INTEL CORPORATION

Global Climate Change Policy Statement

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Climate change is occurring and human activities have played a strong contributing role—that is the consensus among climate scientists. The main questions today concern what steps can be taken to mitigate the warming trend and help communities and regions adapt to the present-day and anticipated impacts of the warming that already is occurring.

Intel Corporation believes that global climate change is a serious environmental, economic, and social challenge that warrants an equally serious response by governments and the private sector. By its nature, climate change is a global problem that defies simple "silver bullet" solutions or contributions by a narrow group of countries or a few industry sectors. Addressing climate change requires leadership, both by individual governments and companies.

Intel exercises leadership both in reducing its own footprint and in working with others to influence the development of sound public policies. With respect to reducing our own footprint, we take seriously the work of the UN-affiliated Intergovernmental Panel on Climate Change (IPCC). The IPCC, in its 2007 Fourth Assessment Report, estimated that in order to stabilize CO_2 emissions in the atmosphere at 450 parts per million (ppm) in 2050 (a goal that many climate change experts have advocated), greenhouse gas (GHG) emissions need to be reduced by 85 percent compared to levels observed in 2000.[1] Intel considers this a good metric and is committed to track and report its own GHG emissions reduction progress against that benchmark. (See the attached Addendum for data on our progress to date.)

Turning from emissions reduction activity to policy influencing, this document is intended to clearly articulate the principles that Intel follows in engaging on climate change policy at all levels of government and in all geographies. In addition, in the Addendum that follows, we summarize key supplementary information, including our view regarding the state of climate science, Intel's climate change footprint, our actions to reduce that footprint, and our external engagements regarding climate change policy.

Summary of Policy Principles

Intel is fully engaged in shaping of public policy responses to climate change, both at the international level and in the countries and regions where we operate. Our engagement includes both unilateral activities as well as participation in several climate-focused organizations. In general, we believe that climate change is a classic economic externality. The solution lies in finding ways to "price carbon" and the damaging climatic impacts of greenhouse gases (GHGs). We further believe that climate policy should focus on waste emissions of GHGs and that regulations should be designed to promote cost-effectiveness and technological innovation. More specifically, our policy influencing actions are guided by a set of policy principles, including:

- **Science-based:** Climate policy should be based upon the latest and best available scientific information.
- **U.S. Engagement in the International Policy Process:** The U.S. government should be actively engaged in the development of international climate change policies, through the UN negotiating process and other multi- and bi-lateral venues, to ensure any resulting international agreements are realistic and pragmatic.
- **Support for the Emerging COP 21 Framework:** Approaching the 21st Conference of the Parties (COP) in December 2015, an international framework for addressing climate change is emerging that provides a practical way forward. Key elements of that framework include virtually all major emissions-contributing countries are making emissions reduction commitments, those commitments are nationally-determined, and they are visible and subject to verification by others. Led by the U.S., China, and the EU, countries are competing to show leadership and the public commitment process may create a competitive process whereby country commitments are made more stringent over time.
- **Mitigation and Adaptation:** Scientists believe that some degree of climate change is inevitable given past greenhouse gas emissions into the atmosphere. For this reason, governments, industry, and civil society need to focus on both mitigation (reducing new loadings) and adaptation (dealing with already-initiated climate effects). Whether such policies and actions are spoken of in terms of climate preparedness, resilience, or in other ways, it is critical that society deal with what will happen as well as try to prevent what might happen. Adaptation policies should maximize the use of natural systems such as wetlands, both existing and newly-created or restored, as "soft infrastructure" that can increase community resilience. Governments also should promote the use of information and communications technology (ICT) in helping countries and communities prepare for and adapt to climate change.
- **U.S. Domestic Action:** The U.S. government should continue to advance its own domestic climate policy initiatives, whether by legislation or by administrative action. In general, Intel supports implementation of the Obama Administration's Climate Change Action Plan (CCAP), assuming that plan is implemented in a way that maximizes flexibility and cost-effectiveness.

  Perhaps the most important element of CCAP is EPA's 2015 Clean Power Plan rule aimed at reducing GHG emissions from existing power plants. EPA's rule is constructed to significantly reduce power plant emissions via a regulatory approach that maximizes flexibility for states and power plants. A key element of flexibility involves reducing power plant emissions by reducing electricity demand via increased energy efficiency. Part of the challenge ahead for EPA and the states is to ensure that "Intelligent Efficiency" (IE) plays a significant part in meeting the regulatory targets. IE applications such as the smart grid and smart city technologies, building energy management systems, and other approaches can be the least-cost path to achieving the Clean Power Plan goals.
- **Focus on Emissions, not Use of Essential Gases:** The semiconductor manufacturing process requires the use of fluorinated gases (F-gases). Despite years of research into alternatives, no viable substitutes exist or are on the R&D horizon. These same gases, however, are frequent targets of climate-focused restrictions due to their high global-warming potential (GWP). Recognizing this potential "train wreck" of technical needs vs. climate science, the semiconductor industry—led by Intel—has dramatically reduced its F-gas emissions over time even as the industry has grown (see the Addendum for details). Nonetheless, tension remains between these two trends. Governments can resolve this conflict by focusing their restrictions and limits on emissions of GHGs not the use thereof. This will allow governments to both meet their policy objectives

and protect industries like semiconductors where the bulk of their emissions come not from waste gases like CO_2 but rather the use of gases in their production processes.

- **Market-Based Solutions:** Governments should employ market-based policy approaches wherever possible. Reliance on market approaches is the only way governments can achieve the deep level of emissions reductions required to meet current UN goals (85 percent reduction by 2050) at an acceptable cost. Different specific measures will be appropriate in different countries and various governments have implemented a variety of market-based approaches already. Cap-and-trade systems, other forms of emissions trading, and direct or indirect carbon taxes are all means of pricing carbon and providing emissions reducing incentives at lower cost than many traditional command-and-control approaches.
- **Renewable Energy and Energy Efficiency Programs:** Intel currently sources 100 percent of its domestic electricity supply from the renewables market via Renewable Energy Credits (RECs). We support the expansion of renewable energy supplies through a variety of Federal policies. We can support, for example, a national Renewable Portfolio Standard (RPS) as long as it incorporates some flexibility to recognize that the availability of renewables varies significantly from region to region and as long as it includes an ability to meet some portion of renewables quota via energy efficiency. Both of these features are critical to containing cost increases. We believe energy efficiency generally is the easiest and cheapest way to reduce GHG emissions. As such we generally support Federal incentive, deployment, and research programs that have the objective of expanding the energy efficiency market.

  As a general matter, Intel supports the growth of the renewable energy market as well as an expansion of energy efficiency programs at the state level. We prefer market-driven approaches over mandates, but recognize that many states are pursuing renewable portfolio standards and energy efficiency mandates imposed upon electric utilities in their jurisdiction. Where mandates are considered, they should take electricity cost impacts into consideration and balance those with the goal of growing the market for renewables and energy efficiency.
- **Innovation-Friendly Product Energy Efficiency Requirements:** Increasingly, governments are imposing energy efficiency requirements on products as a way of reducing GHG emissions from the power sector. Information and communications technology (ICT) products are a frequent target of such policies due to their proliferation in the marketplace. Examples of such programs include Energy Star in the U.S. and the Energy-Related Products (ErP) Directive in Europe. Some of these efforts, like Energy Star and the Electronic Product Environmental Assessment Tool (EPEAT), started in one country (the U.S.) and have spread to other markets. Government programs to require or encourage more energy efficient ICT products should take pains to avoid stifling innovation and expanded product functionality. This can be done in many ways. For example, like products should be compared to like products in setting power consumption limits. This ensures that power limits on a fully-featured personal computer, for example, are not set based on the power consumption of more functionally-limited products like tablets. In addition, efforts to reduce standby power should not discourage the development of so-called “smart grid-ready” or network-connected devices.
- **Intelligent Efficiency:** As an example of cost-efficient policies, governments should emphasize promoting end-use energy efficiency, since analyses have shown this is where the greatest and least-expensive climate progress can be made. Specifically, government energy efficiency programs and policies should promote the enabling role of Intelligent Efficiency (IE), ICT-driven applications such as the smart grid, smart city technologies, which can dramatically improve the energy efficiency of the entire economy, thereby reducing climate emissions.

ADDENDUM

The State of Climate Science

Climate change is happening and human activities have played a strong contributing role. The main questions today concern what steps can be taken to mitigate the warming trend and help communities and regions adapt to the present-day and anticipated impacts of the warming that already is occurring.

Since 1990, the Intergovernmental Panel on Climate Change (IPCC), established by the United Nations, has periodically (every 5-6 years) released assessments of the state of climate science. The Panel includes a diverse mix of hundreds of scientists from around the world, and its reports represent a synthesis of thousands of scientific papers on climate change. In addition, the Panel produces a "Summary for Policy makers" for each Assessment Report, which is approved by diplomats from nearly all countries of the world.

2013 saw the publication of the IPCC's "Fifth Assessment Report." Among the more important findings of the Fifth Assessment are:

- The conclusion that much of the observed global warming over the past 50 years is due to human activities is now viewed as "extremely likely" (95 percent probability), upgraded from the "very likely" (90 percent) conclusion of the previous assessment.
- Even dramatic future reductions in greenhouse gas emissions cannot forestall the climate change resulting from past emissions. Many changes that have been observed may be irreversible.
- Estimates of future sea level rise have been significantly increased.[2]

Other prominent scientific institutions have weighed in supporting the view that humans are contributing to climate change:

- In December 2009, the national science academies of the G8+5 nations issued a joint statement declaring, "Climate change and sustainable energy supply are crucial challenges for the future of humanity. It is essential that world leaders agree on the emission reductions needed to combat negative consequences of anthropogenic climate change."[3]
- In 2011, the National Research Council (NRC), the working arm of the National Academies of Science and Engineering, concluded that "Climate change is occurring, is very likely caused by human activities, and poses significant risks for a broad range of human and natural systems."[4]

Recognizing the complexity of the physical and natural processes involved, and the difficulty in modeling those processes, and a lack of knowledge of future greenhouse gas emissions, the IPCC and others typically employ a range, or uncertainty band, when projecting the amount of global warming that could occur with or without society taking aggressive mitigation actions. Uncertainty also surrounds other climate change impacts like extreme weather events. In the absence of significant decreases in emissions, the planet is likely to warm more than 2 degrees C above pre-industrial temperatures during the 21st Century, and could warm by more than 4 degrees C. This level of warming is likely to be accompanied by significant sea level rise, as well as impacts to water resources, ecosystems, and human health. Although uncertainty surrounds how climate change may affect some types of extreme weather events, there is a high degree of certainty that heat waves have and will continue to increase in frequency and severity, and that heavy precipitation events will be more frequent in many regions.

Intel's Climate Change Impacts

Intel's climate change or greenhouse gas impact consists of two components:

- A negative, direct element that includes the climate emissions associated with its own operations, its supply chain, and the use of its products; and
- A positive, indirect element that reflects the fact that silicon-driven ICT applications can enable energy efficiency gains throughout society.

These two components might be thought of as our contribution to the problem, on the one hand, and our contribution to the solution on the other. Another way to think of these two very different types of impacts is to distinguish between our "GHG footprint" and our "ICT handprint."

Our GHG Footprint

A useful way to categorize Intel's, or any other company's, direct footprint is in terms of which part of our operations the emissions arise from. This typically is done in terms of "scopes":

- Scope 1 emissions arise from onsite operations (manufacturing and onsite boilers);
- Scope 2 emissions are those associated with electricity purchased from off-site suppliers;
- Scope 3 emissions are those associated with a company's supply chain, its logistical operations, business air travel, and product energy use.

The semiconductor industry's negative, direct contribution to the climate change problem is small relative to most other sectors of the U.S. economy. According to EPA's 2012 greenhouse gas emissions inventory, the entire semiconductor industry was responsible in that year for 5.1 million metric tons of CO_2-equivalent "Scope 1" emissions. The semiconductor fraction amounted to only 0.162 percent of the total U.S. emissions of over 3 billion metric tons.[5] This compares favorably to other sectors. The electrical generating industry accounts for 33 percent of total U.S. emissions. All of U.S. manufacturing industry contributes 20 percent of total greenhouse gas emissions. In other words, despite being the country's second-largest export sector, the semiconductor industry accounts for less than 1 percent of total U.S. industrial climate emissions.[6] NB: This is not to say that our small contribution to the problem excuses us from action. Indeed as noted below in the discussion of our emissions reduction efforts, our contribution is small precisely because of actions we have already taken, which are a template for actions to be taken in the future.

Intel's direct contribution to climate change, which we annually report via the Carbon Disclosure Project, is a fraction of the overall semiconductor industry contribution. Based on Intel's most recent submission to the Carbon Disclosure Project, our own "Scope 1" emissions in 2014 were around 1,041,000 metric tons, approximately 16 percent of the industry total. Our net "Scope 2" emissions, including our purchase of renewable energy credits (REC), were 1,039,000 metric tons. (See below for a discussion of our REC activity.)

Our ICT Handprint: Intelligent Efficiency as Part of the Climate Change Solution

Intel's and the information and communications technology (ICT) industry's positive, indirect contribution to solving the climate change already is significant and could potentially be even greater. The consulting firm McKinsey and others have studied the marginal cost that society would incur in taking a variety of actions to mitigate climate change. Chart 2 below summarizes the basic finding that end-use energy efficiency actions are the cheapest possible actions society can take to address climate change. As noted below, many of these efficiency steps actually come at no cost or a net cost savings to society.

Moreover, many of the specific steps that could be taken to increase end-use energy efficiency are driven or enabled by ICT. Examples include home- and building-energy management systems, telecommuting, and "smart meter" technology to permit demand-side management by electric utilities.[7]

In recent years, many studies have confirmed the climate solutions potential of ICT. The American Council for an Energy-Efficient Economy (ACEEE), for example, analyzed how the expansion of the Internet has coincided, in a cause-and-effect manner, with a period of increasing energy efficiency in the U.S. economy. The ACEEE concluded that, "For every extra Kwh of electricity that has been demanded by ICT, the U.S. economy increased its overall energy savings by a factor of about 10."[8] ACEEE has gone on to study the energy-efficiency solutions role of ICT in great detail, coining the term "intelligent efficiency" or "systems-based efficiency" as contrasted with the traditional focus on "component-based efficiency":

System efficiency is performance-based, optimizing the performance of the system overall—its components, their relationships to one another, and their relationships to human operators. One of the cornerstones of systems-based efficiency is information and communication technologies (ICT), such as the Internet, affordable sensors and computing capacity that are the foundation upon which systems efficiency are built.[9]

TABLE 1: INTEL'S 2014 GREENHOUSE GAS EMISSIONS BY SCOPE/TYPE (METRIC TONS OF CO_2E)

SCOPE	EMISSIONS
Scope 1	1,041,000
Scope 2	1,039,000
Total Scope 1 and 2 (Including RECs)	2,080,000
Scope 3 (estimated)	
Direct materials supplier emissions	1,000,000
Transportation and distribution of inputs and waste generated in operations	274,000
Business air travel	159,000

Source: Intel Corporation

Table 1 provides a snapshot of our current emissions by Scope. Chart 1 (*on next page*) captures our Scope 1 and 2 combined emissions reduction progress compared to a trajectory that represents the IPCC goal of 85 percent emissions reduction by 2050. As the chart indicates, to date we have made reductions greater than required to track that goal. We are committed to report our future progress as it compares to this same metric.

The most recent global assessment of ICT's potential climate change contribution was conducted by The Boston Consulting Group for the Global e-Sustainability Initiative (GeSI), a UN-affiliated coalition of ICT companies. Titled "SMARTer 2020: The Role of ICT in Driving a Sustainable Future," the report concludes that a comprehensive portfolio of ICT-enabled strategies could reduce global climate change emissions by 16.5 percent in the year 2020 compared to a "business as usual" baseline. This is equivalent to $1.9 trillion in fuel savings and 21.6 billion barrels of oil on a cumulative basis. This size of this potential ICT contribution to addressing climate change dwarfs most other available strategies and, per the earlier-cited McKinsey analysis, much of what can be done via ICT applications will cost little or in fact create wealth for society.[10]

Such a large-scale total contribution is the composite effect of hundreds, if not thousands, of individual applications of ICT. In high-level terms, these applications can be thought of in three broad categories:

- Automation – including industrial robots, computerized logistics, home and building energy management systems, smart motors and the "smart grid"
- Substitution – including video conferencing, e-Commerce, and online entertainment
- De-Materialization – including online banking, digital media content, and other examples of converting atoms to bits

Think of the efficiency of individual ICT devices, whether Intel's central processing unit (CPUs) chips and other integrated circuits or systems-level products like PCs and servers, as component efficiency. Contrastingly, intelligent or systems efficiency is a story best told in terms of the network of ICT devices and services that together provide these types of functionality.

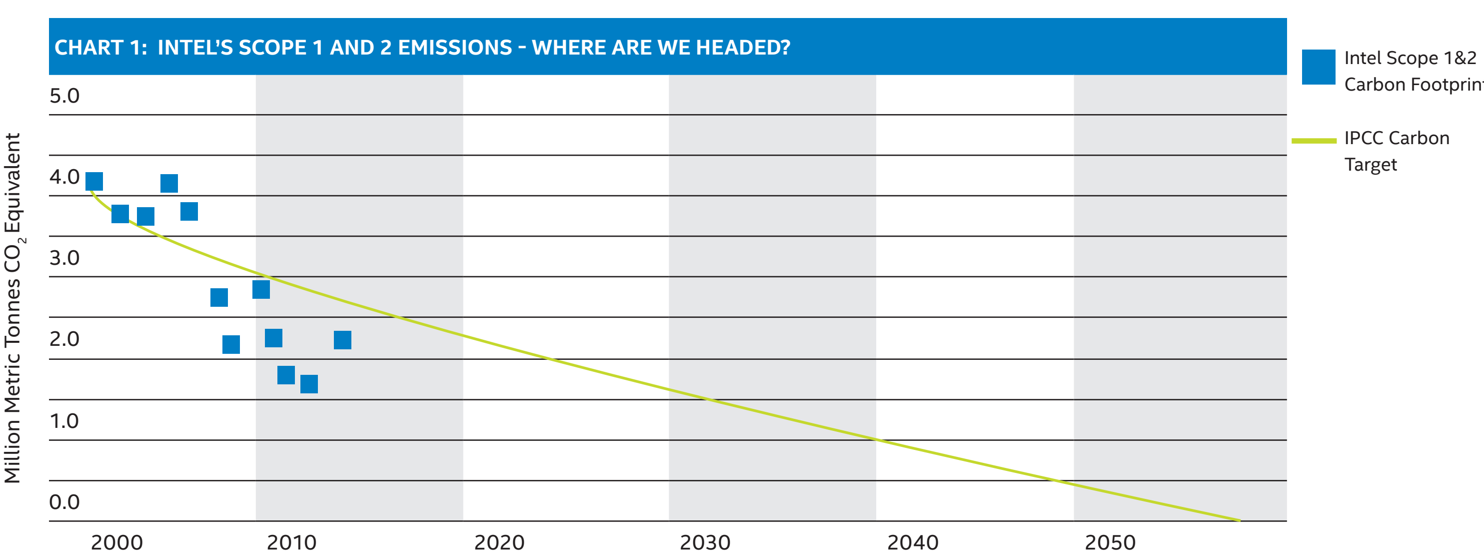
The future holds even greater promise for the ICT industry's role as a climate change solutions provider. Increasingly computation is moving into "the cloud," where studies have shown that significant energy efficiency gains can be made.[11] And the coming world of the "Internet of Things" or the "Industrial Internet," in which virtually all human-created systems are equipped with sensors and the ability to communicate with one another, promises further opportunity for energy and resource efficiency.

Intel's Actions to Reduce Our GHG Footprint

Recognizing that climate change is a problem that can only be addressed by broad contributions from all sectors of society, Intel has undertaken a series of actions and programs to reduce its own direct climate footprint. These initiatives to reduce our contribution to the climate change problem include:

- Direct emissions reductions: Semiconductor manufacturing depends on a small number of critical production inputs. "Critical" in our business typically means that there are no feasible substitutes for a chemical or material. Despite many years of research and development investment by Intel and others, for example, fluorinated gases play an essential role in our fabs. That is difficult from a climate change perspective, however, because of the high-global warming potential (GWP) of such gases. Their high-GWP has made fluorinated gases (or F-gases) a prime target of climate change regulators around the globe.

  Recognizing this concern, Intel led the semiconductor industry in working with the U.S. EPA and the European Commission in

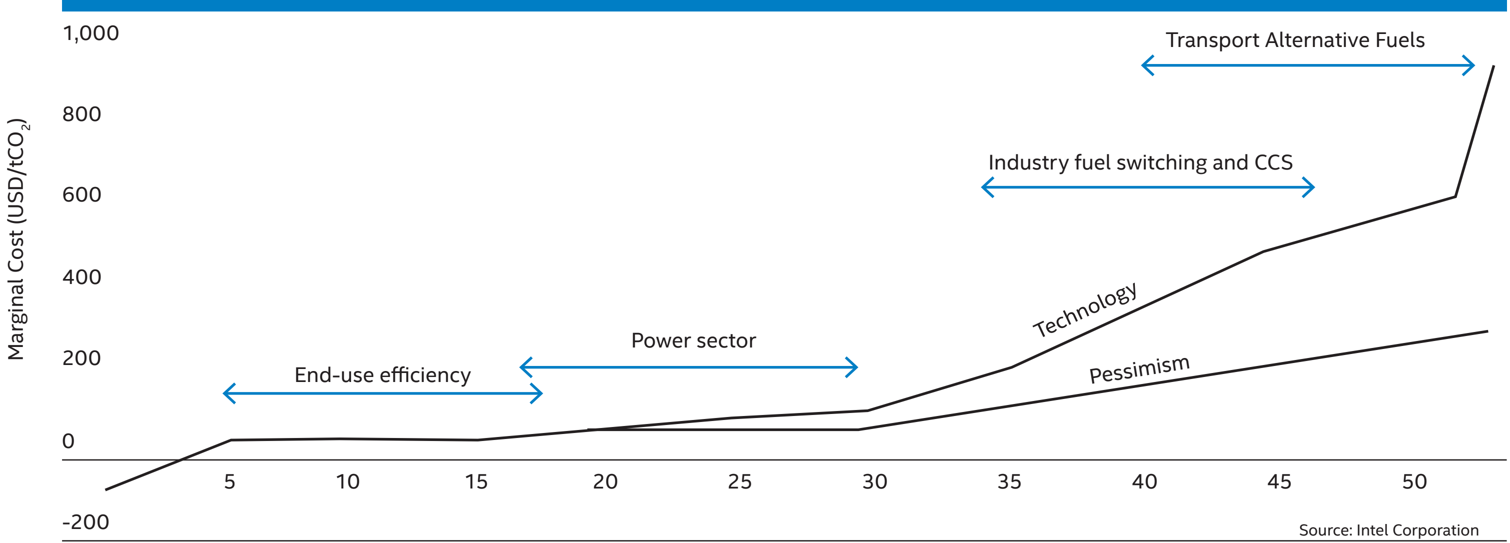


Since 2010, we have reducd our absolute scope 1 & 2 greenhouse gas emissions by nearly 50 percent and our emissions intensity by more than 60 percent.

developing a global goal to reduce our F-gas emissions. This effort started in 1996 and represents the most successful voluntary industry climate emissions reduction program ever undertaken. The official goal was to reduce industry emissions by 10 percent by 2010, with 1995 emissions as the baseline. The industry as a whole exceeded this goal, with Intel going way beyond the goal: By the end of 2010, Intel achieved approximately a 50 percent emissions reduction in absolute terms, and over an 80 percent normalized, per chip reduction. Chart 3 (on the next page) illustrates these Intel emissions reduction trends, both absolute and normalized:

- **Green power purchasing:** In early 2015, Intel was recognized for the seventh consecutive year as the largest voluntary purchaser of green power in the U.S., according to the U.S. EPA's Green Power Partnership rankings. We have increased our purchase commitment from 1.4 billion kWh of green power in 2010 to approximately 3.1 billion kWh in 2014. Our 2014 purchase met 100 percent of our U.S. electricity use for the year, and had the CO_2 impact equivalent of eliminating the annual electricity use of more than 320,000 average U.S. homes.[12] To date, Intel has committed to purchase a total of approximately 15.1 billion kWh of green power from 2008 through 2013, which is equivalent to the greenhouse gas emissions impact of taking 2.2 million cars off the road for one year.
- **Energy efficiency improvements at our fabs:** Since 2008, Intel has invested more than $100 million in over 2,300 projects aimed at improving the energy efficiency of our production facilities. These projects have saved more than 2.4 billion kWh of energy, or CO_2 emissions equivalent to the electricity consumption of 153,000 average U.S. homes in one year.
- **Improvements in our own IT systems:** Intel IT has taken steps to embed sustainability principles in our business processes. In 2012, we implemented a variety of strategies to improve overall efficiency of our data center operations, including reducing the number of data centers across Intel's operations from 87 to 68. We also replaced older servers with fewer, higher-performing servers based on the latest Intel® Xeon® processors and Intel® Solid-State Drives (Intel® SSDs). Intel IT also continued to implement cloud and virtualization strategies that increased Intel's virtualization percentage from 64 percent to 75 percent. These improvements helped IT maintain flat energy and CO_2 footprints while significantly increasing Intel's compute, storage, and IT customer capabilities. Intel IT also completed energy conservation projects that saved approximately 50 million kWh of electricity in 2012.
- **Solar panel installations:** Between 2009 and April 2015, we partnered with third parties to complete 20 solar electric installations on 12 Intel campuses—in Arizona, California, Colorado, New Mexico, Oregon, India, Israel, and Vietnam—collectively generating more than 10 million kWh per year of clean solar energy. The projects include a 1-megawatt solar field that spans nearly 6 acres of land on Intel's Folsom, California campus; rooftop installations; and solar support structures in Intel parking lots (including four 1-megawatt installations). When installed, each U.S. installation was ranked among

CHART 2: MCKINSEY MARGINAL COST OF ABATEMENT ANALYSIS

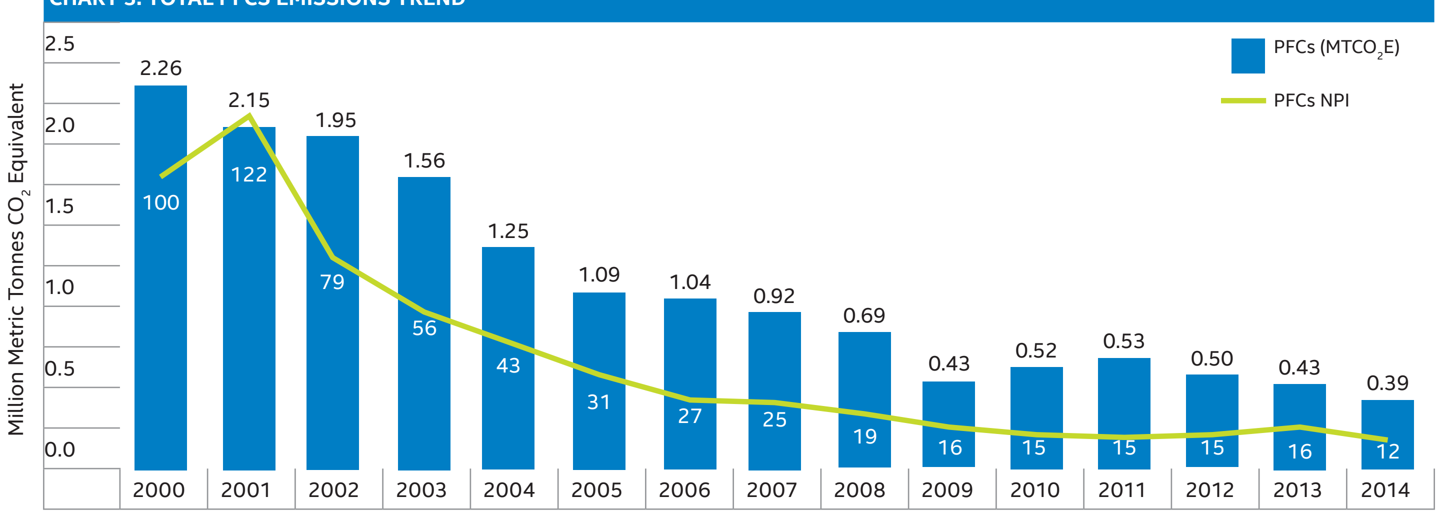


Source: Intel Corporation

the 10 largest solar installations in its respective utility territory. We have also installed solar hot water systems in India, Israel, and Costa Rica. The India installation supplies nearly 100 percent of the hot water used at our two largest campuses in that country, saving approximately 70,000 kWh annually. In 2013, we are exploring a broad expansion of the solar hot water program across our global sites.

- **EV charging stations:** In 2012, Intel piloted four electric vehicle charging stations for employees at our sites in California and Oregon. Based on the success of these pilots, we now have approximately 75 electric vehicle charging stations at eight of our U.S. campuses. We believe our roll-out is one of the largest corporate-wide installations of charging stations in the U.S.
- **Supply chain:** Intel has set an aggressive goal of achieving an "85 percent Green Intel Ground Transportation Fleet" by 2016. By the end of 2014, 70 percent of our leased and rental fleets were "green." In recent years, we have also increased our efforts to reduce the emissions and environmental impact associated with our transportation and logistics suppliers (which includes shipment of products between Intel sites and inbound/outbound shipments to suppliers and customers). Based on the analysis of our footprint, we determined that the greatest opportunity to reduce emissions is to convert more shipments from air to ocean transport, since the emissions associated with ocean transport are a fraction of those associated with air transport. As a result of these efforts, we reduced our carbon footprint by approximately 66 million tons, a 20 percent reduction compared to the 2011 baseline.
- **Packaging:** Our logistics packaging team drives changes in the materials we use to ship products between Intel sites and to our customers to reduce waste and environmental impact. From 2010 through 2014, we reduced packaging and shipping materials by approximately 1,200 tons, helping us eliminate more than 3,200 metric tons of CO_2 emissions. In 2015, our teams will continue to drive reductions in packaging used in warehouse operations and customer returns, and to replace existing packaging with more sustainable materials. Our long-term vision is to achieve 100 percent sustainable packaging for all inbound, outbound, and return shipments in support of Intel's 2020 waste reduction and recycling goals.
- **Venture capital investments:** Intel's venture capital arm, Intel Capital (I Cap), is a stage-agnostic and long-term investor that invests for both financial returns and to advance key strategic interests of the company and our technologies. In recent years, I Cap has included "clean tech" investments in its portfolio. The current emphasis is on accelerating innovation in smart energy technologies. The I Cap portfolio includes companies in the solar energy field, smart grid management, building energy management and advanced energy storage.
- **Intel Labs R&D Programs:** Intel Labs has a number of programs underway that are focused on improving energy efficiency and reducing climate emissions. A basic mission includes researching and developing future Intel products which are increasingly more energy efficient. In addition, Intel Labs has a focus on cities as a crucible

CHART 3: TOTAL PFCS EMISSIONS TREND



Source: Intel Corporation

for increasing sustainability. To this end, we have two "living labs," in London and Dublin, where distributed environmental monitoring platforms are being deployed to help monitor pollution levels at a fraction of the cost of standard monitoring approaches. These platforms also enable improving the measurement and modelling of micro-climates in a city, informing potential actions to improve conditions.

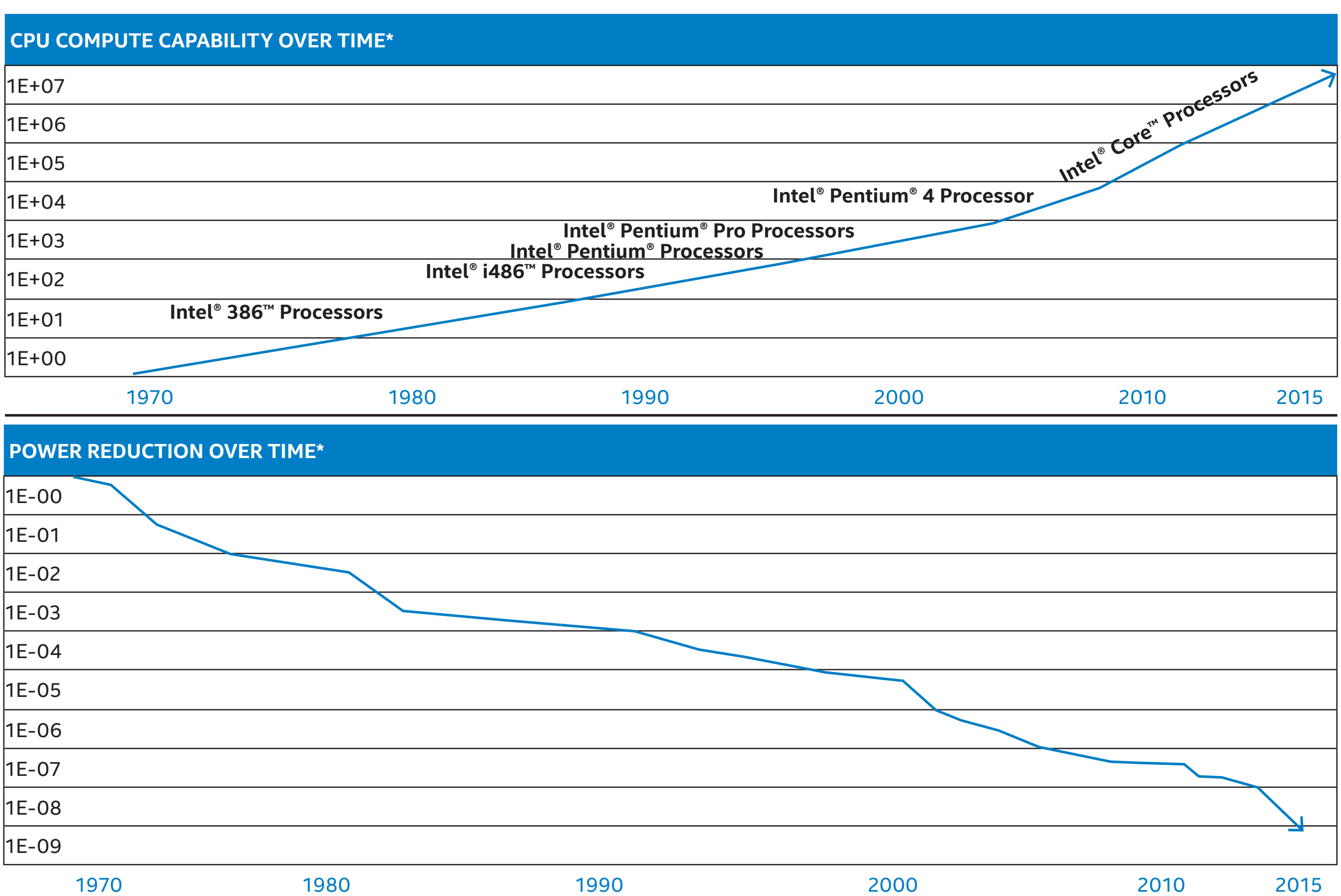
Product Energy Efficiency Improvements

Beyond our own Scope 1 and 2 emissions, another way in which we impact the climate is through the emissions associated with generating the electricity necessary to power our products and the products of our customers. Intel has made significant improvements to the energy efficiency of its products over recent product generations. Pursuing Moore's Law, Intel has consistently decreased the energy consumption of its products while increasing their performance. Chart 4 below shows how Intel has dramatically reduced the power consumption of its products while dramatically increasing their computing capability over the last 40 years.

Increasing Our ICT Handprint

Beyond minimizing our contribution to the climate change problem, we are committed to maximizing our contribution to the solutions for climate change. We are committed to providing a wide variety of semiconductor products that provide the fundamental building blocks for information and communications technology (ICT)-based energy efficiency products and services that help reduce the rest of the world's climate footprint. These climate-friendly solutions range from the "smart electricity grid" to building energy management systems to "smart logistics" and telecommuting. Our semiconductors also play a key enabling role in harnessing wind and other renewable energy sources and in integrating those sources onto the grid. The accelerating deployment of the "Internet of Things," powered by Intel silicon, promises to bring vast increases in intelligence to the world around us,

Chart 4: Dramatic Efficiency in Performance and Energy Efficiency Over Time



*Source: Intel Corporation – October 2015. Relative performance chart estimates based on reported MIPS and SPEC CPU scores over this time period (as configurations and workloads change with time) leading to, among other things, further gains in energy efficiency.

Finally, beyond helping mitigate or reduce climate change, Intel-powered ICT applications can and should play a greater role in assisting society to prepare for and adapt to the degree of climate change that may already be inevitable given historic levels of greenhouse gas emissions. ICT can play many adaptation roles, including high-performance computing applications that permit better prediction and mapping of global warming effects, including severe weather events, as well as sensor networks to monitor and predict the impacts of sea-level rise. So-called "smart agriculture" sensor technologies also help address increased climate-related water stress by enabling much more efficient use of irrigation water.

Intel's Climate Change Policy Engagement

Intel historically has played an active role in shaping international, national, and sub-national climate change policies, working closely with governments and other stakeholders. At the international level, Intel chairs the Business Institute for Sustainability (BIS), formerly known as the International Climate Change Partnership (ICCP). BIS is a global coalition of companies and trade associations from diverse industries committed to constructive and responsible participation in the international policy process concerning global climate change. We also are long-standing members of the Business Environmental Leadership Council (BELC) of the Center for Climate and Energy Solutions (C2ES), formerly the Pew Center on Climate Change, a non-profit organization that seeks to influence the development of climate policy. And we are active members of The Climate Group, a global non-profit organization headquartered in London which works with business and subnational governments to advance climate change solutions. We have also worked on an ad hoc basis with other groups and coalitions, including signing the "Climate Declaration" organized by BICEP, Business for Innovative Climate & Energy Policy
www.climatedeclaration.us

At the national level, Intel plays a leadership role in the environment, energy and climate committees of its lead trade associations, such as the Semiconductor Industry Association (SIA) and the Information Technology Industry Council (ITI) in the U.S. and the European SIA and Digital Europe in Brussels. C2ES also works on U.S. domestic climate policy issues.

Recognizing the climate solutions role of ICT, Intel founded and co-chairs the Digital Energy and Sustainability Solutions Campaign (DESSC), a coalition of ICT companies and energy- and climate-focused non-profit organizations. DESSC is focused two-fold on (1) gaining better public and policy-maker understanding of the climate solutions role of ICT, and (2) working with policy-makers to craft public policies that enable a greater solutions role for ICT throughout society. DESSC is very active in the U.S. and China.

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[12] Source: U.S. EPA Greenhouse Gas Equivalencies Calculator.

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