I fully support having strong research programs in other types of energy, whether it's nuclear or coal and a variety of other important energy options. The funding levels in this bill just recognize and help us properly take advantage of the enormous solar resources that we have in the United States.

The Acting CHAIR. The time of the gentlewoman has expired.

Mr. GORDON of Tennessee. I yield the gentlewoman 1 additional minute.

Ms. GIFFORDS. To properly take advantage of the enormous solar resources we have in the United States, and the potential to accelerate new clean energy for our economy, it is time for our investment to match the scale of opportunity. In fiscal year 2011, the Solar Technology Roadmap would authorize $350 million, which is only about 6 percent of today's energy R&D budget.

Mr. BROUN of Georgia. Mr. Chairman, I yield 2 minutes to my good friend, Mr. HALL from Texas.

Mr. HALL of Texas. Mr. Chairman, I rise in support of the amendment.

Mr. Chairman, Dr. BROUN's amendment is a fiscally conservative amendment that makes financial sense when our country is carrying a $1.4 trillion debt. Instead of authorizing a total of $2.25 billion, Dr. BROUN's amendment would authorize $750 million, keeping the authorization level more in line with the incremental increases the solar program has been appropriated over the past several years, not to mention the $117.6 million that the program has already received in the stimulus bill. This could be the amendment that would make the bill more acceptable.

Mr. GORDON of Tennessee. Mr. Chairman, I yield myself such time as I may consume.

Dr. BROUN is a valued member of our committee and has well deserved credentials for looking after the taxpayers' dollars. But I really think in this case it is being penny wise and pound foolish.

In the short time that I have, I want to make one quick point. The United States invented the technology for the solar industry now. Yet China is the largest manufacturer, exporter and deployer of solar in the world right now. The United States simply cannot compete with them in terms of wages. We do not want to work for $2 or $3 an hour. We do not want to have our kids to do that. So we have to be ahead of them in technology.

For that reason, we are going to have to invest in that technology so that we can make our solar panels and our solar industry be such that we are not only manufacturing it, but we are also putting forth the best technology. That is why this investment is important. That is why this is an investment in our future and our kids.

And with that, Mr. Chairman, I yield back the balance of my time.

Mr. BROUN of Georgia. Mr. Chairman, if the philosophy is that government has to supply all the money for all the research and development in this country, particularly for energy resources or anything else, then it makes sense to pour more and more money into this kind of development, but we are stealing our grandchildren's future. They are going to live at a lower standard.

Mr. Chairman, we just simply have to stop the spending and control what we are doing. We cannot spend ourselves into economic prosperity. It's going to cost jobs in this country. We are going to go into an economic slump and a downturn if we don't stop spending money here in Congress.

So my amendment will certainly continue to fund solar energy, which we desperately need; but the private sector, Mr. Chairman, can do that also. Government is not the only source of funds. The private sector is already developing things, as I stated in my opening statement for these shingles.

We have to stop robbing our grandchildren's future.

And with that, Mr. Chairman, I urge all Members on both sides to support my amendment. It's a commonsense, fiscally responsible amendment.

I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from Georgia (Mr. BROUN).

The question was taken; and the Acting Chair announced that the noes appeared to have it.

Mr. BROUN of Georgia. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentleman from Georgia will be postponed.

AMENDMENT NO. 3 OFFERED BY MR. HASTINGS OF FLORIDA

The Acting CHAIR. It is now in order to consider amendment No. 3 printed in House Report 111–304.

Mr. HASTINGS of Florida. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 3 offered by Mr. HASTINGS of Florida:

Page 10, line 22, strike ''and''.

Page 10, line 23, redesignate subparagraph (G) as subparagraph (H).

Page 10, after line 22, insert the following new subparagraph:

(G) minority-serving institutions; and

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Florida (Mr. HASTINGS) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from Florida.

Mr. HASTINGS of Florida. Mr. Chairman, I rise today to offer this amendment to H.R. 3585, the Solar Technology Roadmap Act, to guarantee minority-serving institutions are represented in the solar technology road map committee.

Mr. Chairman, I'm a bit melancholy because I'm here with two colleagues that I cut my eye teeth in Congress with from the Science Committee, Mr. GORDON, the now-Chair, and the ranking member, Mr. HALL. And it seems that 19 years kind of like went real fast. Somewhere along the way, I had hair then, Mr. GORDON's hair was black, and Mr. HALL's hair was white; but he had more of it at that time. But it's a pleasure, and it's refreshing to see the comity that existed when I came here 19 years ago continuing on this committee. And I applaud them in that regard for bringing significant bipartisan legislation to the floor.

As a Member representing the sunshine State of Florida, I feel that we must seize the opportunity to research and develop solar technology. Solar power is an innate source that can provide much advancement in the world of energy and technology. It is critical to ensure that members appointed to the solar technology road map committee are a diverse group of Americans who will carry out the mission of this act.

I believe that minority-serving institutions have a history of technical expertise, where many are actually land grant institutions, thus they have significant extension efforts which translate research into applied resources for the communities they serve.

My law school alma mater and the alma mater of Representative CORRINE BROWN and Representative KENDRICK MEEK, Florida Agricultural and Mechanical University in Tallahassee, Florida, has been a land grant institution educating African Americans and other Americans since 1890. The university offers an extensive catalog of degree programs with a strong and efficient research division. FAMU's research division has been involved in cutting-edge research that has led to numerous technological and scientific advancements.

Mr. Chairman, essentially, this amendment reminds the Secretary of Energy, responsible for implementing the solar technology road map resulting from this legislation, to incorporate diverse expertise. Involving institutions such as FAMU will ensure a full spectrum of voices contribute to determining the best course for seizing the enormous potential of solar technology.

I ask my colleagues for their support of this amendment, and I deeply thank Congresswoman GIFFORDS for offering the underlying legislation.

I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, this amendment seeks to ensure minority institutions are represented on the solar technology road map committee established in this bill. I certainly have no objections to this amendment.

I reserve the balance of my time.

Mr. HASTINGS of Florida. Mr. Chairman, how much time do I have remaining?

The Acting CHAIR. The gentleman has 90 seconds remaining.

Mr. HASTINGS of Florida. Then I am pleased at this time to yield 90 seconds to my friend, Mr. CUELLAR.

Mr. CUELLAR. Mr. Chairman, I rise again to support the Solar Technology Roadmap Act and of course Mr. HASTINGS and the work that he has done. I had offered an amendment that got included to authorize the Secretary of Energy to study micropower solar power technology used in underserved communities that lack basic electric and traditional powers.

I think my friends from Texas are familiar with the colonias. They understand that this is important to provide power to those areas that have literally no electricity. And this particular bill and this particular amendment will go a long way to make sure that these communities are provided the support they need.

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What this calls for is for the Secretary to provide a study to take the resources that we have, especially in south Texas, the sunlight, and put it to work to power these communities.

We have worked together to work and put some micro power stations to use in areas like Webb County in south Texas, and I believe that by getting these recommendations to be sent to Congress for increasing assets to solar energy and to help address the problems that exist in those low-income communities, this will go a long way. We can harness this 21st century technology to bring these areas out of 19th century conditions.

Mr. Chairman, I want to thank you very much, and also Ms. GIFFORDS, and our ranking member.

I urge Members to vote for the Hastings amendment, and of course for this bill.

Mr. Chairman, I rise today to encourage my colleagues to support the manager's amendment to the Solar Technology Roadmap Act.

I authored an amendment, included in this manager's amendment, to authorize the Secretary of Energy to study micro power solar power technology use in underserved communities that lack basic electric or traditional power infrastructure.

I thank the distinguished Chairman Ms. GIFFORDS for including my amendment in the manager's amendment. This important amendment will go a long way towards helping communities along the southern border.

In my home state of Texas, many of these communities are called colonias.

They are commonly found on the United States/Mexico border, in underdeveloped areas across the state, and also in areas of New Mexico, Arizona, and California.

These communities exist with conditions typically found only in developing nations—no plumbing, no roads, and no power.

Texas has both the largest number of colonias and the largest colonia population.

According to the State of Texas, about 400,000 Texans live in colonias.

The development of Texas colonias dates back to least the 1950s, when developers created unincorporated subdivisions using agriculturally worthless land or land that lay in floodplains or in other rural properties.

They divided the land into small lots, put in little or no infrastructure, and then sold them to low-income individuals seeking affordable housing.

This study will hopefully take a resource that is vast in South Texas, sunlight, and put it to work to serve and power these communities.

I have worked in the past to put these micro power stations to use in Webb County, to provide small, isolated communities with power, and this amendment builds on that to hopefully expand power to so many more families of South Texas.

The manager's amendment includes my plan to direct the Secretary of Energy to present to Congress recommendations for increasing access to solar energy and to help address the problems that exist in these low income communities.

We can harness this 21st century technology to bring these areas out of 19th century conditions.

Mr. Chairman, I applaud your leadership on this important Manager's amendment, and I urge all my colleagues to vote "yes."

Mr. HALL of Texas. Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from Florida (Mr. HASTINGS).

The amendment was agreed to.

AMENDMENT NO. 4 OFFERED BY MR. CARDOZA

The Acting CHAIR. It is now in order to consider amendment No. 4 printed in House Report 111–304.

Mr. CARDOZA. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 4 offered by Mr. CARDOZA:

Page 4, lines 1 through 3, amend subparagraph (B) to read as follows:

(B) solar thermal power technology, including linear concentrator systems, dish/engine systems, power tower systems, and other means;

Page 14, line 15, strike ''and''.

Page 14, line 16, redesignate paragraph (3) as paragraph (4).

Page 14, after line 15, insert the following new paragraph:

(3) include at least 2 solar thermal technology projects, with thermal storage, that generate between 1 and 3 megawatts continuously for a 24-hour period from energy provided entirely by the sun; and

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from California (Mr. CARDOZA) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from California.

Mr. CARDOZA. Mr. Chairman, I rise today in support of my amendment, a measure that expands the type of technologies that the Department of Energy should consider when planning for future solar.

The Central Valley in California is home to many solar technology companies and to the University of California at Merced, a leader in solar research. However, my constituents tell me that they are unable to take advantage of several of the Department of Energy grant application processes because the Department has a very narrow view of the future of solar.

As someone with solar panels on my home in my hometown of Atwater, I understand the tremendous benefit that solar power will have on our country and economy, and I want to ensure that our current planning is done correctly. Instead of limiting the potential of solar power, we should be expanding that potential and letting the full imagination of American ingenuity take charge.

My amendment is very simple: it expands the type of technologies that the Department of Energy should consider when planning solar technology road maps, and it directs the Department to focus resources on different types of solar technology.

Specifically, my amendment expands the definition of solar technology to include solar thermal power technology and not just electronic photovoltaic technology. This would facilitate the funding of solar projects and replace all types of polluting technologies, including diesel.

Secondly, my amendment directs the Department of Energy's demonstration program to include solar thermal projects that operate using solar power only. Some solar plants are built with gas-fired plants next door to them to generate power when the sun is not available. If we as a country are going to wean ourselves away from dirty energy, then we must develop technologies that eliminate the use of pollutants completely and stop settling for hybrids. I know we can do better than this. And this amendment instructs the Department of Energy to look harder and wider at these technologies.

I urge the passage of my amendment, and I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, this amendment would simply expand the types of technology the Energy Secretary can consider from solar thermal electric technology to solar thermal power technology and require the Secretary to include at least two solar thermal technology projects with thermal storage in the demonstration project funded under the bill. I see no problem with that, and I have no objection to the amendment.

Mr. Chairman, I reserve the balance of my time.

Mr. CARDOZA. Mr. Chairman, I want to thank my colleague and my friend, the gentleman from Texas, for his support of this amendment.

I would like to yield such time as she may consume to the gentlewoman from the District of Columbia (Ms. NORTON).

Ms. NORTON. I want to thank my colleague from California for this expansion, and my colleague on the other side for supporting his amendment.

I come to the floor because, in my own work as chairman of a subcommittee that engages in construction of courthouses and of Federal buildings throughout the United States, we have been trying to make the United States lead by example. The cost of all of this, I say to my colleague, will go down tremendously if the Federal Government is in this big time.

Your attention to thermal technology with regard to solar is very important. Just this morning, I went to speak to the International Brotherhood of Electrical Workers who are deeply engaged in this work in military institutions and the defense industries. Already we read that 30,000 jobs have come out of the stimulus just reported last week. And what is important about the stimulus is that every bit of construction is built around energy conservation; will not put on a roof, will not do an HVAC system, will not upgrade any part of a building unless at the center is energy conservation, because the taxpayers pay for this energy in leasing even. We do bulk leasing, which means we pay for the heat; we pay for the air conditioning. So to the extent that the gentleman is making us expand the horizons, he does the Nation a great service.

The Chinese are way ahead of us in research. They have trumped us even in manufacturing. This rushes us to manufacturing and moves the Nation ahead so that we regain our leadership on technology, a leadership, I regret to say, that we have already lost in solar, but this bill and the gentleman's amendment helps us to quickly catch up.

I thank the gentleman for yielding.

Mr. HALL of Texas. Mr. Chairman, I yield back the balance of my time.

Mr. CARDOZA. Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from California (Mr. CARDOZA).

The amendment was agreed to.

AMENDMENT NO. 5 OFFERED BY MS. KAPTUR

The Acting CHAIR. It is now in order to consider amendment No. 5 printed in House Report 111–304.

Ms. KAPTUR. Mr. Chairman, I rise to offer an amendment as designated amendment No. 5 in House Resolution 846.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 5 offered by Ms. KAPTUR:

Page 9, line 14, strike ''and''.

Page 9, line 15, redesignate paragraph (5) as paragraph (7).

Page 9, after line 14, insert the following new paragraphs:

(5) provide recommendations on the necessary steps required to strengthen the link between solar technology research and the commercialization of those technologies into full scale manufacturing, including the retooling and reworking of the Nation's existing technological and manufacturing base, as well as coordinating the national strategy in regions where solar technology clusters currently exist;

(6) provide recommendations to Federal agencies on corresponding strategies to accelerate domestic commercialization of newly developed solar technologies; and

The Acting CHAIR. Pursuant to House Resolution 846, the gentlewoman from Ohio (Ms. KAPTUR) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentlewoman from Ohio.

Ms. KAPTUR. Mr. Chairman, first let me thank the distinguished gentlewoman from Arizona, Congresswoman GIFFORDS, for her leadership in developing this legislation, and the Democratic and Republican leadership of the Science and Technology Committee, Chairman BART GORDON of Tennessee and Ranking Member Mr. RALPH HALL of Texas.

Truly, for my region, which is one of the three leading solar centers in the hemisphere, Toledo, Ohio, and an area enduring great economic transition, solar energy is so much a part of our future.

My amendment is very straightforward. It directs the committee charged with outlining the needs of the solar industry to consider the outcomes for domestic solar manufacturing and commercialization in the United States. The amendment also asks the committee to consider the policies of other Federal agencies for encouraging solar commercialization.

We know that while the United States has long been the leader in research and development of solar technologies—and let me hold one of them up, one of the newest solar inventions from my region which is actually going to be on all our roofs someday. It doesn't have glass in it, but it's seven layers, and it is part of the future of solar building technologies in this country. Our children and grandchildren will come to know it very well.

We have had a lot of creative geniuses out there developing solar patents and new technologies, but our country seems to have lost the lead in solar deployment and manufacturing. With dramatic advances in Germany, Spain, and China, our country needs a unified strategy for developing a competitive domestic solar industry.

For the last 100 years, our community, which has been known as the glass center of the world, has been devoting our best minds to the exploration of traditional energy resources. We are now converting and building on what we've known in the past to something new and innovative.

Regressive research and development practices and our reliance as a country on foreign oil helped precipitate our economic decline and strategic vulnerability. I have always believed that our dependence on imported petroleum is America's chief strategic vulnerability. In fact, in 2006 alone, $270 billion, or one-third of the total $836 billion U.S. trade deficit, resulted from imported petroleum. That's right, one-third of our trade imbalance is the result of imported oil and our oil addiction.

The economic, political and environmental future of our country lies in our ability to transition our economy from traditional energy sources and to ensure we produce and manufacture the clean power sources here at home. That, coupled with conservation and our building technologies, can make tremendous strides.

Between 1943 and 1999, the nuclear industry of our country received over $145 billion in Federal subsidies. But the solar industry, by contrast, which is our future, only got about $4.4 billion for solar energy development; that's less than 3 percent of what was received by the nuclear industry. If we are going to invest the billions needed in solar, and which we have no choice but doing, there needs to be a road map that guides our policies and promotes not just research and development, but leads to the creation of a domestic industry without outsourcing. We should be exporting, not outsourcing.

We must ensure that Federal policy takes these technologies from the drawing board to the manufacturing line as we've done in so many other industries; otherwise, we will find that offshoring will occur as it has in other industries and that global trade practices will allow foreign imported solar production here, and our domestic manufacturers will not be able to keep pace.

As my colleagues join me on the floor and wonder why an amendment like this is necessary, let me provide you with an example from my hometown of Toledo; and as I mentioned, it is now one of the leading three solar centers in the hemisphere. Toledo, Ohio is a city in transition. Throughout the 20th century we were known as the glass capital of the world. With the world's glass giants—Libby-Owens-Ford, Owens-Illinois, Owens-Corning and Libby—all headquartered in our district, the city provided reliable transportation, cheap natural gas, and silicate and limestone building materials. As the glass industry advanced, the titans of glass spun off glass technologies into some of the early solar technologies that local talent created. In fact, the hottest stock on Wall Street in the last couple of years has been First Solar that is headquartered in our district. It was spun off from research at our University of Toledo hand in hand with our glass industry leaders.

Leaders coming from the glass and automotive industry in our region, such as Dr. Harold McMaster and Norman Nitschke, who were the founders of First Solar, and other entrepreneurs—Norm Johnson, Xunming Deng and his wife, Liwein Xu, Al Campaan—all of these wonderful Americans are helping to build our future in places like Toledo.

The Acting CHAIR. The time of the gentlewoman from Ohio has expired.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. I yield the gentlelady 1 additional minute.

Ms. KAPTUR. These private sector researchers at the University of Toledo have continued investing in these designs and have birthed new solar companies that will be the Fortune 500 of the next generation. Companies like Xunlight, Innovative Greenfields, Solar Fields, Calyxo, Willard & Kelsey—these were born because of an innovative incubation strategy that helped our researchers make the leap from science to manufacturing.

Mr. Chairman, the base bill and this amendment provide the direction to transform our solar industry and breathe life into our idle industrial economy to produce the advanced energy products of tomorrow and to restore America's energy independence.

I again compliment the gentlelady from Arizona for her leadership, and I thank both Chairman GORDON and Ranking Member HALL so very much for their time today.

I urge a ''yes'' vote on the amendment and the base bill.

[From the Wall Street Journal, Dec. 18, 2007]

TOLEDO FINDS THE ENERGY TO REINVENT ITSELF

(By Jim Carlton)

TOLEDO, OHIO.—This city became famous in the last century for being one of North America's leading glass centers. The industry has been in decline since the 1980s, but Toledo hopes to be known for its glass again. This time, though, the glass is being coated with thin layers of chemicals to produce ecofriendly ''solar cells.''

Toledo is among several old-line industrial cities trying to reinvent themselves—sometimes based on their older industries—to cash in on the demand for alternative energy. In 2006, solar start-up United Solar Inc. said it would open thin-film factories in Auburn Hills and Greenville, two Michigan towns hit hard by the automotive decline. And last year, a wind-generation plant began construction on the grounds of a shuttered Bethlehem Steel plant in Lackawanna, N.Y.

Industry officials say older industrial cities offer the clean-tech industry some advantages, including less community opposition to new plants. ''The good thing about the Rust Belt is they want factories there,'' says Ron Kenedi, vice president of Sharp Corp.'s Solar Energy Solutions Group, which is based in Huntington Beach, Calif.

Recently, Norm Johnston, a former executive at Toledo glass companies, showed how Solar Fields LLC, a start-up he runs, was leveraging the old glass industry. Walking to the back of a 22,000-square-foot former machine shop in the nearby suburb of Perrysburg, he patted the blue metal casing on a 100-foot-long production line, which his company has designed to coat sheets of glass heated to more than 1,100 degrees with chemicals to make solar cells.

''I started in glass, and now I'm back in glass,'' says Mr. Johnston, whose start-up has recently been acquired by German solar-panel maker Q-Cells AG.

There is similar activity at several other sites in this metropolitan area of 600,000. Companies from Phoenix-based First Solar Inc. to Xunlight Corp. are opening factories in and around Toledo to create electricity-producing ''thin-film'' solar panels on glass and other materials. While not rated as efficient as the more prevalent silicon-based solar cells, thin film has taken off in the last year because of soaring demand for alternative energy and a world-wide silicon shortage. It is also cheaper to make than silicon cells.

In addition to First Solar, which in 1999 built a factory in Perrysburg that now employs about 600, the University of Toledo is receiving state grants to expand its solar research and incubate thin-film spinoffs. So far, the university has incubated four solar start-ups, including Solar Fields, Xunlight, Innovative Thin Films Ltd. and Advanced Distributed Generation LLC. Toledo's Regional Growth Partnership, a nonprofit economic development group, is also using state grants to help fund solar and other alternative energy start-ups.

''I think alternative energy is one of the major hopes for northwest Ohio,'' says John Szuch, chairman of Fifth Third Bank of Northwestern Ohio.

In Toledo, the repercussions of the new solar activity are already being felt. Pilkington North America Inc., a Toledo-based unit of Japan's Nippon Sheet Glass Co., has become a major supplier to First Solar, offsetting some of the business it lost in the traditional glass industry. Pilkington officials estimate thin-film sales have grown to about 10% of revenue for its American building products division, prompting the company to beef up a research division that had been undergoing cuts. ''It's the biggest thing going for us right now in terms of glass,'' says Todd Huffman, vice president of strategic planning for Pilkington.

But clean tech isn't necessarily a panacea. Only about 5,000 solar jobs have been created in the last five years in Toledo. Meanwhile, the number of manufacturing jobs lost since the 1980s is in the tens of thousands.

Cities like Toledo may also have trouble competing with domestic clean-tech hot spots like Silicon Valley, which are in closer proximity to venture capital sources. In addition, Toledo is competing against cheaper overseas locales. First Solar, for instance, is building four manufacturing plants in Malaysia. Company officials say the Perrysburg plant remains ''critical'' to the firm's future success.

Still, Toledo has come a long way. Stricken by manufacturing declines in the automotive and other big glass-consuming sectors, the city has been in an economic malaise for much of two decades. Its population loss in the 1990s was one of the fastest in the U.S.

Toledo acquired its Glass City moniker because of a long history of innovation in all aspects of the glass business. Owens-Illinois, Owens Corning, Glasstech and Tempglass have extensive ties here. As the traditional glass industry slowed, executives explored other uses for the material.

In 1989, local inventor and glass entrepreneur Harold McMaster invested some of his millions to launch one of the city's first solar start-ups. ''He knew that sooner or later we would have to come up with a clean source of energy,'' says Alan McMaster, son of the now-deceased Mr. McMaster, an icon in the industry. Mr. McMaster's company, Glasstech Solar, became Solar Cells Inc., with research facilities at the University of Toledo and in a nearby city. In 1999, Solar Cells was acquired by a private-equity firm and became First Solar.

At the time, there was little demand in the thin-film industry. In 2002, British oil giant BP PLC pulled the plug on two thin-film plants it had had in the works for more than 10 years, amid issues including technical problems, according to a January report by the Department of Energy's National Renewable Energy Laboratory.

But rising energy costs and other events—including the blackout in the Northeast in August 2003—brought thin-film and other alternative energies back into favor. ''We said, 'There's a business opportunity here if we had solar','' recalls Solar Fields's Mr. Johnston. The university boosted its emphasis on thin-film research in 2001, and this year it shared in an $18.6 million state grant to fund the solar industry.

The school is now using the money to beef up solar research in its McMaster Hall, where some labs have been packed with equipment like a magnetron gun, which is used to spray thin-film chemicals on glass and other surfaces.

Civic leaders in Toledo now say they have the ingredients in place to turn solar into a thriving industry. In a seafood restaurant overlooking the Maumee River one recent evening, business and academic leaders discussed the city's rising solar industry and traced back its roots. ''How in the hell would we be in this business in the first place if it weren't for glass?'' asked Harlan Reichle, a local real-estate executive.

TOLEDO'S MAKEOVER: GLASS CITY TO SOLAR VALLEY

(By Chris Bury)

In Toledo, once the glass-making capital of the country, most of the city's output over the years has gone into making everything from windshields to windows for cars and buildings.

But as the auto and construction industries have declined, so too, has Toledo's manufacturing sector.

For Glen Eason, a manufacturing worker, supplying the auto industry meant waiting for the ax to fall.

''I've been scared to death for the past 10 years, to tell you the truth,'' said Eason, a Toledo native and 30-year auto supply industry veteran.

Marty Vick, 58, also spent 30 years working at an auto supplier, making seats and dashboards, only to see his job disappear. His company laid off 117 people in January.

''I never thought I'd see the day that GM, Ford and Chrysler would be at the brink of bankruptcy,'' Vick said.

That has left entire cities, including Toledo, on the brink. With its smokestack industries dying out, Toledo saw the writing on the wall and did something about it.

WATCH THE STORY TONIGHT ON ''WORLD NEWS'' AT 6:30 P.M.

To secure its future, Toledo, once known as the Glass City, embraced its past; Toledo is where glass was first mass-produced for bottles, buildings, and cars. Now, the city is turning those skills—and that tradition—to the sun.

New solar energy-related businesses are taking hold in what city officials and local executives hope will become Ohio's ''solar valley.''

''We didn't envision there would be some bailout of Toledo, so we had to do it ourselves,'' said Norm Johnston, CEO of Solar Fields, a solar startup company. ''We want to move from being the 'rust belt' to being the 'renewable energy belt.' ''

Solar Fields is on the forefront of the fast-growing ''green industry,'' supplying panels that help power a National Guard base. It is one of dozens of new companies in Toledo that now make rivers of glass into solar cells, panels and coatings.

''Our goal is to create jobs. What we like and what our favorite color is—is green. But it's the green of cash that gives you good jobs,'' Johnston said.

TOWN HAS BRIGHTER MISSION WITH SOLAR POWER

In Ohio's ''solar valley,'' 10,000 new jobs have taken root. Companies, like Xunlight, founded by researchers at the University of Toledo, are growing fast, working with experts to manufacture solar products and hiring new employees to become ''green collar'' workers.

''Last year, we grew 300 percent—from 20 employees to 80 employees today,'' said Xunming Deng, a physics professor-turned CEO of Xunlight Corp.

Executives hired from rust-belt companies, who are accustomed to downsizing, have a brighter mission in the solar business.

''In the last position, it was about how do we get rid of people,'' said Matt Longthorne, vice president of Xunlight. ''And in this position, it's how do we hire people and get bigger.''

Many of Xunlight's workers once made auto parts: everything from windshields to vinyl seats. Now they turn out thin, flexible solar modules that power homes and businesses.

What Vick gave up in hourly wages working for an auto supplier, he's gained in a brighter future—working in the solar industry, he has more job security than ever before.

''This is really high tech, cutting edge for me,'' Vick said. ''It's really, really challenging and I like it.''

Eason, who has also gone to a job in green technology, is enthusiastic, seeing his native Toledo switching gears. ''Just to be part of something that's growing and something that's good for the planet and good for the people,'' Eason said. ''Solar is going to be so immense. Solar is the new oil.''

Toledo is bailing itself out from the faded glory of the Glass City to the shiny promise of the Solar Valley.

''You have all this wonderful energy that the sun is sending to us for free and we're devising ways to capture it and put it to use,'' Eason said. ''In this area, we're in the forefront and everybody else is going to have to catch up with us.''

[From the Economist, Aug. 13, 2009]

GREENING THE RUSTBELT

Xunlight Corporation, a small manufacturer of solar panels, sits on a quiet street in Toledo. It has a professor as its president, about 100 employees on its payroll—and a lot of bigwig visitors. In October 2008 Sarah Palin, then the Republican vice-presidential candidate, used Xunlight as the setting for a speech on energy policy. Other guests have included Ohio's governor, two senators and a congresswoman. And no wonder: the firm provided evidence to support a seductive hope, that the green economy can help to revive the suffering rustbelt.

As the battle over a cap-and-trade bill continues in Congress, the industrial Midwest finds itself playing an awkward role. The climate bill offers two big opportunities, to reduce global warming and boost the green economy in the process. And nowhere are green jobs more loudly promoted than in the rustbelt. On August 5th Barack Obama and Joe Biden, his vice-president, travelled to Indiana and Michigan, two ailing swing states, to announce new grants to develop electric cars. But hopes for those new green jobs are matched by fears that traditional ones will be lost. With the Senate due to debate a cap-and-trade bill next month, the rustbelt and its politicians are at the heart of the battle.

The industrial Midwest has long been in need of a renaissance. Its factories have been losing jobs for decades, since long before the recession hit. Michigan, home to America's biggest carmakers, had a 15.2% unemployment rate in June, compared with a national average of 9.5%.

Green investment presents new hope. The University of Massachusetts, Amherst, and the Centre for American Progress, a think-tank, estimated in June that the federal stimulus package and a climate bill would spur about $150 billion in spending on clean energy each year for the next decade. That spending, in turn, would create an estimated 2.5m jobs, from academic researchers to factory workers making wind turbines. ''This is an opportunity for American ingenuity to renew the manufacturing base,'' argues Phyllis Cuttino of the Environment Group at the Pew Charitable Trusts.

There are already signs of activity. The Great Lakes Wind Network, based in Ohio, helps local firms sell goods to the wind business. Toledo remains one of the best examples of a town moving from the old economy

to a newer one. It has been a hub for the glass manufacturing since the 19th century. Thanks to innovations in solar technology at the University of Toledo, it is now home to a cluster of firms such as Xunlight. State grants continue to help the university hatch companies. The Regional Growth Partnership, a local business group, provides venture capital.

In Michigan despair has bred particularly bold action. In the past five years Jennifer Granholm, the Democratic governor, has dangled more than $1 billion to attract alternative-energy firms, with about $700m in tax credits to develop electric-car batteries. Impressively, Michigan had the third-highest number of clean-tech patents from 1999 to 2008, behind only California and New York, reckons Pew. That number may rise. Last year Michigan passed a requirement for power companies to boost efficiency, along with an order that renewable sources account for 10% of the state's electricity by 2015. Investments from the federal stimulus will help too. In the share-out on August 5th, Michigan won more grants for electric cars than any other state.

Nevertheless, the clean-energy economy remains small. Though green jobs are increasing in number, they accounted for only 0.6% of jobs in Ohio in 2007, according to Pew. The shares in Michigan and Indiana were even smaller, at 0.4% and 0.5% respectively. Manufacturing, for all its troubles, is a behemoth in comparison, accounting for 14% of employment in Ohio, 15% in Michigan and 18% in Indiana in 2007. And it is a dirty giant, dependent on cheap coal. The Midwest emits an outsize share of carbon, according to a report from the Chicago Council on Global Affairs. Indiana is one of the worst offenders, spewing out 4% of America's carbon emissions in 2007 though it is home to only 2% of its population.

The fear is that a cap-and-trade bill may expand a promising new sector but devastate a struggling, larger one. Mitch Daniels, the Republican governor of Indiana, has worked hard to maintain his state's manufacturing base. A price on carbon, he argues, would threaten it.

The version of cap-and-trade passed in June by the House was meant to appease such critics. It includes help for manufacturers eager to retool for new industries. Allowances would be given away, not auctioned. And at the urging of a congressman from Michigan, the bill would, from 2020, tax imports from countries that do not restrict emissions. But some Democrats are still wary. Three of Indiana's five House Democrats voted against the bill.

Now a tough battle looms in the Senate. A new report from the Energy Information Administration (EIA) forecasts that the House bill would depress industrial shipments by 1% between 2012 and 2030 (see chart). But that assumes a quick expansion of nuclear plants, which is unlikely. In the EIA's worst-case scenario, shipments would drop 3.2%. ''They're huxtering,'' huffs George Voinovich, Ohio's Republican senator, of the green enthusiasts. He wants more support for nuclear power and fears the House bill will transfer wealth from the heartland. On August 6th, ten of Mr Voinovich's Democratic colleagues, including six from the Midwest, wrote to Mr Obama fretting that a bill would cripple manufacturing industry.

But in Toledo Xunlight's president, Xunming Deng, looks forward to a cap-and-trade bill. ''Of course there is a cost, but this is an investment for our economy, for our future,'' he says. There remains a danger, however, that compromise will produce a clunker of a bill—one that does little to slow climate change, little to revive the old economy and little to boost a new one. Much now depends on a handful of the states in the heartland.

Mr. HALL of Texas. Mr. Chairman, although I am not opposed to the amendment, I do have some concerns about this amendment.

While I agree with its intent to help commercialize the technologies that come around as a result of solar technology research, I am concerned that we may not want to spend research dollars retooling and refurbishing manufacturing facilities, some of which may be represented on the Solar Roadmap Committee. That's my problem with it.

□ 1330

Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentlewoman from Ohio (Ms. KAPTUR).

The question was taken; and the Acting Chair announced that the ayes appeared to have it.

Mr. GORDON of Tennessee. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentlewoman from Ohio will be postponed.

AMENDMENT NO. 6 OFFERED BY MR. MARSHALL

The Acting CHAIR. It is now in order to consider amendment No. 6 printed in House Report 111–304.

Mr. MARSHALL. I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 6 offered by Mr. MARSHALL:

Page 14, line 15, strike ''and''.

Page 15, line 15, strike the period and insert ''; and''.

Page 15, after line 15, insert the following new paragraph:

(4) evaluate the potential to establish large photovoltaic facilities that produce at least 100 gigawatts, including an evaluation of the electrical grid, current, voltage, and energy storage requirements associated with large photovoltaic facilities.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Georgia (Mr. MARSHALL) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from Georgia.

Mr. MARSHALL. Mr. Chairman, the bill includes authorization for $300 million to the Energy Department for programs that will establish demonstration grants for solar technology projects. What my amendment does is include a requirement that the Department use some of this money to evaluate the potential benefits of very large solar projects.

The amendment is prompted by a January 2008 article that appeared in Scientific American, part of their Big Ideas series. Folks out there who want to read the article, I think you could probably just Google ''Solar Grand Plan,'' Scientific American, January 2008, and you would see an excellent discussion by three scientists of the possibility that we could create in the Southwest a 3,000-gigawatt facility that delivers solar power to the Nation. It would produce enough solar power by 2050, according to these scientists, to meet 69 percent of our electricity needs and 35 percent of our overall energy needs.

The idea is that some 30,000 acres, or square miles, I am not sure which, but a large hunk of land in the Southwest would be covered by solar facilities. The energy would be collected during the day, distributed nationwide on an improved grid, a lot of that grid would probably be direct current, stored during the day underground in high pressure underground caverns, with the pressure released overnight in order to provide the power overnight.

One of the beauties of the suggestion is that it feeds back into the existing distribution facilities that we have, so we would not have to change, if we were using DC transmission, to DC power, but instead would continue using AC power in our existing facilities.

I don't know whether something like this will work, but if these scientists are right, the costs seem quite reasonable for the reward that we would realize. The energy is completely clean, it essentially frees us from dependence upon foreign sources of energy, and consequently meets both the security need and environmental need at the exact same time.

Big ideas like this require study and evaluation before they are put together in some sort of implementation project, and consequently we only contemplate in the amendment that there will be an evaluation of this kind of concept as opposed to actual demonstration projects.

The $300 million that has been given to the Energy Department for these demonstration projects, no doubt they are going to be smaller projects, much smaller projects, than something as large as this. What we contemplate is that there be an evaluation of whether or not a 100-gigawatt solar facility makes sense and should be supported somehow by the Federal Government.

The authors of this Scientific American article printed in January of 2008 estimated that the Federal investment to accomplish what in essence would free us altogether from foreign sources of energy, the estimate of the Federal investment over a 20-year period of time, would be $450 billion. Spread over a 20-year period of time, a $450 billion investment that would actually give us energy independence and an awful lot of clean energy seems to me to be something that we ought to be evaluating, and that is why I suggested the amendment.

With that, I request the adoption of my amendment.

I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the

amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, this amendment would require the Secretary to evaluate the potential to establish large solar facilities and evaluate the electrical grid, current, voltage, and energy storage requirements associated with large solar facilities, which I think this is a good time for.

We have no objection to this.

I yield back the balance of my time.

Mr. MARSHALL. Mr. Chairman, I thank the gentleman from Texas. It could well be that some of these facilities wind up in your State. I have spent a fair amount of time in your great State, and I have observed many of the times that I have been there that you have a lot of land available that could be put to good use for this kind of purpose.

Another thing in this article that these scientists point out is that once a solar facility like this is created, it requires a lot less continuing maintenance and care, unlike a lot of our other facilities that create power, and consequently it is just a win-win, and perhaps it will wind up being a win-win for Texas.

I yield whatever time I have left to the chairman.

Mr. GORDON of Tennessee. Thank you, Mr. MARSHALL. I want to let you know that the author of the study that you put forth testified before our committee. It was made part of the record. And you are absolutely right, the sun doesn't shine 24 hours a day, so we need to also find ways to be able to have the storage. I think it is a two-fer with this proposal, and we gladly accept your amendment.

The Acting CHAIR. The time of the gentleman has expired.

The question is on the amendment offered by the gentleman from Georgia (Mr. MARSHALL).

The amendment was agreed to.

AMENDMENT NO. 7 OFFERED BY MR. KLEIN OF FLORIDA

The Acting CHAIR. It is now in order to consider amendment No. 7 printed in House Report 111–304.

Mr. KLEIN of Florida. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 7 offered by Mr. KLEIN of Florida:

Page 5, line 9, strike ''and''.

Page 5, line 10, redesignate paragraph (7) as paragraph (8).

Page 5, after line 9, insert the following new paragraph:

(7) development of storage technologies that can be used to increase the usefulness and value of solar technologies; and

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Florida (Mr. KLEIN) and a Member opposed each will control 5 minutes.

The gentleman from Florida is recognized.

Mr. KLEIN of Florida. Mr. Chairman, I would like to start by thanking Congresswoman GIFFORDS for introducing the Solar Technology Roadmap Act and Chairman GORDON for his leadership on bringing this important bill to the floor.

As a cosponsor of this legislation, I believe it makes a timely investment in clean energy technology that will stimulate economic growth and create jobs nationwide. My amendment would clarify that research activities on the development of solar energy storage technologies are eligible for funding in this bill.

Solar energy technology has significant potential to supply cheap, clean and renewable energy to American families and businesses. However, one of the major challenges with solar energy is that it can only be produced during daylight hours. That is obvious. Thus, it is only available at certain times, which may not necessarily correspond to the times it is most needed by the electric grid, when electricity is the most expensive, during peak hours, and the least efficient fuels are likely to be used.

To use a metaphor, the distribution of solar electricity to date is like trying to distribute water from rain without having reservoirs to catch and hold the water.

In my home State of Florida, we are known as the Sunshine State, and for good reason. Businesses in Florida have invested over $1 billion in solar technology over the past 3 years, building the largest photovoltaic solar plant in North America and installing more solar power than almost every other State in the country. But without cost-effective storage technology, we cannot build upon this investment, not only in Florida but throughout the country, to eventually rely more heavily on solar power for our States' and our country's energy needs.

There are emerging storage technologies, including batteries, thermal storage and others, that can take solar energy when it is produced, store it, and then provide electricity to the grid at opportune times. These technologies have the power to make solar power more reliable, more cost-efficient, and more widely used as an alternative to fossil fuels for our energy needs. They also have the potential to create thousands of new jobs right here in the United States as we develop technologies, manufacture products, and sell them all over the world.

Storage technology may also have a substantial impact on the way we purchase energy to power our homes and businesses, regardless of the energy source. With more advanced and more affordable storage technology, we may one day be able to purchase energy from utility companies during off-peak hours, when energy costs are low, and store the energy for when we need it. This would allow utility companies to run more efficiently by reducing demand during peak hours and utilize their plants in the middle of the night when demand is low, thus helping businesses and consumers purchase the energy at the lowest energy cost.

The development of solar energy technology will be critical to establishing solar power as a primary source of electricity in the United States and significantly altering the future of our energy infrastructure. Alternative renewable sources of energy, like solar, that can be generated right here in the United States will make household and business energy bills cheaper, improve our environment, and reduce our dependence on foreign oil, if we develop the technology to make it more efficient and cost-effective.

This amendment will emphasize the importance of devoting Federal research dollars in this bill to further advancing storage technology that will propel storage technology to the next level.

Mr. Chairman, I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, this amendment would simply include research on solar energy storage technology as eligible for funding under the research and development program established in the bill.

I have no objection to this amendment.

I yield back my time.

Mr. KLEIN of Florida. Mr. Chairman, again, I would just yield myself such time as I may consume for purposes of closing.

The legislation under consideration today, as I said, presents an incredibly exciting opportunity for Florida and all the States in our Union to propel this technology forward and one day establish our country as a global leader in clean, renewable energy technology relating to solar power. I am confident that the Solar Technology Roadmap Act will substantially advance solar technology in the United States, reduce its cost, and help America transition to a clean energy economy.

I urge adoption.

I yield the balance of my time to the gentleman from Tennessee.

Mr. GORDON of Tennessee. As my friend knows, even in Florida the sun doesn't shine 24 hours a day, so to make the most use of solar technology, storage is very important. I think there will be a combination there. That storage benefit, the technology, will also be used for wind power and other types of renewables.

So I think you have an excellent amendment. It makes a good bill even better, and I appreciate your addition to this bill.

Mr. KLEIN of Florida. I thank the chairman, and yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from Florida (Mr. KLEIN).

The question was taken; and the Acting Chair announced that the ayes appeared to have it.

Mr. KLEIN of Florida. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentleman from Florida will be postponed.

AMENDMENT NO. 8 OFFERED BY MS. TITUS

The Acting CHAIR. It is now in order to consider amendment No. 8 printed in House Report 111–304.

Ms. TITUS. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 8 offered by Ms. TITUS:

Page 5, line 9, strike ''and''.

Page 5, line 10, redesignate paragraph (7) as paragraph (8).

Page 5, after line 9, insert the following new paragraph:

(7) development of solar technology products that are water efficient; and

Page 8, line 21, strike ''and''.

Page 8, line 22, redesignate subparagraph (H) as subparagraph (I).

Page 8, after line 21, insert the following new subparagraph:

(H) the development of solar technology products that are water efficient; and

The Acting CHAIR. Pursuant to the rule, the gentlewoman from Nevada (Ms. TITUS) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentlewoman from Nevada.

Ms. TITUS. Mr. Chairman, I thank Chairman GORDON and Ms. GIFFORDS for your leadership on the important issue of energy research, development and deployment in the area of renewables.

My amendment, offered with Mr. TEAGUE of New Mexico and Mr. COHEN of Tennessee, simply requires that the solar energy research, development and demonstration program and the solar technology road map that are authorized in this bill include an emphasis on the development of solar technology that is water-efficient.

We know that some of the sunniest States in the country, like my State of Nevada, are also among the driest. So while I strongly believe we must make significant investments to expand solar energy development across the Southwest, I also believe that we must ensure that investments are made in research and development of new solar technologies that use less water.

This point was brought out rather dramatically in a recent New York Times article entitled ''Alternative Energy Projects Stumble on a Need for Water.'' In fact, depending on the technology, some solar plants can use more than 1 billion gallons of water a year for cooling.

It was quoted in the article, ''When push comes to shove, water could become the real throttle on renewable energy.'' This was a statement made by Michael E. Webber, an assistant professor at the University of Texas in Austin, who studies the relationship between energy and water.

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Now, to date, this conflict between energy and water has occurred mostly in the Southwest, where there are dozens of multibillion dollar solar power plants that are planned for thousands of acres in the desert.

While most forms of energy production include some kind of water, water's availability is especially limited in the sunny areas that are otherwise well suited for solar farms. So as we can see, this could possibly lead to a new-age version of a western water war. Long have we heard the saying in the West that whiskey is for drinking and water is worth fighting over. We don't want to see that happen again.

And furthermore, as we see more solar development spread across the country, it's likely that the water efficiency of solar technology will become a key concern, not just in the Southwest, but in areas that haven't historically dealt with water issues up until this point. Investing in research that, as we develop solar technologies, are water efficient is a win-win for the environment. We will use less fossil fuel and less water.

At the same time we do this, we have the potential to remove a major obstacle to the speedy siting of utility scale renewable energy projects. Those are occurring in States like mine where water concerns can slow the permitting process dramatically.

Investments in the development of solar technology products that are water efficient will save water, they will save energy, and they will ultimately bring down the cost of these products so that we can move more quickly to a clean energy economy.

So I thank you again, Mr. Chairman, and I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman from Texas is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, I have no objection to this amendment. It's a good amendment, as solar energy can be a large user of water, and we're looking at ways to reduce the use of water in all forms of energy production. I think it's a very good amendment.

I yield back the balance of my time.

Ms. TITUS. Mr. Chairman, as Daniel Kammen, who is the Director of the Renewable and Appropriate Energy Lab at the University of California at Berkeley, stated, ''As intensive renewable energy development spreads, water issues will follow.'' That's why I believe this amendment is an important addition.

I want to thank Mr. TEAGUE and Mr. COHEN for helping me with the amendment.

At this time, I will yield to the chairman, Mr. GORDON.

Mr. GORDON of Tennessee. I thank the gentlelady from Nevada.

Certainly, as we have had various hearings in the Science and Technology Committee, we've determined very easily that there is a nexus between water and energy. In most cases, it takes water to make energy and it takes energy to move water, and certainly in the area of large plants with solar thermal, there is a lot of use of water in that regard. To make those plants more efficient will help us to conserve water and help us with that nexus.

And again, I thank the gentlelady for this good amendment to this good bill.

Ms. TITUS. I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentlewoman from Nevada (Ms. TITUS).

The question was taken; and the Acting Chair announced that the ayes appeared to have it.

Ms. TITUS. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentlewoman from Nevada will be postponed.

AMENDMENT NO. 9 OFFERED BY MR. HEINRICH

The Acting CHAIR. It is now in order to consider amendment No. 9 printed in House Report 111–304.

Mr. HEINRICH. Mr. Chairman, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 9 offered by Mr. HEINRICH:

Page 9, line 18, redesignate subsection (c) as subsection (d).

Page 9, after line 17, insert the following new subsection:

(c) PUBLIC INPUT.—The Committee shall release a draft Roadmap to the public at least one month prior to publication in order to receive input from the public.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from New Mexico (Mr. HEINRICH) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from New Mexico.

Mr. HEINRICH. Mr. Chairman, I rise today as a proud cosponsor of the Solar Technology Roadmap Act of 2010, and I want to especially thank my colleague from Arizona (Ms. GIFFORDS) for introducing and championing this important legislation.

As a member of the Sustainable Energy and Environment Coalition, I'm particularly proud to support this coalition priority. My home State of New Mexico averages more than 300 days of

sunshine each year and is second in the Nation for solar energy potential, so I have a great appreciation for the positive impact that this bill will have.

In New Mexico, even in the midst of this difficult recession, we are adding jobs in the solar energy sector. Many New Mexicans, myself included, power their homes using solar energy, and Sandia National Labs is a world leader in developing new solar technologies, such as Stirling engines and multijunction solar cells.

The amendment I'm offering today would require the act's solar technology road map committee to release a draft road map at least 1 month prior to publication in order to ensure that the public has the opportunity to provide their input. Our government works best when the American public is included in the decisionmaking process. This amendment will ensure that the road map reflects the wisdom and experiences of individuals and businesses that already work in this quickly growing industry.

In order for our country to reach its potential in growing the clean energy economy, the Federal Government must invest wisely in research and development. Incorporating public comments will ensure that the solar road map is an efficient, effective blueprint for meeting our full potential in utilizing solar energy.

Mr. Chair, I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, in light of the exemption from the Federal Advisory Committee Act in this bill for the road map committee, I think it's a good idea to make the draft road map available to the public for input. This will help shed additional light on the decisions of the road map committee. I would support the amendment.

I reserve the balance of my time.

Mr. HEINRICH. I would urge my colleagues' support.

I once again want to thank Chairman GORDON and Representative GIFFORDS for their leadership on this very important issue.

I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I have no further requests for time, and I yield back the balance of my time.

Mr. HEINRICH. Mr. Chairman, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from New Mexico (Mr. HEINRICH).

The question was taken; and the Acting Chair announced that the ayes appeared to have it.

Mr. HEINRICH. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentleman from New Mexico will be postponed.

AMENDMENT NO. 10 OFFERED BY MR. HIMES

The Acting CHAIR. It is now in order to consider amendment No. 10 printed in House Report 111–304.

Mr. HIMES. Mr. Chair, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 10 offered by Mr. HIMES:

Page 4, line 24, insert ``, including both solar thermal and concentrating solar photovoltaic technologies'' after ``solar power''.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from Connecticut (Mr. HIMES) and a Member opposed each will control 5 minutes.

The gentleman from Connecticut is recognized.

Mr. HIMES. Mr. Chair, I yield myself such time as I may consume.

I'd like to begin by thanking Chairman GORDON for his excellent work on this very, very important bill guiding us towards where this country needs to be in energy in the coming years and generations.

I rise today to offer an amendment which I think is about a topic at the forefront of everybody's minds right now, which is jobs, jobs, and jobs. This bill is about the creation of good, high-paying jobs for American workers and, in the process, restoring our competitiveness in one of the most important industries of the next century.

Mr. Chair, every new solar panel system we install in this country creates new business for roofers, for electricians, for engineers, and for construction workers. But I'm most excited about what solar power can do for America's manufacturing.

I refuse to believe that America's days as a world leader in manufacturing are over. An industry report by Duke University found that by 2016, only 7 years from now, solar manufacturing could replace 500,000 jobs that have been lost, say, in the auto industry; 500,000 jobs, the manufacturing sector of the 21st century, if we make the right investments now.

Back when very few of us were talking about solar power, the U.S. was quietly leading the world in the production of solar technology. Well, through the 1990s, no country on Earth invested more in solar than we did. So how is it that here in 2009, only 5 percent, 5 percent of the world's solar panels are made in America? There's a one-word answer to that question, and that word is ''investment.''

Look at China. Through their Golden Sun program, the Chinese Ministries of Finance, Science and Technology and the National Energy Administration are subsidizing half of the construction and connection costs for on-grid solar power plants and 70 percent of the cost of off-grid installations from now until 2011. And American companies are following these investments.

First Solar, of Tempe, Arizona, recently signed an agreement to build a 2-gigawatt plant, 2 gigawatts, one of the largest solar plants in the world, in Ordos City in Inner Mongolia. Now, I have nothing against Mongolia, but I, for one, would prefer to see those jobs in Bridgeport or Stamford or any of the other American cities that saw their manufacturing sectors decimated in the last 50 years.

I'm especially excited about this bill because solar power is creating jobs right now in my district. Opel, Inc., of Shelton, Connecticut, is making and installing some of the most advanced solar technology anywhere on the market, and technology that is the subject of my amendment today.

Concentrated photovoltaic or CPV systems employ lenses and tracking systems to focus sunlight into a small beam concentrated on a photovoltaic surface. This relatively new technology is already showing dramatic potential. In May 2008, IBM demonstrated a prototype CPV using computer chip cooling techniques to improve an energy density of 2,300 suns.

As we accelerate our efforts to raise the efficiency and lower the cost of solar power, it is worth pointing out that CPV systems provide greater power production—20 to 40 percent more kilowatt hours—with lower costs and less land usage than any solar technology science has yet produced.

CPV technologies are an ideal source of scalable, utility-grade solar electric power production that will move solar energy faster toward grid parity costs. My amendment merely clarifies that these leading-edge technologies will be included among those funded as part of the solar road map.

The global race to a clean energy economy is on, Mr. Chair, and millions of new jobs are on the line. We may have fallen behind a bit, but this is our chance to catch up.

I thank Mr. GORDON for his committee's excellent work, urge my colleagues to support this amendment, and reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment, although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL. Mr. Chairman, this amendment would simply clarify that solar thermal technologies and concentrating solar technologies will be included within the scope of the research and development program authorized by the bill. I have no objection to it.

I yield back the balance of my time.

Mr. HIMES. I would like to thank the gentleman from Texas (Mr. HALL) for his support.

I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from Connecticut (Mr. HIMES).

The question was taken; and the Acting Chair announced that the ayes appeared to have it.

Mr. HIMES. Mr. Chairman, I demand a recorded vote.

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, further proceedings on the amendment offered by the gentleman from Connecticut will be postponed.

AMENDMENT NO. 11 OFFERED BY MR. MURPHY OF NEW YORK

The Acting CHAIR. It is now in order to consider amendment No. 11 printed in House Report 111–304.

Mr. MURPHY of New York. Mr. Chair, I have an amendment at the desk.

The Acting CHAIR. The Clerk will designate the amendment.

The text of the amendment is as follows:

Amendment No. 11 offered by Mr. MURPHY of New York:

Page 13, lines 10 and 16, redesignate subsections (d) and (e) as subsections (e) and (f), respectively.

Page 13, after line 9, insert the following new subsection:

(d) REPORTING.—Not later than 1 year after the date of enactment of this Act, and annually thereafter, the Committee shall submit a report to the Secretary and the Congress on its activities over the prior 12-month period.

The Acting CHAIR. Pursuant to House Resolution 846, the gentleman from New York (Mr. MURPHY) and a Member opposed each will control 5 minutes.

The Chair recognizes the gentleman from New York.

Mr. MURPHY of New York. Mr. Chairman, I yield myself as much time as I may consume.

I rise today to offer a simple amendment that would require the solar technology road map committee to submit an annual report to the Secretary of Energy and to this Congress on its activities over the prior 12-month period.

For far too long, our Nation has operated without a comprehensive energy strategy. As a result, we spent $475 billion importing foreign oil last year. That's more than our entire trade deficit. This is a crisis that we must address, and our working families and small businesses feel that every day as they see rising energy costs. And while I believe a successful energy strategy will require investments in a broad range of domestic energy sources—wind, solar, hydro, and nuclear—today's legislation is a critical step in the development of a strategy to more effectively develop and utilize solar technology and to move our Nation closer to energy independence.

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I applaud Congresswoman GIFFORDS, Chairman GORDON, Ranking Member HALL for their hard work on this important issue.

Today's legislation creates a solar technology road map committee that will be charged with creating a road map to present the best estimate of the near-term, mid-term, and long-term research and development needs in the solar technology world, as well as provide guidance for solar technology research, development, and demonstration activities supported by our regular Federal Government.

This is a critical path for us, and it's one we've been working on in New York with our own efforts for many years, and one that I'm familiar with. Our efforts at NYSERDA in New York really helped a lot of small businesses in the solar community and in other energy technologies, businesses that I worked with when I was an investor helping those small businesses grow. And as we heard Congressman HIMES say a minute ago, this is the future of manufacturing in America, and this road map will be a critical element to moving us in the right direction.

Specifically, this bill requires that 30 percent of the DOE solar research and demonstration funding is awarded based on the recommendations of the committee in 2012, and that will rise to 75 percent in 2015.

My amendment simply requires that the committee report back their activities to the Department of Energy and to this Congress so that we can better evaluate the growing potential of solar technology and how we're doing in terms of implementing that road map. I think that that kind of accountability is exactly what's been missing from our Federal Government for far too long, and this is the kind of information that we need as a Congress to hold people accountable for the spending of the Federal dollars that we're going to put there.

We're making important investment decisions, but we also need to hold everyone who is involved accountable for making sure that those decisions are moving us forward on the road map and are aimed in the right direction. This strategy will help us do that. My report will allow us to hold everyone who is involved accountable for doing it and being successful. That's critical to the American taxpayers whose money is being invested here.

With that, I would like to say thanks again to Chairman GORDON for his hard work and to Ranking Member HALL.

I reserve the balance of my time.

Mr. HALL of Texas. Mr. Chairman, I rise to claim time in opposition to the amendment although I am not opposed to it.

The Acting CHAIR. Without objection, the gentleman is recognized for 5 minutes.

There was no objection.

Mr. HALL of Texas. Mr. Chairman, the amendment by this young man from New York would require the solar technology road map committee to submit an annual report to the Secretary of Energy and to the Congress of its activities over the prior 12-month period. I think he has a good amendment. I think this is a good-government amendment, and I support it.

I reserve the balance of my time.

Mr. MURPHY of New York. I appreciate the support from Ranking Member HALL.

I would just close by saying it is incredibly important that we watch every taxpayer dollar in these tough times. And we're making important investments here. They're going to have an economic impact; they're going to create jobs in our communities. But we need to be responsible. This report will lead to that kind of accountability and responsibility.

I yield back the balance of my time.

Mr. HALL of Texas. Mr. Chairman, in closing, I would like to make it perfectly clear that I support the use of solar energy and would like to see it become a larger player in supplying the energy needs of our country and of the world. I also want to make it perfectly clear I support further research and development to help solar energy achieve this goal.

I also respect the author, Ms. GIFFORDS, to the extent that I was the lone Republican to attend her field hearing in Arizona.

However, I still have some reservations about certain provisions of the bill, mainly in the cost and some of the restrictions that it places on the Department of Energy and the Secretary. For those who choose to vote against the bill, such a vote is not a vote against R&D into solar technologies. It's simply a vote against the way this bill wants to dictate how solar R&D should be done at the DOE.

With that said, I do plan to vote for the bill because I am so convinced of the value of even the slightest additional breakthrough solar energy-wise, and my observations of the very sincere and determined effort by the bill's author cause me to want to remain involved and hopefully continue to work with my colleagues to address our concern as the bill continues through the legislative process.

With that, I yield back the balance of my time.

The Acting CHAIR. The question is on the amendment offered by the gentleman from New York (Mr. MURPHY).

The amendment was agreed to.

Mr. GORDON of Tennessee. Mr. Chairman, I move that the Committee do now rise.

The motion was agreed to.

Accordingly, the Committee rose; and the Speaker pro tempore (Mr. MURPHY of New York) having assumed the chair, Mr. WEINER, Acting Chair of the Committee of the Whole House on the state of the Union, reported that that Committee, having had under consideration the bill (H.R. 3585) to guide and provide for United States research, development, and demonstration of solar energy technologies, and for other purposes, had come to no resolution thereon.

RECESS

The SPEAKER pro tempore. Pursuant to clause 12(a) of rule I, the Chair declares the House in recess subject to the call of the Chair.

Accordingly (at 2 o'clock and 5 minutes p.m.), the House stood in recess subject to the call of the Chair.

AFTER RECESS

The recess having expired, the House was called to order by the Speaker pro tempore (Mr. BACA) at 3 p.m.

SOLAR TECHNOLOGY ROADMAP ACT

The SPEAKER pro tempore. Pursuant to House Resolution 846 and rule XVIII, the Chair declares the House in the Committee of the Whole House on the State of the Union for the further consideration of the bill, H.R. 3585.

□ 1501

IN THE COMMITTEE OF THE WHOLE

Accordingly, the House resolved itself into the Committee of the Whole House on the State of the Union for the further consideration of the bill (H.R. 3585) to guide and provide for United States research, development, and demonstration of solar energy technologies, and for other purposes, with Mr. SERRANO (Acting Chair) in the chair.

The Clerk read the title of the bill.

The Acting CHAIR. When the Committee of the Whole rose earlier today, amendment No. 11 offered by the gentleman from New York (Mr. MURPHY) had been disposed of.

ANNOUNCEMENT BY THE ACTING CHAIR

The Acting CHAIR. Pursuant to clause 6 of rule XVIII, proceedings will now resume on those amendments printed in House Report 111–304 on which further proceedings were postponed, in the following order:

Amendment No. 2 by Mr. BROUN of Georgia.

Amendment No. 5 by Ms. KAPTUR of Ohio.

Amendment No. 7 by Mr. KLEIN of Florida.

Amendment No. 8 by Ms. TITUS of Nevada.

Amendment No. 9 by Mr. HEINRICH of New Mexico.

Amendment No. 10 by Mr. HIMES of Connecticut.

The Chair will reduce to 5 minutes the time for any electronic vote after the first vote in this series.

AMENDMENT NO. 2 OFFERED BY MR. BROUN OF GEORGIA

The Acting CHAIR. The unfinished business is the demand for a recorded vote on the amendment offered by the gentleman from Georgia (Mr. BROUN) on which further proceedings were postponed and on which the noes prevailed by voice vote.

The Clerk will redesignate the amendment.

The Clerk redesignated the amendment.

RECORDED VOTE

The Acting CHAIR. A recorded vote has been demanded.

A recorded vote was ordered.

The vote was taken by electronic device, and there were—ayes 162, noes 256, not voting 20, as follows:

[Roll No. 801]

AYES—162

Aderholt
Akin
Alexander
Altmire
Austria
Bachmann
Bachus
Barton (TX)
Biggert
Bilirakis
Bishop (UT)
Blackburn
Blunt
Boehner
Bonner
Boozman
Boustany
Brady (TX)
Bright
Broun (GA)
Brown (SC)
Brown-Waite, Ginny
Buchanan
Burton (IN)
Calvert
Campbell
Cantor
Cao
Capito
Carter
Cassidy
Chaffetz
Coble
Cole
Conaway
Crenshaw
Culberson
Dahlkemper
Davis (KY)
Deal (GA)
Dent
Diaz-Balart, L.
Diaz-Balart, M.
Dreier
Duncan
Emerson
Fallin
Fattah
Flake
Fleming
Fortenberry
Foxx
Franks (AZ)
Frelinghuysen
Gallegly
Garrett (NJ)
Gerlach
Gingrey (GA)
Goodlatte
Granger
Graves
Guthrie
Hall (TX)
Harper
Hastings (WA)
Heller
Hensarling
Herger
Hoekstra
Hunter
Inglis
Issa
Jenkins
Johnson (IL)
Johnson, Sam
Jones
Jordan (OH)
King (IA)
King (NY)
Kingston
Kline (MN)
Lamborn
Lance
Latham
LaTourette
Latta
Lee (NY)
Lewis (CA)
Linder
LoBiondo
Lucas
Luetkemeyer
Lummis
Lungren, Daniel E.
Mack
Manzullo
Marchant
McCarthy (CA)
McClintock
McCotter
McHenry
McKeon
McMorris Rodgers
Mica
Miller (FL)
Miller (MI)
Miller, Gary
Minnick
Moran (KS)
Murphy (NY)
Myrick
Neugebauer
Nunes
Olson
Paul
Paulsen
Pence
Petri
Pitts
Poe (TX)
Posey
Putnam
Radanovich
Rehberg
Reichert
Roe (TN)
Rogers (AL)
Rogers (KY)
Rogers (MI)
Rohrabacher
Rooney
Ros-Lehtinen
Roskam
Royce
Ryan (WI)
Scalise
Schmidt
Schock
Sensenbrenner
Shadegg
Shimkus
Shuster
Simpson
Skelton
Smith (NE)
Smith (TX)
Souder
Stearns
Sullivan
Terry
Thompson (PA)
Thornberry
Tiahrt
Tiberi
Turner
Upton
Westmoreland
Whitfield
Wilson (SC)
Wittman
Wolf
Young (FL)

NOES—256

Ackerman
Adler (NJ)
Andrews
Arcuri
Baca
Baird
Baldwin
Barrow
Bartlett
Becerra
Berkley
Berman
Berry
Bilbray
Bishop (GA)
Bishop (NY)
Blumenauer
Boccieri
Bono Mack
Bordallo
Boren
Boswell
Boucher
Boyd
Brady (PA)
Braley (IA)
Brown, Corrine
Burgess
Butterfield
Camp
Capps
Capuano
Carnahan
Carney
Carson (IN)
Castle
Castor (FL)
Chandler
Childers
Christensen
Chu
Clarke
Clay
Cleaver
Clyburn
Cohen
Connolly (VA)
Conyers
Cooper
Costa
Costello
Courtney
Crowley
Cuellar
Cummings
Davis (CA)
Davis (IL)
Davis (TN)
DeFazio
DeGette
Delahunt
DeLauro
Dicks
Dingell
Doggett
Donnelly (IN)
Driehaus
Edwards (MD)
Edwards (TX)
Ehlers
Ellison
Ellsworth
Eshoo
Etheridge
Farr
Filner
Foster
Frank (MA)
Fudge
Giffords
Gonzalez
Gordon (TN)
Grayson
Green, Al
Green, Gene
Griffith
Grijalva
Gutierrez
Hall (NY)
Halvorson
Hare
Harman
Hastings (FL)
Heinrich
Herseth Sandlin
Higgins
Hill
Himes
Hinchey
Hirono
Hodes
Holden
Holt
Honda
Hoyer
Inslee
Israel
Jackson (IL)
Jackson-Lee (TX)
Johnson (GA)
Johnson, E. B.
Kagen
Kanjorski
Kaptur
Kennedy
Kildee
Kilpatrick (MI)
Kilroy
Kind
Kirk
Kirkpatrick (AZ)
Kissell
Klein (FL)
Kosmas
Kratovil
Kucinich
Langevin
Larsen (WA)
Larson (CT)
Lee (CA)
Levin
Lewis (GA)
Lipinski
Loebsack
Lowey
Luján
Lynch
Maffei
Maloney
Markey (CO)
Markey (MA)
Marshall
Massa
Matheson
Matsui
McCarthy (NY)
McCaul
McCollum
McDermott
McGovern
McIntyre
McMahon
McNerney
Meek (FL)
Meeks (NY)
Melancon
Michaud
Miller (NC)
Miller, George
Mitchell
Mollohan
Moore (KS)
Moore (WI)
Moran (VA)
Murphy (CT)
Murphy, Patrick
Murphy, Tim
Murtha
Nadler (NY)
Napolitano
Neal (MA)
Norton
Nye
Oberstar
Obey
Olver
Ortiz
Pallone
Pascrell
Pastor (AZ)
Perlmutter
Perriello
Peters
Peterson
Pierluisi
Pingree (ME)
Platts
Polis (CO)
Pomeroy
Price (NC)
Quigley
Rahall
Rangel
Reyes
Rodriguez
Ross
Rothman (NJ)
Roybal-Allard
Ruppersberger
Rush
Ryan (OH)
Sablan
Salazar
Sánchez, Linda T.
Sanchez, Loretta
Sarbanes
Schakowsky
Schauer
Schiff
Schrader
Schwartz
Scott (GA)
Scott (VA)
Serrano
Sessions
Sestak
Shea-Porter
Sherman
Shuler
Sires
Slaughter
Smith (NJ)
Smith (WA)
Snyder
Space
Speier
Spratt
Stark
Stupak
Sutton
Tanner
Taylor
Teague
Thompson (CA)
Thompson (MS)
Tierney
Titus
Tonko
Towns
Tsongas
Van Hollen
Velázquez
Visclosky
Walz
Wasserman Schultz
Waters
Watson
Watt
Waxman
Weiner
Welch
Wexler
Wilson (OH)
Woolsey
Wu
Yarmuth

NOT VOTING—20

Abercrombie
Barrett (SC)
Bean
Buyer
Cardoza
Coffman (CO)
Davis (AL)
Doyle
Engel
Faleomavaega
Forbes
Gohmert
Hinojosa
Lofgren, Zoe
Payne
Price (GA)
Richardson
Walden
Wamp
Young (AK)

□ 1528

Messrs. RANGEL, PATRICK J. MURPHY of Pennsylvania, PERRIELLO, DONNELLY of Indiana, BRALEY of Iowa, ADLER of New Jersey, CARSON of Indiana, PLATTS, SESTAK, Ms. SPEIER, Ms. MATSUI, Ms. CASTOR of Florida, Ms. TITUS and Ms. MOORE of Wisconsin changed their vote from ''aye'' to ''no.''

Messrs. OLSON and STEARNS changed their vote from ''no'' to ''aye.''

So the amendment was rejected.

The result of the vote was announced as above recorded.

Stated for:

Mr. COFFMAN of Colorado. Mr. Chair, on rollcall No. 801. I was unavoidably detained. Had I been present, I would have voted ''aye.''

Mr. PRICE of Georgia. Mr. Chair, on rollcall No. 801. I was unexpectedly delayed due to constituent business. Had I been present, I would have voted ''aye.''

AMENDMENT NO. 5 OFFERED BY MS. KAPTUR

The Acting CHAIR. The unfinished business is the demand for a recorded