In recent months, a number of difficult issues have strained transatlantic relations. These questions need to be addressed openly; the foundation of our friendship for this is strong and firm. An objective dialog between the U.S. and Germany is indispensable – between governments, parliaments, and last but not least the civil societies.

Dr. Angela Merkel, Federal Chancellor

While Aspen Germany has closely accompanied how Germany has changed over the past four decades, it has not only spun close ties between Washington and Berlin but also earned a reputation for building bridges between East and West. Building trust is the hallmark of Aspen Germany.

Dr. Frank-Walter Steinmeier, Federal Foreign Minister

German-American Dialog: Revitalizing Our Partnership to Answer Common Challenges

Fact Book

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Esteemed Reader,

This fact book is a compilation of data and background information for the participants of the Aspen German-American Dialog, November 08-14, 2015 in Berlin and various locations around Germany.

It is intended to provide information relevant to the dialog. The fact book furthermore contains a short paper comparing U.S. and German approaches to cleaning energy consumption. We are particularly glad to have received this paper, as it not only provides a good starting point for discussion, but also because it deals with a topic of tantamount importance to today’s and tomorrow’s transatlantic partnership.

The mission of The Aspen Institute is to improve the quality of leadership through dialog about the values and ideals essential to meeting the challenges organizations and governments at all levels are and will be facing in the future. Over its sixty year history, the Aspen Institute has been devoted to advancing values-based leadership – to create a safe, neutral space in which leaders can meet in order to discuss the complex challenges facing modern societies confidentially and in depth, with respect for differing points of view, in a search for common ground.

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# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>DISCLAIMER</td>
<td>02</td>
</tr>
<tr>
<td>TABLE OF CONTENTS</td>
<td>03</td>
</tr>
<tr>
<td>THE ASPEN IDEA</td>
<td>04</td>
</tr>
<tr>
<td>CLEANING ENERGY – GERMANY’S ENERGIEWENDE AND OBAMAS’ CLEAN POWER PLAN</td>
<td>05</td>
</tr>
<tr>
<td>Viewpoint by Andreas Beyer, University of Kiel</td>
<td></td>
</tr>
<tr>
<td>FACTS ABOUT ENERGY IN THE U.S. AND GERMANY</td>
<td>10</td>
</tr>
<tr>
<td>FACTS ABOUT MIGRATION AND IMMIGRATION IN THE U.S. AND GERMANY</td>
<td>13</td>
</tr>
<tr>
<td>FACTS ABOUT HEALTH AND DEMOGRAPHY IN GERMANY AND THE U.S.</td>
<td>17</td>
</tr>
<tr>
<td>FACTS ABOUT VOCATIONAL TRAINING AND APPRENTICESHIP IN GERMANY AND THE U.S.</td>
<td>21</td>
</tr>
<tr>
<td>FACTS ABOUT BUSINESS, INDUSTRY, AND START-UPS IN GERMANY AND THE U.S.</td>
<td>25</td>
</tr>
</tbody>
</table>
Aspen Germany

As the first Institute abroad, Aspen Germany was founded in 1974 in the midst of the Cold War. Its founding members included former Chancellor Willy Brandt, former High Commissioner for Germany John J. McCloy, Chancellor Helmut Schmidt, the Governing Mayor of Berlin Klaus Schütz, historian Lord Alan Bullock, the future President of West Germany Richard von Weizsäcker, sociologist and politician Ralf Dahrendorf, and publicist Marion Countess Dönhoff among others. Together they envisioned creating a symbol of transatlantic community.

Under the leadership of Shepard Stone (1974-1988), Aspen Germany’s first director, the institute made a significant contribution to achieving mutual understanding between the East and West blocs during the Cold War. Aspen was one of the few places where high-ranking East bloc and West bloc representatives were willing to meet in a neutral, respectful and confidential atmosphere in order to look for solutions to the East-West conflict together.

Stone’s successors extended this tradition and also focused on issues facing Southeast Europe and the Middle East. Since the early 1990s, Aspen Germany has been focusing on the developments in Southeast Europe when the Institute joined forces with the Carnegie Endowment for International Peace and initiated the International Commission on the Balkans, which was followed by a young leaders study group on the future of the region. Today, Aspen Germany offers different fora for regional dialog, both on the Foreign Ministers’ level as well as on the Subcabinet and civil society level.

Since its inception, Aspen Germany has been enabling constructive dialog amongst conflicting parties and promoting Euro-Atlantic cooperation to support and enhance a strong open society.
On August 3, 2015, President Barack Obama announced his Clean Power Plan (CPP), which aims at cutting U.S. greenhouse gas (GHG) emissions by 32 percent from 2005 levels until 2030. CPP consists of four building blocks: (1) increasing plant efficiency, increased usage of (2) natural gas and (3) renewables, and (4) improved energy efficiency. Not surprisingly, most political science and media commentary focuses on the international negotiations to set up a binding agreement to multilaterally cut GHG emissions.

Such analysis however includes only the most aggregate data and omits the more intricate details of the subject matter on the domestic level. The CPP’s major focus is the power sector, which currently is responsible for around 40% of the U.S.’ GHG emissions. Thus, Obama’s energy and climate policy tackles a sector characterized by long lead times and large capital needs. Even though both domestic and international media commentary hailed the CPP as a substantial breakthrough, its success is far from given.

This paper argues that there are obstacles and risks in the way to successfully implement the CPP’s bold targets. Such interlocking impediments are of political as well as economical, financial and technical nature, which will be discussed in turn. This assessment does not imply that the CPP is a fundamentally flawed or doomed policy, but rather that there are certain risks embedded into U.S. energy policy that may derail the successful implementation of this plan. These risks can be deduced from past U.S. problems and should be anticipated. Additionally, this paper will hint at differences and commonalities the CPP has with Germany’s push for renewables (Energiewende) and suggest possible areas of discussion and mutual learning in energy policy.

Areas of Discussion

1. Politically, the authority to shape energy policy is split between the states and the federal level. This provides ample room for conflicting plans and policies as well as challenging, delaying or even invalidating policy through the legal system.

2. Financially, the burden to invest in the necessary new generation assets and related energy infrastructure exclusively falls on the private utilities. Their financing system through the private capital markets has in the past been sometimes prone to short-term thinking, leaving the power sector cash-strapped when major investment projects were delayed.

3. On a technical level, integrating the envisioned amount of renewables into the U.S. power grid has effects on generation, transmission and systems op-
eration. The complexity of a large-scale, capital-intensive and interdependent energy infrastructure adds massive potential risks and complications to implementing the CPP.

4. The myriad complications and possible delays along the road to implementation might easily derail the tight schedule, which the CPP relies on. This already applies to the various efforts in Europe to retool energy infrastructure towards smaller emissions (e.g. Germany’s Energiewende). Hence, the U.S. will not be alone in facing these problems.

5. The strategic nature of this issue suggests that the topic “Changing Energy Technology and Infrastructure” should have a high place on the transatlantic agenda.

Policy Recommendations

1. Congress should consider a financial backstop in the form of guarantees to ease financing constraints utilities might possibly face when building the necessary infrastructure.

2. The transatlantic partners should engage in a lessons learned dialogue in changing national energy supplies, as many issues at hand are of technical and economic, but not exclusively political nature.

3. Environmental Protection Agency (EPA) should make contingency plans to have the four building blocks of the CPP support each other. Altogether, transatlantic partners should treat the CPP is a laudable first step on a very likely bumpy road towards a cleaner U.S. energy infrastructure. Delays and setbacks should be expected.

4. EPA should prepare for a variety of legal challenges to the CPP and the way it uses the Clean Air Act to impose emission levels and thus energy policy on the states. This does not only mean preparing legal defense, but also considering alternative routes to achieve to achieve policy goals in case of unfavorable court verdicts.

5. Grid reliability concerns should be regularly reviewed; constant NERC (North American Electric Reliability Council) simulation of possible technical constraints should guide this process.

Political sphere

International media mostly looks at the White House and the President for policy leadership in energy and climate matters. However, responsibility for American energy policy and the infrastructure it addresses and regulates is split up between federal agencies and the individual states.

The federal government regulates power sector emissions through the Environmental Protection Agency (EPA). Additionally, it owns major public power infrastructure through several leftover institutions from the New Deal Era: The Tennessee Valley Authority (TVA) and the Bonneville Power Administration (BPA) own hydropower and other generation assets, transmit and distribute electricity and are federal agencies that are self-financing with tax-deductible bonds. The states’ respective public utility commissions set prices for electricity for most of the U.S. energy infrastructure (power plants, transmission and distribution networks) - which is exclusively owned by private, for-profit enterprises (investor-owned public utilities). They run the vast majority of the US electricity sector – but are regulated by the states, not the federal government.

In a number of states, the utilities are recognized monopolists (e.g. Florida). Some states have deregulated their power sector, though (e.g. Texas); some have begun, but then suspended deregulation (e.g. California). In the deregulated states, power merchants bid to sell their power to the grid. (The problems arising from these varieties of regulatory policy will be discussed in the sections below.)

Hence, even though the President receives a lot of the blame or praise for energy and climate policy, authority over this subject matter is split between the federal level and the states. Why is this important? In the past, the ability to set policy goals in energy matters has been severely hampered by this bifurcation. Trying to set up common standards for the electricity sector, be it emissions or electricity trading, has always either relied on voluntary cooperation (e.g. regional transmission organizations (RTOs) suggested by the FERC) or ended up in the Supreme Court. In the past, major federal U.S. energy legislation like the 1978 Public Utility Regulatory Policy Act (PURPA) spent several years in the court system before making an impact – the fleeting nature of American federalism and the split authority over energy policy between states and federal government provide various inroads for legal challenges. (An earlier version of the CPP was already reworked after a court verdict.) Thus, even though Obama’s energy plan acknowledges the states’ authority in energy matters; this does not mean that it will not be bogged down and possibly fail in the court room before it even takes off.

At first sight, this peculiar system of devising and implementing energy policy puts the U.S. at a serious dis-

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1 The Department of Energy (DoE) mostly provides grants for energy-related research and runs several National Laboratories. It also has oversight over the US Nuclear Weapons and the Naval Reactor Program. The FERC (Federal Energy Regulatory Commission) regulates electricity and energy trades between states; it has no authority to interfere with intrastate energy matters.

2 The Tenth Amendment, Necessary and Proper Clause and the Commerce Clause are the most important points of contention for federal-state rights legal battles.
advantage compared to Germany. Berlin passes federal laws (e.g. Energiewirtschaftsgesetz, Erneuerbare Energienetzgesetze) that shape utility regulation and renewables integration directly. Utility regulation and supervision is handled at the federal level (Bundesnetzagentur, federal grid authority) as well. However, with the mounting importance of energy infrastructure tied to very specific locations (e.g. wind) and massive needs for transmission grid expansion to connect these to demand locations (load centers), Germany’s state governments (Länder) gain political importance in electricity matters. Recently, regional protests against grid expansion have gained the political support of Bavaria’s state government. Originally, new transmission capacity was slated for the region – which upset residents concerned about possible negative externalities. Even though utilities and the Bavarian as well as federal government finally settled on a new plan, this delayed the new transmission line’s construction by two years.

Economics / Financial sphere

Apart from grants for energy research, the U.S. government has mostly divested itself from the responsibility of financing or investing in new energy infrastructure. Even though there were some successful policy investments in the past (the TVA and the Rural Electrification Administration, REA), the American energy infrastructure is mostly run and financed by private utilities.

This removes the massive financing power of the federal government from the electricity business and places the burden to renew the existing generation assets exclusively on the private sector. The utilities are dependent on their ability to sell stock and mostly bonds in the public markets to raise capital. This exposes a sector with long lead times and sometimes even longer repayment periods to the often fickle and short-term thinking of actively trading financial markets. Even though stocks and bonds may allow a broader and more diversified investor base than the European practice of bank loans (German Haushanken), they have left the utilities strapped for cash in the past. Several massive investment programs in the power sector failed – and the lack of a patient investor has crippled these assets and the utilities owning them. For example, President Jimmy Carter’s 1977 National Energy Plan aimed (among other goals) to massively expand the U.S. nuclear power generation fleet to wean the American utilities from their growing (around 20-25%) dependence on fuel oil. The utilities invested sizeable cash sums into these plants, but problems with standardization, architect-engineers, suppliers and competing federal as well as state regulation prolonged project lead and completion times.3

Without either federal financial backstopping or favorable rulings (rate case reviews) by the public utility commissions (meaning electricity price increases), the American private electricity sector’s key financial indicators worsened. Financial markets were used to seeing the utilities as safe investments; their stocks were mostly treated as safe, bond-like assets, and regular dividends were considered a given certainty. The obvious difficulties during the expansion of the nuclear power plant fleet caused investors to sell their shares and bonds in the secondary markets; valuations fell and yields rose – which barred the utilities from obtaining new funds on acceptable terms and from possibly finishing the nuclear program. The result were non-performing assets (the nuclear power plants) on the utilities’ balance sheets, which were a drag on their profits for several years; in turn, private investment in U.S. energy infrastructure was virtually absent while the sector recovered. This state of widespread financial distress has struck the U.S. power sector again after deregulation generation in some states.

Previously, utilities were vertically integrated monopolists in their respective states. Academic economists began criticizing this arrangement as leading to inefficiencies: Even though transmission and distribution are natural monopolies, power generation is not. Hence, parts of the sector should be open for competition. Ideally, the sector should be split up into monopolistic parts (transmission and distribution, the “wires business”) and competing power plants. These bid to supply power into the grid, which is run by an independent system operator (ISO). With the states being the principal actors in utility regulation, they were responsible for guiding this process. In California, a botched transition in 2000 led to power outages, skyrocketing electricity bills, bankrupt utilities, and massive losses in economic output. Even though other states were not as far ahead in the deregulation process as California was, the suspicion in financial markets spread to their utilities as well. This hampered the whole sector financially and put deregulation in several states on hold – the crisis in California had thus spread directly to states not immediately involved or physically connected to the Californian grid. Additionally, this has framed power sector regulatory reform as a potential financial risk for customers, utilities and the states.

Summed up, their financing system makes the utilities susceptible to falling out of investor favor on short notice – with long-term implications: Integrating renewable energy technologies means not only investing in new generation assets, but also retiring old ones. These

3 The Three Mile Island (TMI) accident is often cited as the main culprit for the financial disaster the U.S. nuclear power plant fleet...
may not have had ample time to repay their initial investment and will thus become stranded assets. The possible financial downside for the utilities in these efforts to redress the U.S. energy infrastructure is substantial. This does not mean that the CPP has obvious financial weaknesses. However, utilities struggled in the past to keep their financial performance indicators within acceptable limits for private investors when major restructurings or investments were not going as initially planned. A contingency plan for financial difficulties in the form of a federal backstop when major restructurings or investments were not going as initially planned. A contingency plan for financial difficulties in the form of a federal backstop might be appropriate.

Again, German utilities’ experience and financial performance during the ongoing Energiewende may serve as a possible scenario to prepare for. Even though federal subsidies and guaranteed grid access have proven to be a financial bonanza for renewable energy companies and their suppliers, other utilities’ stocks have tanked. The massive expansion of renewables with preferential grid access has turned many previously profitable plants into underused loss-makers. These now weigh down their owner’s balance sheets as stranded assets. Additionally, Germany’s sudden abandonment of nuclear power after the Fukushima accident has put additional financial strain on utilities. This sweeping policy reversal has exacerbated the cash flow problems already prevalent in some German utilities and had them scrambling for radical solutions. Recently, E.on announced plans to divest its fossil-fueled plant fleet into a new company – which had commentators worried about possible long-term liabilities for taxpayers. After all, electricity is an essential input for all sectors of the economy; this makes simple bankruptcy procedures for a major utility impossible.

Technical sphere

The CPP plans to integrate a massive amount of renewables into the U.S. energy infrastructure, retiring older coal plants and replacing them with new combined cycle gas turbines (CCGTs). This puts pressure on the American energy system; the latter’s technical properties make changes ripple through all of its connected parts. Energy infrastructure works as an integrated system between power generation, high-voltage transmission and distribution/metering/retailing. It must be closely coordinated and run on a second-by-second basis within tight technical limits by an (independent) systems operator (ISO) – the phrase “market for electricity” is thus not fully correct; energy infrastructure does not run as a self-balancing system of supply and demand mediated by price. It is centrally controlled.

What does this mean for the CPP? First, the CPP envisions a rising share of renewables in the U.S. energy mix. Renewables (wind and solar) are intermittent power sources, which means their output cannot be centrally controlled by the ISO. Rather, the ISO has to adapt the output of the rest of the power plants under its control to match demand. However, not all power plants are alike: Base load plants (mostly coal, nuclear and large hydro) are tailored to run constantly and cannot easily ramp up or down their output. Consequently, integrating a large amount of renewables into the energy infrastructure does not mean just connecting several wind farms and solar panels to the grid – it demands the entire system to adapt. This can mean either retiring or refitting existing plants to accommodate a more flexible output schedule (load following) or requiring new generation assets altogether. Currently, CCGTs are the technology of choice in this area since they are flexible, comparatively easy to build, have low emissions and gas is abundant and cheap in the US right now. This however puts new demands on other parts of the U.S. energy infrastructure; Gas delivery systems (e.g. pipelines) must be massively expanded – which are susceptible to extreme weather conditions, particularly cold conditions. In a nutshell, expanding gas-powered electricity generation may make the U.S. energy infrastructure less reliable during the winter. Additionally, generation companies usually hedge their exposure to fuel price fluctuations by diversifying their fuel base – with a stronger emphasis on CCGTs and natural gas, this flexibility might vanish and new financial risks may emerge.

Second, renewables are tied to certain areas (e.g. sufficient wind, solar insulation, rivers etc.). Hence, the available transmission capacity must be adapted to match these specific demand profiles. In the U.S., the transmission sector has several systemic obstacles. Consequently, adding a lot of renewables into the U.S. energy mix strains the present transmission infrastructure and demands - apart from massive investments – in new, shared electricity-trading arrangements. As already hinted above, a hallmark of U.S. energy policy is the crucial role of the states – which has led to various regulatory models and states of deregulation existing at the same time. This is a formidable technical hurdle to changing the American energy infrastructure: Renewables must be fed into the grid and possibly traded across state borders from their respective sites to where electricity is demanded (load centers).

Third, integrating renewables on a massive scale not only demands investment in generation and transmission assets, but also new operating procedures for ISOs: Re-

The 1935 Public Utility Holding Company Act (PUHCA) has segmented utilities and their assets, which designed their generation and transmission capacity to mostly supply a single state as a monopolist. Even though recently abolished, PUHCA’s effects linger on. Investments in intra-state transmission capacity were not a priority in this regulatory environment; this also applies to arrangements for electricity trading between states. Even though some progress has been made in this area, the legacy of a high-voltage electricity system mostly tailored to serve a state or smaller areas is still visible. (For example, Texas has its own grid almost completely separate from the rest of the U.S.)
Newables do not supply the voltage and frequency support essential for keeping the energy infrastructure reliable (meaning no black outs or brown outs). What is behind this? Conventional power plants supply rotating mass into the grid (or bulk power system), which is essential for its smooth operation. Current ISOs rely on these – when increasing generation from renewables beyond a certain point (which the CPP will do), systems operation will have to come up with new procedures to replace these ancillary services to ensure continued reliability of the entire energy infrastructure.

Once again, Germany’s further progress (compared to the U.S.) down the road toward a large share of renewables in its power generation offers a glimpse at possible technical issues the U.S. will have to manage. Even though Germany decides its renewables obligations and subsidies nationally, its transmission grid is connected with its European neighbors. With more and more German renewable power generation being supplied into the grid, neighboring ISOs must cope with the power flows coming from an adjacent network. These must be balanced with the technical limits of available transmission capacity and power plants’ ramping capability outside Germany. Ironically, this sometimes forces the most efficient and cleanest plants off the grid (re-dispatching). Hence, Germany’s prided large share of renewables leads through the tight interconnection and technical properties of energy infrastructure to perverse outcomes elsewhere. For the U.S., this could mean that successfully increasing one state’s share of renewable generation could force re-dispatching in neighboring states’ grids and consequently negatively affect clean power generation in this area.

In summary, the CPP is definitely a laudable step in the right direction. It underscores Washington’s commitment to tackle climate change. However, the deeply embedded and interlocking problems in U.S. energy policy and infrastructure briefly described above will not go away. Thus, for the CPP to achieve its targets, several time-sensitive, highly complex procedures in politics, economics/finance and technology must cumulatively be successful – each depending on the other’s completion: Without a firm political commitment and legal waterproofing for CPP, the long-term financial capital absolutely necessary for the task ahead might not be available. Possible technical issues (e.g. grid expansion, plant re-fitting etc.) might strain any political consensus between states and federal agencies previously agreed upon – and cause financial problems for the utilities tasked with implementing the energy agenda. However, Germany’s experience with its Energiewende policy hinted at throughout this brief article has already amassed some knowledge about possible strategic mistakes and pitfalls the U.S. can hope to avoid.
RENEWABLES AND THE ENVIRONMENT IN THE U.S.

Summary

1. As of August 3, 2015, the United States is now following the Clean Power Act (CPA) in order to reduce carbon pollution from power plants.

2. Fossil fuel power plants are the largest source of CO2 emissions in the US, making up 31 percent of U.S. total greenhouse gas emissions.

3. The goal of the CPA is to reduce carbon pollution by 32 percent of 2005 levels by the time it is fully implemented in 2030.

4. The CPA will work by the Environmental Protection Agency (EPA) setting a goal for a state and then the state must determine how it will reach the goal.

5. In the final Clean Power Plan, EPA determined that best system of emissions reduction consists of three building blocks:

   Building Block 1 – reducing the carbon intensity of electricity generation by improving existing coal-fired power plants.

   Building Block 2 – substituting increased electricity generation from lower-emitting existing natural gas plants for reduced generation from higher-emitting coal-fired power plants.

   Building Block 3 – substituting increased electricity generation from new zero-emitting renewable energy sources for reduced generation from existing coal-fired power plants.

Sources:


Summary

1. Energy policy is facing enormous challenges: the bulk of our energy is to come from renewable sources by the middle of the century. At the same time, Germany is to remain a competitive business location. This requires the complete restructuring of our energy system.

2. The Federal Government set itself ambitious targets for energy and climate policy with the introduction of the Energy Concept in September 2010:
   a. First, greenhouse gas emissions are to be cut by at least 80 % by 2050 compared to 1990 levels.
   b. Second, renewables are to supply the bulk of German energy in the future.
   c. Third, energy consumption is to be reduced considerably and energy efficiency increased.

3. The Federal Government has defined how it aims to promote research that will contribute to an environmentally sound, reliable and affordable energy supply in the years ahead. The new Energy Research Program makes roughly €3.5 billion in funding available through to 2014 to support research and development into sustainable energy technologies. Compared with the 2006 – 2009 period, this translates to an increase of roughly 75 %, most of which is financed by the Energy and Climate Fund.

4. The Federal Ministry of Economics and Energy plans to implement the following measures:
   b. Consumer awareness for energy saving and promotional efforts.
   c. Support for the market introduction of high-efficiency generic technologies and energy-efficient, environmentally friendly production processes.
   d. Promotion of energy management systems.
   e. Modernization program for innovative grids.
   f. Promotion of high-efficiency power plant technologies in line with the Energy Concept of the Federal Government.
   g. Support and development of other efficiency measures.

Figure 1: Development of primary energy consumption in Germany
12

**Source:**

BMI [2012], Germany’s new energy policy. Heading towards 2050 with secure, affordable and environmentally sound energy: http://www.bmwi.de/English/Redaktion/Pdf/germanys-new-energy-policy, lastly visited on 02/11/15
**MIGRATION AND IMMIGRATION IN THE U.S.**

**Summary**

1. In 2013, an estimated 13.1 million legal permanent resident (LPR) lived with in the U.S., of which 8.8 million qualified to naturalize.

2. The largest group of legal aliens come from Mexico, with 3.28 million LPRs, next largest group are LPRs from China, with 660,000.

3. In 2013, the U.S. permitted 69,909 people as refugees, the largest group being from Iraq with 19,487 people.

4. The U.S. has lowered its admission ceiling for refugees from 80,000 in 2011 to 70,000 in 2013.

5. In 2013, the U.S. deported 662,483 people from the nation, with 62.6 percent from the Southwest sectors of the nation.

6. In 2014, there is an estimated population of 11.3 million unauthorized immigrants living within the U.S.

7. Since 2009, approximately 350,000 new unauthorized immigrants arrive in the U.S. each year.

**U.S. Foreign-born Population, 2012**

Note: All numbers are rounded independently and are not adjusted to sum to the total U.S. figure or other totals.

Source: Pew Research Center estimates for 2012 based on augmented American Community Survey data from Integrated Public Use Microdata Series (IPUMS)

PEW RESEARCH CENTER
Emigration rates from sending regions around the world, per 1,000

Sources


Summary

1. There are about 7.6 million foreigners currently living in Germany (in 2013).
2. There is a much higher percentage of foreigners living in the western parts of Germany, with the exception of Berlin, where over 10% of the population are foreigners.
3. Between 1997 and 2002 roughly 850,000 Germans and foreigners moved to Germany from other countries each year. By 2013 that number had climbed to 1,226,000.
4. Population mobility will continue to rise in the future due to increasing globalization.
5. Migration must be managed and controlled, as there are many interests at stake:
   a. Interests of new arrivals and those already there
   b. Personal, humanitarian, economic and national interests
   c. European and international security and integration interests.
6. Germany, Europe and the international community are therefore faced with four tasks:
   a. Limiting illegal integration
   b. Carefully and responsibly weighing the prospects for legal immigration
   c. Making integration the prerequisite and limit for further migration
   d. Ensuring the security of the people in Germany and Europe.

Figure 4: Foreigners in Germany since 1961

Foreigners in Germany (dark blue) in comparison to the total population (light blue), between 1961 and 2013.

Table 3: Foreigners in Germany: Top 30 countries and EU Member States

<table>
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<tr>
<th>Main countries of origin</th>
<th>Total</th>
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<tbody>
<tr>
<td>Turkey</td>
<td>1,549,808</td>
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<tr>
<td>Poland</td>
<td>609,855</td>
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<tr>
<td>Italy</td>
<td>552,943</td>
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<tr>
<td>Greece</td>
<td>316,331</td>
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<tr>
<td>Romania</td>
<td>267,398</td>
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<tr>
<td>Croatia</td>
<td>240,543</td>
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<tr>
<td>Russian Federation</td>
<td>216,291</td>
</tr>
<tr>
<td>Serbia</td>
<td>205,043</td>
</tr>
<tr>
<td>Austria</td>
<td>178,768</td>
</tr>
<tr>
<td>Kosovo</td>
<td>170,795</td>
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</tbody>
</table>

The ten main countries of origin of foreigners in Germany. 44% of foreigners in Germany come from other EU Member States.
Figure 5 shows the distribution of foreigners throughout Germany.

Figure 6 illustrates how long foreigners stay in Germany. The majority (23.35%) stays longer than 30 years. 22.30% stay less than 4 years. 22.95% stay in Germany between 10 and 20 years.

Source

HEALTH AND DEMOGRAPHY IN THE U.S.

Summary

1. Current estimates put the population of the U.S. at around 322 million

2. The leading causes of death in the U.S., as of 2013, are: heart disease - 611,105, cancer – 584,881, Chronic lower respiratory diseases: 149,205

3. Total personal health care expenditures expanded from 1.5 trillion in 2003 to 2.5 trillion in 2013. The largest amount of money coming from private health companies

4. In 2010, with a population of 308 million people, 157 million were female and 151.8 million were male.

5. The population of the U.S. is expected to grow to 416.8 million by 2060.

6. As of 2010, 80.7 percent of people lived in urban areas with only 19.3 percent in rural communities.

Figure 1 shows the amount of money from various sources to pay for medical expenses

Figure 2 shows the population increase over the next four decades, both native and foreign born
Figure 3 shows age and gender distribution in the United States between 2000 and 2010.

Figure 4 shows the leading cause of death for both men and women in the U.S., with heart disease being the leading cause for death.

Sources

USCDC [2015], *Deaths and Mortality*, http://www.cdc.gov/nchs/fastats/deaths.htm, lastly viewed 03/11/15

Heron, M. [2015], *Deaths: Leading Causes for 2012*, http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_10.pdf, lastly viewed 03/11/15

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HEALTH AND DEMOGRAPHY IN GERMANY

Summary

1. Germany’s population has been measured at 80.62 Million people in 2014.

2. Germany’s population is projected to decrease to 67 Million by 2060.

3. Though there has been a slight surplus of women since the 1950, the percentages of men and women have been leveling out ever since and are projected to do so continuously.

4. The age group of under 25 is underrepresented, which is the reason for Germany’s projected decrease in population.

5. The health related expenses incurred by an individual have continuously increased since 2000, leveling at 3000 US$ per person in 2012.

6. Cardiovascular diseases and diabetes, as well as cancer are the most common causes of deaths, causing combined close to 300,000 deaths each year.

7. In 2013, 75% of Germany’s population lived in urban areas.

Basic statistics

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Statistics</th>
<th>Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (thousands)</td>
<td>82,727</td>
<td>2013</td>
</tr>
<tr>
<td>Population aged under 15 (%)</td>
<td>13</td>
<td>2013</td>
</tr>
<tr>
<td>Population aged over 60 (%)</td>
<td>27</td>
<td>2013</td>
</tr>
<tr>
<td>Median age (years)</td>
<td>46</td>
<td>2013</td>
</tr>
<tr>
<td>Population living in urban areas (%)</td>
<td>75</td>
<td>2013</td>
</tr>
<tr>
<td>Total fertility rate (per woman)</td>
<td>1.4</td>
<td>2013</td>
</tr>
<tr>
<td>Number of live births (thousands)</td>
<td>781.6</td>
<td>2013</td>
</tr>
<tr>
<td>Number of deaths (thousands)</td>
<td>875.8</td>
<td>2013</td>
</tr>
<tr>
<td>Birth registration coverage (%)</td>
<td>100</td>
<td>2011</td>
</tr>
<tr>
<td>Cause-of-death registration coverage (%)</td>
<td>100</td>
<td>2010-2012</td>
</tr>
<tr>
<td>Gross national income per capita (PPP at $)</td>
<td>44,540</td>
<td>2013</td>
</tr>
<tr>
<td>WHO region</td>
<td>European</td>
<td>2013</td>
</tr>
<tr>
<td>World Bank income classification</td>
<td>High</td>
<td>2013</td>
</tr>
</tbody>
</table>
Development of Germany’s population between 1950 and 2014. Germany’s population currently stabilized at 80.62 Million people.

Population’s development according to gender (green = women, blue = men).

Age Distribution in Germany: dark blue = younger than 25, light blue = between 25 and 65, green, above 65
Average per capita spending on health

Most common causes of death in Germany. Cardiovascular diseases and diabetes, as well as cancer are the most common causes of deaths.

Sources

WHO [2012], Germany: WHO statistical profile: http://www.who.int/gho/countries/deu.pdf?ua=1, lastly visited on 02/11/15

BMWi [2015], Wachstum und Demografie im internationalen Vergleich: http://bmwi.de/BMWi/Redaktion/PDF/Publikationen/wachstum-und-demografie-im-internationalen-vergleich,property=pdf,bereich=bmwii2012,sprache=de,rwb=true.pdf, lastly visited on 02/11/15
Summary

1. In FY 2014, more than 170,500 individuals nationwide entered the apprenticeship system.

2. Nationwide, there are over 410,000 apprentices currently obtaining the skills they need to succeed while earning the wages they need to build financial security.

3. In FY 2014, over 44,000 participants graduated from the apprenticeship system.

4. There are more than 19,000 registered apprenticeship programs across the nation.

5. In FY 2014, over 1,600 new apprenticeship programs were established nationwide.

6. In FY 2008, there were over 442,000 nationwide apprentices, with over 132,000 of them new, compared to FY 2014 with over 410,000, with over 170,000 new.

Three Largest Occupations for FY 2014:
Electrician – 33,389
Carpenter – 10,710
Plumber – 10,080

Three Largest States by Active Apprentices for FY 2014:
California – 34,901
New York – 16,238
Virginia – 15,649

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Active Apprentices</th>
<th>New Apprentices</th>
<th>Total Completers</th>
<th>Active Programs</th>
<th>New Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>442,386</td>
<td>132,782</td>
<td>51,386</td>
<td>24,285</td>
<td>1,525</td>
</tr>
<tr>
<td>2009</td>
<td>420,140</td>
<td>110,707</td>
<td>50,493</td>
<td>26,622</td>
<td>1,456</td>
</tr>
<tr>
<td>2010</td>
<td>387,720</td>
<td>109,989</td>
<td>51,212</td>
<td>25,961</td>
<td>1,807</td>
</tr>
<tr>
<td>2011</td>
<td>357,692</td>
<td>130,391</td>
<td>55,178</td>
<td>24,967</td>
<td>1,409</td>
</tr>
<tr>
<td>2012</td>
<td>362,123</td>
<td>147,487</td>
<td>59,783</td>
<td>21,279</td>
<td>1,750</td>
</tr>
<tr>
<td>2013</td>
<td>375,425</td>
<td>164,746</td>
<td>52,542</td>
<td>19,431</td>
<td>1,540</td>
</tr>
<tr>
<td>2014</td>
<td>410,375</td>
<td>170,544</td>
<td>44,417</td>
<td>19,260</td>
<td>1,623</td>
</tr>
</tbody>
</table>
Source

Summary

1. Vocational training in Germany is provided on the job and in vocational training schools. In this dual system, practical vocational training is given at work, backed up by theoretical training and general education provided in vocational training schools, generally attended on one or two days a week.

2. The characteristic feature of this system is that the provision of knowledge and skills is linked to acquiring the necessary job experience.

3. It promotes independence and a sense of responsibility, which are indispensable qualities in a developed industrial country.

4. One can hardly think of a more effective means of coordinating the systems of training and employment.

5. In Germany there are currently some 350 officially-recognized training occupations, constituting the basis for more than 20,000 adult occupations.

6. The benefits of this system:
   - **For Companies:**
     - have influence on the training contents
     - considerably reduce their recruitment costs and
     - ensure that they will have well skilled workers in the future
   - **For Apprentices:**
     - a market relevant training with high employability
     - a remuneration which gives them financial independence already during the training period
     - acquiring social skills in a real-life environment and not in an artificial training center
   - **For the Public sector:**
     - the costs of DVT are significantly lower than in a full-time school system
     - the market relevance of the system of DVT has a positive impact on youth unemployment, which in turn, reduces the costs of social welfare

7. In 2012 60% of students graduating high school decided to take part in Dual Vocational Training. Benefiting from gaining practical experience through workplace training in a company (3.5 days a week), while simultaneously attending the Vocational school (1.5 days a week).

8. After finishing their Dual Vocational Training, these individuals have the advantage of directly impacting the enterprise productivity.
At a glance – the dual vocational training system in Germany

Benefits of the Dual Vocational Training (figure 6)

Benefits of the Dual Vocational Training for companies, apprentices and the federal government.

Sources:
Hamburg Chamber of Commerce [2013], A Key Factor of German Success: The Dual Vocational Training System: https://www.hk24.de/blob/hhihk24/en/training/1147576/16d05a246a26e24dcf77bd1ac44de284/A_Key_Factor_of_German_Success-data.pdf, lastly visited on 02/11/15

Hamburg Chamber of Commerce [2013], Vocational Training in Germany – The Dual System: https://www.hk24.de/en/training/duale_system/1147578, lastly visited on 02/11/15
In response to the decline in the total number of manufacturing jobs, the U.S. government, along with initiatives by President Obama, created the Advanced Manufacturing Partnership in 2011, with a beginning investment of $500 million.

For the past two decades, the ratio between advanced products manufactured in the U.S. and those that are imported has continuously seen a downward trend. With a trade balance of negative $600 billion as of 2010.

Manufacturing jobs have added an additional 620,000 jobs back into the U.S. economy from 2010 to 2014.

In order to attract more high-quality jobs within manufacturing, the U.S. launched two public-private manufacturing initiative institutes, one in Chicago and the other in Detroit in early 2014. Both initiatives comprise of companies, nonprofits, and universities working with the federal government to find new inventions and innovations to boost the economy.

As of 2009, the U.S. was lagging behind Japan, Korea, and Germany with their research and development intensive manufacturing sectors. Additionally, all three nations possess a positive trade balance in goods.

Of the five largest industries by occupational growth, three are services-producing, and only two are goods-producing. The largest growth being within healthcare and social services with a 2.6% increase by 2022.

U.S. Business & Labor statistics predicts a decline by 0.2% in the Information sector, which includes data and computer specialists.
Sources


Summary

1. In 2012 346,400 Start-Ups were recorded in Germany.

2. Start-Up potential lies especially with women and migrants.

3. 17.7% of the Start-Ups in Germany are based on a new product for the German or global market.

4. 55% of the population between 18 and 64 years old consider a Start-Up as an attractive and viable career path.

5. Still almost a third of Start-Up founders is between 45 and 64 years old.

6. 11-18% of those who failed in their first attempt restart a successful Start-Up, amounting to 45,000 to 80,000 Start-Ups annually.

Figure 1 shows the age groups and their respective percentage of the total Start-Up founders:
- The age group 25-34 (19% of Germany’s population) holds 29.3% of total Start-Up founders.
- The age group 55-64 (20.9% of Germany’s population) holds 10.6% of total Start-Up founders.
- Almost a third of Start-Up founders is between 45 and 64 years old.

Figure 2 shows how founders finance their Start-Ups:
- 33.4% of all Start-Ups are financed without any usage of reserves or external financial resources.
- 68.6% of those who depend on external financial resources rely exclusively on their own financial reserves.
- Only 10.6% finance their Start-Up exclusively on external financial resources.
Figure 3 shows the percentage of failed Start-Up founders that restart their Start-Up career.

- 11-18% of those who failed in their first attempt restart a successful Start-Up, amounting to 45,000 to 80,000 Start-Ups annually.

Figure 4 shows the number of institutes for entrepreneurship in Germany.

- In 2012 there were 103 institutes for entrepreneurship at Universities in Germany.
- The first one was founded in 1998.
- Currently North-Rhine Westphalia is the region with the most institutes in entrepreneurship, offering 17 alternatives in 2012.

Sources

BMWi [2013], Gründerland Deutschland: Zahlen und Fakten. Unternehmensgründungen und Gründergeist in Deutschland: http://www.bmwi.de/DE/Mediathek/publikationen,did=446924.html, lastly visited on 02.11.15
The Aspen Institute Germany promotes values-based leadership, constructive dialog amongst conflicting parties, and Euro-Atlantic cooperation to support and enhance a strong open society. Aspen Germany does this by convening decision-makers and experts from politics, business, academia, media, culture, and civil society in three programs, the Leadership Program, Policy Program and Public Program.

The Aspen Institute is an international non-profit organization that fosters enlightened leadership, the appreciation of timeless ideas and values, and open-minded dialog on contemporary issues. The Aspen Institute USA was founded in 1950. The institute and its international partners seek to promote the pursuit of common ground and deeper understanding in a non-partisan and non-ideological setting. Aside from “The Aspen Institute”, there are nine independent Aspen Institutes in France, Italy, Czech Republic, Romania, Spain, Japan, India, Mexico, and Germany.

Leadership Program – The Aspen Seminar

The Aspen Seminar is an exceptional leadership program promoting values-based leadership and enabling substantial dialog about challenging political and social topics. Hidden away from the demands of the daily routine and in a confidential setting, small groups of highly accomplished leaders are given the space to address fundamental aspects of human existence, including the role of the individual, societal order, and the limits of power. Based on classical and modern texts of renowned philosophers and thinkers, and guided by two highly skilled moderators, participants reflect on timeless ideas and values and their continued relevance in today’s world.

Policy Program

Aspen Policy Programs actively address current policy challenges. In closed-door conferences and seminars focusing on complex political and social trends and developments, decision-makers analyze common challenges and develop viable solutions. Kick-off introductory presentations by international experts lay the groundwork for focused debates with policy makers with the aim of forging an international consensus among politicians, diplomats, and experts from academia, business, and the media. During the discussions, participants develop constructive suggestions and policy recommendations, which are subsequently published.

Public Program

The Aspen Institute Germany’s Public Program addresses a broader invited public. It serves as a forum for discourse, where new ideas can be discussed in a fruitful environment of interested and informed individuals. The central theme of the Public Program is values-based leadership, the mission of the Institute. Thus, it is discussed how leaders can deal with the political and economic challenges of our time and how they are currently being dealt with.
German-American Dialog: Revitalizing Our Partnership to Answer Common Challenges

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