

The Inflation Reduction Act and its Impact on the American Marketplace for European Machinery and Equipment

Executive Summary

VDMA Foreign Trade

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Overview of the IRA

The IRA represents a milestone in American policymaking, with global implications on climate policy, trade policy, industrial policy, and international relations. The following points are among the most important takeaway points for European machinery and equipment manufacturers to understand:

1. The IRA seeks to lower emissions by lowering costs for the American renewable-energy industry.

Most American investors, developers, manufacturers, and consumers are happy to make business decisions that lower greenhouse gas emissions—if there is no additional cost. The biggest barrier to the proliferation of more “green” energy capacity in America is simply the cost, sometimes known as the “green premium.” Accordingly, the IRA works through a series of tax credits that seek to eliminate this green premium, thereby creating a business case for investing in and producing renewable energy in the United States. Notably, the IRA acts entirely via a series of “carrots” (incentives) for American manufacturers, developers, and consumers; there are no penalties for ignoring the IRA. This distinguishes the IRA from former attempts to regulate greenhouse gas emissions in the United States via “cap and trade” and other mechanisms.

- For manufacturers, there is a new credit that lowers the cost of producing components in the wind, solar, battery, and inverter value chains. This credit directly lowers the per-unit cost of components manufactured in the United States.
- There are several credits that lower the cost for investors in facilities that produce electricity via renewable energy, as well as for the producers themselves. These credits become “technology agnostic” in 2025, meaning that any net-zero technology will qualify. There are also new credits targeted to lower the cost of producing specific types of energy (e.g. nuclear power, hydrogen).
- And for consumers, there are credits that lower the cost of installing energy-efficient systems in the home, as well as credits that lower the cost of purchasing electric vehicles.

2. The IRA is also a tool for meeting U.S. industrial policy goals.

In addition to the primary goal of reducing emissions, the IRA also seeks to reach the secondary goal of creating more well-paid American manufacturing and technical jobs, in particular among young people. These are goals that both political parties in the United States now embrace (although the Republican party unanimously voted against the IRA). On the topic of climate protection, the parties remain bitterly divided. On the topic of industrial policy, however, there is much more common ground between the two parties.

The IRA seeks to achieve these industrial goals by enhancing the tax incentives depending on how many of the industrial-policy goals are met. For each tax program, there is a base amount tied to the activity in question. The base amount in many cases is then multiplied by a factor of five if the taxpayer certifies that all the workers involved in the project are paid prevailing wages for the corresponding job and location, and that a certain amount of work is performed by apprentices. Bonus credits are also available in some cases for meeting domestic-content requirements, and for placing the project in an underserved community (known under the IRA as an “energy community”). It is these

industrial policy goals that principally give rise to new trade barriers and discriminatory treatment against European businesses.

3. For almost all European machinery suppliers, the IRA will be felt indirectly rather than directly.

Only U.S. taxpayers (investors, producers, manufacturers, and consumers) can directly take advantage of the IRA’s tax subsidies. Said differently: only entities and individuals that file an annual tax return with the Internal Revenue Service will be eligible to claim the credits and thus benefit directly from the reduced costs of production, investment, and consumption. Among VDMA members, this will likely be limited to those members with production facilities in the United States, which produce components listed in the Advanced Manufacturing Production Tax Credit (in particular wind-energy components).

However, many VDMA member companies without a subsidiary in the United States will still benefit indirectly, via increased sales and service to American customers active in the areas incentivized by the IRA, namely: building the infrastructure (e.g. power plants), components (e.g. wind, battery, solar, etc.) and consumer products (e.g. electric vehicles). The table below provides a general snapshot of areas where growth can be anticipated in the coming decade, based on the IRA tax incentives.

IRA policy goal	Infrastructure to be built, repaired, and expanded in America to achieve policy goal
Increase production of green electricity	<ul style="list-style-type: none"> • Wind power stations (onshore and offshore) • Photovoltaic (i.e. solar) power stations • Nuclear power plants • Carbon sequestration equipment • Any other CO2-neutral energy-generating plant
Increase production of “green” fuels	<ul style="list-style-type: none"> • Hydrogen production facilities • Sustainable Aviation Fuel (SAF) production facilities • Production facilities for other fuels
Domestic production of components necessary for clean-electricity generation	<ul style="list-style-type: none"> • Factories to produce components for wind industry (blades, nacelles, towers) • Factories to produce components for battery industry (battery packs, modules, etc.) • Factories to produce components for the solar industry (modules, cells, etc.)
Mining of critical minerals	<ul style="list-style-type: none"> • Projects to locate, extract, and process rare earth minerals
Lower emissions in household energy production	<ul style="list-style-type: none"> • “green” consumer products for the home, e.g. efficient windows, doors, insulation
Lower emissions in transportation	<ul style="list-style-type: none"> • “clean” vehicles including electric and fuel-cell cars, trucks, buses, and mobile machinery.

Hence, any VDMA member company that services customers connected to these value chains ought to explore enhanced opportunity in the United States in the coming years.

4. Most of the impacts will be positive over the short term.

At this stage, VDMA member companies, in general, appear to be optimistic about the opportunities that the IRA presents. The United States is already the largest export market and investment location for European machinery and equipment companies, outside the European Union.³ The prospects of growing their U.S. exports and investments further still is, of course, viewed in a positive light. The following are three general categories of activity which one could envision increased order volume for European equipment and machinery manufacturers:

Export for projects without “strings attached.” Some of the growth generated by the IRA will lead to enhanced export opportunities, without any strings attached. For example, the tax credit for advanced manufacturing is already responsible for a slew of announcements from companies that will expand or launch facilities to produce products for the solar, wind, and battery sectors. There is no requirement that the components of such manufacturing facilities be made in the United States; hence all the inputs for such factories (raw materials like steel and iron, as well as machine tools, robotics, automation, gear technology, electric, and any other relevant machinery products) can be sourced from Europe or elsewhere. Of course, the equipment needed to produce the factories themselves (e.g. steelmaking equipment, measuring equipment, construction equipment, mining equipment, transportation machinery) can also be supplied by European companies.

Export for projects with “strings attached.” For certain projects (in particular the construction of “green” power stations including wind and solar parks), the investor or producer can receive a bonus subsidy if all the steel and iron in the project is made in the United States, and at least 55 percent of the value of all other components is made in the United States. While this is a discriminatory trade barrier, significant export opportunities still exist despite this barrier. Almost half of the value of the manufactured goods (e.g. machinery and equipment) in such projects can have European origin, and thus may be imported. Depending on how the IRS designs the upcoming domestic-content rules, even “made in USA” components could be allowable if assembled from imported subcomponents. Furthermore, the domestic content rule applies only to the components of the facility itself—and not to all the equipment needed to build these components (e.g. steelmaking equipment, measuring equipment, construction equipment, transportation machinery), which may also be imported from Europe.

Manufacture in the United States. Most VDMA member companies do not have production or assembly in the United States, and many lack the size and resources to imagine establishing production there. Nevertheless, those European companies that already do have a manufacturing presence in the United States are clearly well positioned to take advantage of the potential for new business spawned by the IRA.

In the six months since the passage of the IRA, a wide-ranging debate has started over whether the IRA could lead to a partial or even whole-scale “deindustrialization” in Europe. Indeed, there are already specific examples of companies that are choosing to make certain industrial investments in the United States, rather than Europe—based on a range of factors, including the IRA tax incentives. Ultimately, the impact on Europe of the IRA as a business location is not the focus of this paper. Nevertheless, it must be borne in mind

³ The German machinery and equipment sector exported products worth 24.9 billion EUR to the United States in the year 2022—a 20-percent increase from the prior year. By way of comparison, the sector exported products worth 18.9 EUR to China, the second largest export market outside the EU.

that the IRA represents a sea change in global trade and industrial policy, which will force European political systems to take responsive action.

5. Most of the IRA incentives are available to all who qualify.

With few exceptions, the IRA tax credits are available to any taxpayer that meets the requirements. Hence, there is no competition among taxpayers for a finite pool of subsidies; rather, the tax subsidy is available to all that qualify. The taxpayer must determine for itself whether it meets the requirements and then apply the credit to its own tax return. For this reason, there is no application process, and no third party determination of eligibility. This distinguishes the IRA opportunities from traditional trade-promotion instruments (for example in Europe, as well as in the United States) that rely on limited pools of grant money and involve lengthy bureaucratic application processes as well as uncertain outcomes.

6. Many of the IRA incentives are “refundable”.

Many developers, investors, and manufacturers can avail themselves of a “direct pay” option which entitles them to receive the tax credit in the form of an up-front cash payment. This will supercharge the uptake of certain credits—in particular where significant up-front investment costs must be shouldered (e.g. building new production sites).

In general, the direct-pay option is available only to state and local governments or tax-exempt entities (for example, large public utility companies), and not to private businesses. These state and local governments and other public entities are generally the ones making large up-front investments (e.g. building power stations, purchasing electric buses, and so forth). Notable exceptions to this include the Advanced Manufacturing Production Tax Credit, and the Clean Hydrogen Production Tax Credit, where private companies may also claim the credit in the form of an up-front payment for 5 years.

7. The IRA creates 10 years of planning security.

Most of the credits in the IRA went into effect on January 1, 2023, and are valid for 10 years. The 10-year duration distinguishes the IRA from prior clean-energy tax credits, which Congress generally authorized for only short periods at a time, e.g. 1-2 years. The planning security brought about by 10-year credits are a key reason to expect investors and manufacturers to invest in new green energy production capacity, and new production facilities for green-energy components.

From a political perspective, it’s unlikely that Congress will dramatically change the IRA tax credits—although Congress enacted the IRA on a purely partisan basis (Democrats only). In order to repeal or substantially undermine the IRA, the Republicans would need to control the House of Representatives, the Senate, and the White House. Even then, Congress would need to act against the wishes of American industry, and potentially kill jobs in Republican-dominated states and districts.⁴ Recent experience with the Obama health-care law (enacted 2010) shows that even though Republicans fought strenuously over years to repeal “Obamacare,” they never found the votes to do so, even after they controlled the White House and both houses of Congress in 2017. Thus, one can reasonably presume that the IRA will not be repealed or even substantially watered down.

⁴ According to an analysis from Politico from January 2023, two-thirds of the IRA-related projects announced to date will be built in Congressional districts represented by Republicans. See <https://www.politico.com/news/2023/01/23/red-states-are-winning-big-from-dems-climate-law-00078420>

8. Much of the green-energy development will not begin until the regulations are released.

The agency responsible for the implementation of the IRA tax credits is the U.S. Department of Treasury, and in particular the Internal Revenue Service (IRS). Although the tax credits largely went into effect on January 1, 2023, many of the finer details remain unanswered until the IRS releases regulations and other guidance. Hence, it is reasonable to expect that at least some and perhaps even most of the IRA-related projects (and the accompanying orders to suppliers and other subcontractors in Europe and elsewhere) will not come until all the regulations and guidance documents are released.

VDMA member companies have begun asking when the IRS will release clarifying regulations. (For example, IRS has not published rules on the application of domestic-content requirements for the investment tax credit and the production tax credit.) Unfortunately, very few of the IRA provisions prescribe a date certain for the issuance of guidance or rules. In a handful of cases (for example Section 45V—the tax credit for the production of “clean hydrogen”), the IRA requires the U.S. Treasury to publish implementing guidance before a date certain (in that case one year after enactment). For most of the other provisions, however, the Treasury has no such statutory deadline.

9. The IRA programs also work in conjunction with other incentives not discussed in this paper.

It should be borne in mind that the scope of this paper is limited to the tax incentives provided in the IRA, and does not include discussion of other related incentives. For example, the Biden Infrastructure Law of 2021 (known as the Infrastructure Investment and Jobs Act) provides \$7.5 billion in grants for electric-vehicle charging infrastructure, as well as almost \$10 billion in grants for initiatives related to clean hydrogen. In addition, many state and local governments offer tax incentives that may be supplemental to the IRA’s tax credits. A complete market analysis for any given sector should bear in mind that the U.S. system includes a patchwork of regulations emanating from not only Washington, but also from state and local authorities as well.

VDMA Foreign Trade Experts

Andrew Adair

Foreign Trade Advisor - North America

Phone +49 69 6603 1132

E-Mail andrew.adair@vdma.org

Ulrich Ackermann

Managing Director Foreign Trade

Phone +49 69 6603 1441

E-Mail ulrich.ackermann@vdma.org

Shawn Bengali

VDMA Washington Office, Washington DC

Phone +1 202 580 4812

E-Mail shawn.bengali@vdmawashington.org