Sustainability Report 2016

Extending Care Globally, Growing Sustainably
Welcome to Varian’s Annual Sustainability Report

We produce annual sustainability reports as part of our commitment to social responsibility performance and transparency.

Our comprehensive, company-wide sustainability program involves the close participation of senior leaders from each of our divisions, locations, and core functions. We identify and prioritize our most significant sustainability issues, and reference the GRI (Global Reporting Initiative) guidelines in our reporting. This is the most used, credible, and trusted global framework for sustainability reporting.

As a result of this focus on corporate social responsibility, Varian is increasingly recognized as a leading light in this field. Earlier this year, it was announced at the World Economic Forum at Davos, Switzerland, that Varian remains the highest ranked U.S. healthcare equipment company on the Corporate Knights Global 100 Most Sustainable Corporations index.

Varian’s mission is to help save lives around the world. In this report, you will find some examples of how Varian is making a positive contribution to the communities where we operate, as well as devising programs to improve areas where we fall short.

We hope you find it of interest and thank you for your attention.

The data in this report is for fiscal year 2015 (October 2014 to September 2015).

If you have any comments about this report, please contact us at sustainability@varian.com

Go online: In addition to this report, Varian will publish future sustainability reports, performance, and activities on this site: www.varian.com/about-varian/citizenship

Diagnosed early last year with left-sided breast cancer, 40-year-old office manager Marti Shelton received proton therapy because conventional radiotherapy could have increased her risk of heart disease. She traveled from her Phoenix home to be treated with Varian’s ProBeam™ proton therapy system at Scripps Proton Therapy Center in San Diego. Her young age and expected long lifespan made her an ideal candidate for proton therapy, which can protect additional healthy tissue and reduce the chances of complications later in life.¹
About VARIAN Medical Systems

Varian equips the world with new tools for fighting cancer, taking X-ray images, and protecting ports and borders.

Businesses:

> **Oncology Systems:**
> The world’s leading supplier of medical devices and software for radiotherapy, radiosurgery, and brachytherapy treatments. Also comprises a $1 billion global service business.

> **Imaging Components:**
> A premier independent supplier of X-ray tubes, flat panel detectors software, and other key components for filmless X-ray imaging.*

> **Other:** Includes Varian Particle Therapy, which equips hospitals worldwide with its ProBeam® system for advanced proton therapy treatments.

### Customers First
We put customers first. Our customers trust us to deliver solutions, products, service, and performance that enable them to do vital work for people around the world.

### Partner for Life
We are united by purpose to help save lives. We collaborate with one another and our customers to make patient care and imaging solutions more effective, affordable, and accessible everywhere. We serve all parts of the world with equal care.

### Inspired Innovation
We turn great ideas into practical realities. We have always been inspired and energized by the challenge of finding new and better ways to do things. Innovation drives our success.

### Doing Well by Doing the Right Thing
We grow our business while acting with integrity. Each of us is responsible for meeting the highest standards of ethics, quality, and safety. We care for our customers, our colleagues, and our communities.

---

*Varian recently announced the intention to spin off this business as a separate company called Varex Imaging from January 2017.
Rising to the Challenge in Tibet

Varian won a major deal last year to supply modern linear accelerators to hospitals run by the People’s Liberation Army in China, and the first of the hospitals to be equipped under this deal presents one of the most challenging installations Varian has ever handled. The hospital is 12,000 feet above sea level, at Lhasa, in the mountains of Tibet.

“This is our highest ever installation and presents a whole host of challenges,” said Ahmad Khatib, Varian APAC’s senior director of site solutions and professional services. “The previous highest installation of a Varian linear accelerator was at 9,300 feet in Tunja, Colombia, but this is 2,700 feet higher.”

In order for the linear accelerator to work at such an altitude, Varian’s engineers needed to design the radiotherapy bunker as a pressurized capsule to compensate for the lower atmospheric pressure.

“At that altitude you have 30% less air, and airflow is very important for a linear accelerator to work reliably,” explained Khatib. “If the components don’t cool as specified, they can overheat and fail. With less airflow, the high voltage regulators, such as those used in beam generation, can start to arc, which can lead to component damage and failure.”

Khatib’s team needed to develop their own technique for overcoming this problem, as installations at this altitude do not have an off-the-shelf solution. Pressurizing the room using special centrifugal fans and root pump compressors, along with smart controlling logic, presents no problems but the entire environment has to be sealed to prevent leakage.

“It must remain airtight so we have developed a double-door entry system – like a holding bay in a submarine – to prevent massive loss of pressure each time staff enter the room,” said Khatib. “Pressurizing the vault makes little difference to the patient’s experience because the pressurization is still less than you would experience on a passenger airplane.”

Khatib and his team have finished the design work and signed with a contractor to build the pressurized capsule. They are now awaiting a permit for the design, and the construction and installation should commence later this year.

The Varian linear accelerator will be the first radiotherapy machine in the city of Lhasa, which is one of the highest cities in the world. Home to nearly a quarter of a million people, it is the second most populous city on the Tibetan plateau and the administrative capital of the Tibetan Autonomous Region of the People’s Republic of China.
Expanding in Brazil

Earlier this year, Varian held a groundbreaking ceremony with government officials, leading cancer clinicians, and partners for its new 50,600 square foot manufacturing, service, and training facility in Jundiaí, Brazil. Located on the Multivias Industrial Park, this Varian facility is targeted for completion in the second half of 2017 and will house a radiotherapy training center, demonstration rooms, and manufacturing and warehousing.

This new facility is part of Varian’s commitment to partner with the Brazil Ministry of Health to increase the accessibility and quality of radiotherapy treatment in the fight against cancer in Brazil and across Latin America. Once completed, this facility will serve as Varian’s training and education center for all Latin American customers, in addition to manufacturing and servicing radiotherapy equipment.

“With this new facility, Varian is making a long-term investment to advance the knowledge of, and access to, advanced radiotherapy care in Brazil and across Latin America.”

Humberto Izidoro, Varian’s managing director in Brazil

Modern Care for Ethiopia

Ethiopia has 93 million people who are currently served by just one radiotherapy treatment machine – and that is an older cobalt-based system that does not offer modern treatments.

The Ethiopian government is attempting to redress this imbalance by investing in modern equipment and it recently placed an order with Varian for the country’s first modern linear accelerators. “This is a well-considered plan by the Ethiopian government and Varian is delighted to be able to contribute by extending advanced care to an area of the world that is grossly under-equipped,” said Tom Duffy, Varian’s senior manager of digital imaging and channel management.

In the first phase of the government’s plan, Varian – through its local partner Elsmed – has been asked to supply six Clinac® iX linear accelerators for Ethiopian university hospitals in six cities – Harar, Mek’ele, Jimma, Awassa, Gondar, and the capital Addis Ababa (see the map for locations). The first of these projects is expected to start offering clinical treatments by the end of this year.

The Clinac iX systems will be capable of delivering fast and precise RapidArc treatments with image-guidance tools on each system. Each site will have two Eclipse™ licenses for treatment planning and ten ARIA® oncology information management workstations, and each hospital will have two radiotherapy bunkers to enable future expansion.

Varian and Elsmed are also working with the Ethiopian government to establish clinical education training resources in the country.

Helping Kenya

Varian has donated $60,000 to a fund to help improve access to radiotherapy provision in Kenya. The donation was made to the American Cancer Society’s Kenya Radiotherapy Subsidy Fund, which helps to underwrite the cost of treatments for patients who would otherwise not receive radiotherapy.
Increasing access to radiotherapy worldwide through greater investment could save millions of lives, according to the Lancet Oncology Commission.

The Lancet Commission found that up to 60% of all cancer patients worldwide will need radiotherapy at some point in their treatment. However, a lack of investment in radiotherapy services has severely limited access to radiotherapy treatments worldwide, especially in low- and middle-income countries (LMIC).

LMIC have 80% of the global cancer burden but only 5% of the resources for cancer control, and in low-income countries, 90% of the population lack access to radiotherapy. Even in high-income countries, the numbers of radiotherapy facilities, equipment, and trained staff are inadequate.

Radiotherapy is important for managing most cancers, such as breast, lung, prostate, head and neck, and cervical cancers, which account for more than two-fifths of cases worldwide. In its report, the Commission details how a persistent underinvestment in radiotherapy globally has diminished access. The report describes the substantial health and economic benefits of investing in radiotherapy.

The number of new cancer cases is expected to rise to 24.6 million annually by 2035. The Commission claims that increasing access to radiotherapy services in LMIC could lead to a saving of 27 million life years by 2035 over the lifetime of patients who receive this treatment.

In addition to saving human lives, providing full access to radiotherapy through investment could reduce the economic burden of cancer worldwide, which was $2 trillion in 2010. By 2035, full access to radiotherapy for all patients in LMIC could be achieved for as little as $37 billion, with economic benefits ranging from $278 billion to $365 billion over the next 20 years.

27 MILLION LIFE YEARS

The Lancet Oncology Commission’s estimates that expanding radiotherapy services in low- and middle-income countries could lead to a saving of 27 million life years by 2035.

In its report published in the Lancet Oncology, the Commission called for a long-term commitment to cancer care and treatment through the following actions:

- 80% of countries should have cancer plans that include radiotherapy by 2020
- Radiotherapy treatment capacity should be increased by 25% from 2015 capacity by 2025
- All LMIC should have at least one cancer center by 2020
- LMIC should train 7,500 radiation oncologists, 20,000 radiation technologists, and 6,000 medical physicists by 2025
- LMIC should invest $46 billion by 2025 to establish radiotherapy infrastructure and training
- 80% of LMIC should include radiotherapy services as part of their universal health coverage by 2020
As radiation oncology becomes increasingly precise and cancer centers worldwide can offer ever more advanced treatments for their patients, the fact remains that many parts of the world are still grossly under-equipped, with too few machines to treat their growing cancer populations.

"But even when developing regions are able to invest in installing new equipment to address this issue, they are often hindered by a lack of qualified staff to plan treatments and run the equipment," says Michael Sandhu, who heads Oncology Systems’ global market development team.

One of the ways in which Varian seeks to bridge the gap between skill levels and knowledge in well-equipped developed countries and those in developing nations is to provide a broad range of education services. One of the most ambitious of these is Access to Care, with successful projects underway in Vietnam and South Africa, and plans to introduce a scheme in Algeria later this year.

The success of Access to Care in Vietnam last year – when 15 students from three leading oncology centers successfully completed training and then became trainers themselves, providing tuition to others at their centers – has been built upon this year by a German-led initiative known as develoPPP.de.

Under this three-year project, Varian is working with three eminent Vietnamese institutions – Hanoi Medical University, 108 Military Central Hospital, and University of Science and Technology – to develop a fast-track educational program for radiation therapists and medical physicists based on the core Access to Care concept. Varian is contributing up to $330,000 in support of this scheme, as well as compiling the curricula, developing the content, and running the pilots.

“Students are graduates who want to begin a career in a radiation therapy department,” said Stefan Berz, education programs project manager at Varian. “We will give as much support as possible to successfully implement these technical and clinical training programs. Once up and running, the training programs will allow Vietnam to increase the number of competent therapists and medical physicists in Vietnam, and enable the delivery of more precise treatments.”
Continuing
Decades of INNOVATION

Varian spends about 8% of its annual revenues on research and development. In FY15, that amounted to $245.2 million. By committing such a significant amount of revenues to innovation, the company seeks to provide ongoing advances in the efficiency, precision, and safety of treatments for cancer and other indications. Here, we look at some recent Oncology Systems’ introductions and how they contribute to Varian’s mission of helping to save millions of lives around the world each year.

**Calypso**
Varian recently announced a new Calypso® 17G soft tissue Beacon® transponder that is 50% smaller than the previous version. The 17G device can help enhance the precision of radiotherapy and radiosurgery treatments for cancer by providing real-time, continuous tumor position information, based on the implanted transponders. The size of a grain of rice, each Beacon transponder emits a non-ionizing electromagnetic signal that is tracked in real time by the Calypso system, guiding treatment beams to precisely target tumors during treatment with medical linear accelerators.

**Software**
Varian’s new RapidPlan™ is a comprehensive tool within Varian’s Eclipse™ treatment planning system that can be used to plan a wide variety of advanced radiotherapy techniques. Crucially, it enables users to draw from a library of best-case plans to speed up the often time-consuming planning process and to optimize quality. In this way, such knowledge-based planning can allow future patients to benefit from the knowledge gained from past patients. Early users of RapidPlan have reported a considerable reduction in the time taken to plan treatments.

With the precise targeting provided by Calypso technology, we are able to reduce treatment margins and liver toxicity compared to conventional radiotherapy without Calypso beacons.”
Neal Dunlap, M.D., radiation oncologist, University of Louisville, Kentucky, U.S.

“With RapidPlan, the mean target dose achieved was slightly higher and the beam-shaping efficiency was greater, thereby giving a reduced dose to the critical normal tissues as compared to a conventional plan.”
Tom Jordan, head of radiotherapy physics, Royal Surrey Hospital, Guildford, UK

**Edge**
The Edge™ radiosurgery system, introduced in 2014, is a fast, precise, and non-invasive alternative to conventional surgery. One particular safety feature inherent in the Edge system is that by integrating cones, rather than having to use third-party cones, it enables compatibility with interlocking systems for extra protection during treatments. This gives clinicians much greater confidence in the precision of the treatment delivery.

“Edge radiosurgery gives us the opportunity to further minimize damage to healthy tissues and increase the dose per treatment session, making it a valid alternative to surgery, especially for inoperable patients.”
Dr. Marta Scorsetti, director of radiotherapy, Humanitas Clinic, Milan, Italy

“Edge radiosurgery gives us the opportunity to further minimize damage to healthy tissues and increase the dose per treatment session, making it a valid alternative to surgery, especially for inoperable patients.”

Varian Sustainability Report 2016
SAVED by a Second Opinion

Dr. Henry Farkas worked much of his life as an emergency room physician and hospice physician. He was familiar with the impact cancer can have on the body, so when he had a metastatic lung recurrence in 2008, he accepted his terminal illness and he and his wife moved out to California during what he believed would be the last few months of his life.

“I knew that normally you don’t treat Stage IV lung cancer with curative intent because the treatment itself is likely to cause side effects that reduce quality of life in what may be the last few months that a patient has. And, you don’t want to take that risk if you don’t know if therapy will work. I explained to him that I had already declined palliative radiation because it could lead to congestive heart failure and, from my work in hospice care, I knew I did not want to battle both diseases near the end of my life.”

Dr. Farkas continued, “He informed me that his center had just installed the next generation of radiotherapy equipment and, with the new technology, they could more precisely target lung tumors, even those very close to the heart, to the point that the risk of damage to healthy tissue was minimal.

“I agreed to the treatment with curative intent. Six weeks later, my tumors started to disappear. My last treatment was in September 2008 and my scans have been clear ever since. This experience taught me that a second opinion could save your life, no matter what the predicted outcome.”

A visit to a local oncologist, however, led him to life-saving treatment with a newer type of radiation therapy that had recently become available at the facility – a Varian Trilogy linear accelerator that had been installed at Cedars-Sinai Medical Center in Los Angeles.

“My wife and I decided to spend my last few months in California, closer to our two daughters and six grandchildren,” said Dr. Farkas, who continues to have clear follow-up scans to this day. “We rented an apartment in Los Angeles and I was able to find a lung oncologist near our new home. He then found two new tumors at the base of my neck, one on each side, and that’s when he suggested chemotherapy and radiation therapy, not as palliative care but with the aim of curing my advanced lung cancer.

“The message I want to convey is to make sure you are at a cancer center that is using the latest technology, as it can make a huge difference.”

Dr. Henry Farkas
Benefiting from PROTON THERAPY

Proton therapy makes it possible to treat certain types of cancer more precisely and with minimal side effects. With proton therapy, the risk of damage to healthy tissues and potential side effects is reduced because the beam is designed to stop and deposit a dose within the tumor site rather than passing all the way through the patient. Varian has invested heavily in proton therapy and, over the last few years, several hospitals have started clinical treatments using Varian’s proton technology. Here, we look at one patient’s story as he traveled from the UK to receive potentially life-saving treatments using Varian’s ProBeam® system at Scripps Proton Therapy Center in San Diego.

In February last year, construction company director Tony Vickerman had trouble swallowing a tablet. Confused, he examined the back of his throat and was horrified to discover a large lump that was preventing him from swallowing. Just a couple of months earlier he had paid a routine visit to the dentist and everything was clear, so this growth was clearly new and aggressive. He knew immediately that he needed to get it checked out and treated.

Quickly diagnosed with throat cancer, he began chemotherapy treatments within four weeks and doctors also suggested radiotherapy. Through his work with a cancer charity, Vickerman knew about proton therapy and enjoyed a casual acquaintance with Dr. Andrew Chang at Scripps.

“I rang Dr. Chang, told him my diagnosis and he explained how proton therapy could help me,” said Vickerman, aged 55, who lives in Chesterfield in the county of Derbyshire. “I decided there and then that I wanted the treatment. My wife Karen and I flew to San Diego and I received more chemotherapy, which made me feel very ill and made me lose weight – I actually lost 12 pounds in a single week at one point.

“I received more than 30 fractions of proton therapy over the next couple of months. This targeted the back of my neck, my left nodes, and my right nodes, and all three areas could be treated simultaneously. The treatment was fantastic – I felt no pain and the treatment times were generally around 30 minutes including set-up. “I believe I really benefited from having proton therapy as, other than a slightly dry mouth, I have very few side effects now and I don’t think anybody would know I’ve had throat cancer.”

Vickerman said traveling such a long distance was tough, particularly for Karen, as she was away from their sons, James and Matthew, and detached from the support infrastructure provided by the UK’s National Health Service (NHS), which is why he’s happy two proton therapy centers are currently being built by the NHS. The two facilities, at University College Hospital in London and The Christie in Manchester, will both be equipped by Varian and should be clinical in 2018/2019.

“I believe I really benefited from having proton therapy as…”

Tony Vickerman
As the global leader in radiotherapy, Varian also leads the way when it comes to advocating investment in radiotherapy and greater access to care.

“Varian is committed toward working with stakeholders to ensure that all patients who need access to innovative radiotherapy have such access, and that innovation in radiotherapy is fairly rewarded,” said Andy Whitman, Varian’s vice president of government affairs.

Globally, Varian is an active supporter of the Union for International Cancer Control (UICC), whose mission is to unite the cancer community to reduce the global cancer burden.

“UICC provides essential leadership to promote cancer control within the United Nations’ post-2015 development goals,” added Andras Fehervary, Varian’s vice president of government affairs in EMEA. “Partnering with an organization that is committed to fighting cancer like the UICC allows us to further our own goal of a world without fear of cancer.”

Varian’s membership in UICC encompasses support for the Global Task Force on Radiotherapy for Cancer Control (GTFRCC), which aims to create broad awareness of the health and economic consequences of lack of access to radiotherapy globally, and the benefits of reducing the access shortfall.

In Europe, Varian supports the work of the ESTRO HERO (Health Economics in Radiation Oncology) project. This scheme aimed at accurately determining the costs of providing radiotherapy across the continent where gaps in access to treatment exist. It also means the cost-effectiveness of radiotherapy against other treatment modalities, such as surgery and chemotherapy.

Varian also supports the ESTRO Foundation, which encourages sharing best clinical practices and increasing awareness of the curative nature of radiotherapy. The Foundation is also an active member of trade organizations such as COCIR – a European trade association that represents the radiological, electro-medical, and healthcare IT industries – and DITTA – which represents all major manufacturers of radiotherapy and diagnostic medical equipment.

“UICC is proud to count Varian as a leading and highly engaged vanguard partner of UICC since 2011. We share a commitment to raise the profile of radiotherapy on the global health agenda.”

Cary Adams, chief executive officer, UICC

Varian expects to spend $5.5 million on investigator-initiated research during its fiscal year 2016. This involves more than 120 active projects with about 65 institutions, about half of which are outside the U.S.
Educating CHINESE CANCER PATIENTS

The Chinese government sets aside a week each April for cancer awareness initiatives and Varian’s contribution this year was to produce and broadcast a film called Treating Lung Cancer Smartly. The 12-minute film was broadcast on state television’s Channel 10, which is watched by millions of people each day.

“In each year, the Ministry of Health encourages hospitals and anti-cancer groups to raise awareness of healthy living, and ways in which to prevent and treat cancer,” said Jian Zhao, Varian’s vice president of government affairs in China. “This year, we were happy to fund this educational program as a way of educating the public.”

The film focuses on the advantages of modern radiotherapy techniques such as SABR (stereotactic body radiotherapy) in treating lung cancer in fewer fractions — or treatment sessions — than older techniques. The patient in the film received her entire treatment in just four treatment sessions.

“The patient’s treatment and recovery. The female patient, who was the first member of her family to opt for radiotherapy treatment after two of her brothers died of lung cancer, is cancer-free after her treatment.

In the film, a radiation oncologist from Beijing University Hospital — the first cancer center in China to install a Varian TrueBeam® medical linear accelerator — takes the viewer through a lung cancer patient’s treatment and recovery. The female patient, who was the first member of her family to opt for radiotherapy treatment after two of her brothers died of lung cancer, is cancer-free after her treatment.

“After the broadcast, the program was posted on WeChat, a popular communications application used by millions of Chinese people every day to read news and contact friends.”

Jian Zhao, vice president of government affairs in China, Varian Medical Systems
SECURING DATA in an Age of Breaches

Vast amounts of sensitive patient information reside today in the modern healthcare provider network, and these are increasingly targeted by “bad actors,” such as hackers and other criminals who exploit vulnerabilities in these networks. Consequently, cybersecurity has become a top priority for Varian and others in healthcare.

To combat the burgeoning data security threat, Varian convened a summit of IT leaders from more than a dozen customers to talk about cybersecurity in the oncology department. It became clear that closer vendor–provider collaboration was needed.

“Sadly, data security has become almost an oxymoron in the current environment,” said Ken Khouri, director of software support and managed services at Varian. “The world has changed and so has the magnitude of the threats. There is close to one reported breach of healthcare data every day somewhere in the world.”

Varian software products have historically been developed with a focus on quality and patient safety. The assumption was that these products functioned inside a secure IT perimeter set up at the institutional level, and that people accessing the information would be authorized users. “Today, that’s an assumption we can no longer make,” added Khouri.

To address this issue, Varian has launched an initiative to develop a long-term cybersecurity plan. An office of information security has been established, staffed by employees from Varian’s product engineering and information technology departments. “They are collaborating with cybersecurity experts and IT stakeholders from customer sites to identify risks and plan security enhancements,” said Khouri.

“Cybersecurity – like patient safety – is going to come down to an effective collaboration between vendors and healthcare providers. Varian takes this issue very seriously and we are now working with others to minimize the danger of data security breaches.”

Ken Khouri, director of software support and managed services, Varian Medical Systems

Today, Varian’s cybersecurity program is monitored at the highest levels within the company. A hallmark of the program is tight collaboration across all of Varian, its customers, and outside security experts. An example of this tight vendor–provider collaboration is a recent multi-week security assessment of its products by a customer’s own ethical hackers on site at Varian.

Varian has also created a cybersecurity interest group within the OncoPeer™ community, a new cloud-based resource for knowledge sharing among oncology professionals.
2015 ENVIRONMENTAL Highlights

Varian began tracking energy, air emissions, water use, and hazardous waste generation at a corporate level and started reporting the information to its Board in 1992. As the company has grown more than fivefold since 1999, data is normalized using per dollar sales to appropriately measure improvement over time.

Climate Change Information Request

This is Varian’s sixth year of submitting information to the Carbon Disclosure Project’s climate change program, and second year of reporting to the CDP’s water program. CDP is an international, not-for-profit organization providing a global system for companies to measure, disclose, manage, and share environmental information on greenhouse gas (GHG) emissions, energy use, climate change, and water. CDP scores and ranks companies based on information disclosed in the two programs, assessing them on the quality of their disclosure and their achievements in improving performance relative to climate change and water. Varian’s CDP scores for the past five years can be accessed here: www.varian.com/about-varian/citizenship

Spearheading Environmental Packaging at Varian

Albert Elboudwarej spent 12 years teaching environmental packing practices at university level. Hired in 2015 as a global packaging expert at Oncology Systems, he is now enjoying putting that expertise into practice at Varian manufacturing sites around the world.

“We are implementing world-class package design here at Varian, especially for new products,” said Elboudwarej, who has produced packaging guidelines for the company and is driving consistent implementation across the organization.

Some examples of environmental packaging practices being introduced at Varian are designing returnable packaging, reducing the weight of crates and boxes, using single resin plastics instead of polyurethane and more complex materials, replacing wooden crates and plywood panels with corrugated board, reducing the size of packaging across the board, and reducing product damage through better design.

As well as implementing changes at the Palo Alto headquarters, Elboudwarej is working closely with Oncology Systems’ production facilities in China, Germany, and Switzerland to replicate environmental packaging practices at those sites.

2015 Emissions Data

SCOPE 1 Emissions by Region in 2015

- Americas: 79%
- APAC: 8%
- EMEA: 13%

TOTAL: 26,723 tons CO₂e

SCOPE 2 (Market-based) Emissions by Region in 2015

- Americas: 57%
- APAC: 22%
- EMEA: 21%

TOTAL: 17,315 tons CO₂e

SCOPE 3 Emissions by Category in 2015

- Purchased Goods and Services: 44%
- Capital Goods: 26%
- Use of Sold Products: 24%
- Business Travel: 5%
- Other (FERA, DLA, Waste): 2%

TOTAL: 443,845 tons CO₂e

Total GHG Emissions by Scope in 2015

- Scope 1: 5%
- Scope 2 (market-based): 4%
- Scope 3: 91%

TOTAL: 487,883 tons CO₂e

1 Figures this year include United Arab Emirates and Saudi Arabia.
2 As defined by the Greenhouse Gas Protocol, Scope 2 (market-based) emissions include any contractual arrangements under which Varian procures power. In 2015, we include RECs purchased in the U.S. and residual mix factors for applicable sites in Europe to quantify Scope 2 (market-based) emissions.
## PROGRESS Against Key Environmental Goals

### Sustainable Goals
In our inaugural sustainability report we detailed some long-term goals to measure ourselves against annually. Here, we look at the progress we made in 2015.

<table>
<thead>
<tr>
<th>GOAL</th>
<th>2015 PROGRESS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Greenhouse gas emissions</strong></td>
<td>Achieved a 23% reduction (emissions per dollar sales) from 2010 baseline. 2015: 170,542 tons of CO₂e.¹</td>
</tr>
<tr>
<td><strong>Electricity and natural gas</strong></td>
<td>Achieved a 10% reduction (kWh per dollar sales) in electricity use and 36% reduction (MMBtu per dollar sales) in natural gas use from 2010 baseline. 2015 electricity: 59,957 MWh. 2015 natural gas: 19,236 MWh.</td>
</tr>
<tr>
<td><strong>Water use</strong></td>
<td>Achieved a 6% reduction in water use (gallons per dollar sales) from 2010 baseline. 2015: 46,293,795 gallons.</td>
</tr>
<tr>
<td><strong>Solid waste</strong></td>
<td>Diverted 66% of solid waste from landfill disposal.²</td>
</tr>
<tr>
<td><strong>Hazardous waste</strong></td>
<td>Achieved a 56% decrease in hazardous waste generated per dollar sales since 2010 baseline.</td>
</tr>
<tr>
<td><strong>Landfill</strong></td>
<td>Achieve zero landfill of hazardous waste. 100% recycling, reclamation, and re-use. 49% of hazardous waste generated was sent off site for recycling/reclamation/treatment or secondary re-use/recovery. 11% of hazardous waste – mainly construction waste that cannot be recycled or reused – was sent to landfill.</td>
</tr>
</tbody>
</table>

¹ Scope 1, 2 (market-based), and 3 (business travel and use of sold products) emissions are included in the goal.

² This falls short of our previously stated goal to achieve an 80% diversion rate by 2015. The 2015 goal was not achieved due primarily to poor data quality and the difficulty in accurately converting volumetric solid waste quantities into mass quantities. Varian is committed to achieving this goal and has extended the target to 2020.
Imaging Components is Varian’s most people-intensive manufacturing operation. More than 900 men and women work at the Salt Lake City facility, each year producing some 22,000 X-ray tubes and 12,000 digital flat panels for the world’s X-ray equipment manufacturers. This year, Varian announced plans to spin off the Imaging Components group as a separate company to be called Varex Imaging.

Salt Lake City has always been a standard bearer for sustainability within Varian and this ethos will endure as a separate entity. Each year, facilities manager Jordan Larson reports on outstanding achievements in the areas of energy and water usage, waste reduction and recycling, product reuse and recycling, greening of the supply chain, and employee and community involvement.

“This business has been committed to sustainable practices for many years and that commitment will remain as we move into the future as an independent imaging solutions company from January 2017. It’s the right thing to do and the smart way to operate.”

Sunny Sanyal, president of Varian Imaging Components and soon-to-be CEO of the spun-off business

Among the initiatives started at the facility in 2015 are:

- Gold LEED status for the new 140,000 square foot factory expansion
- Adding 10 electric car charging points to meet a high level of interest in electric cars among employees
- The creation of an on-site fruit tree orchard and a new employee garden
- A pulper for food waste composting
- A secure storage facility for employees’ bicycles
- On-site solar generation
- 600,000 kWh electricity savings project
- 77% landfill diversion rate
- Introducing sustainability initiatives at other Varian Imaging Components facilities in Charleston, South Carolina; Liverpool, New York; and Wuxi, near Shanghai in China

“Sustainability is no longer an idea relegated to the environmentalists, and as good corporate citizens we should be considering the impact of all aspects of our business. Good sustainability policies not only make good environmental practices, they also make sound financial sense.”

Sunny Sanyal, president of Varian Imaging Components and soon-to-be CEO of the spun-off business
Welcoming VAREX IMAGING

Earlier this year, Varian announced its intention to separate the Imaging Components business from the core company. If all goes to plan, Varex Imaging will be an independent, publicly traded company from January 2nd.

Varian Imaging Components has always had a tremendous commitment to corporate social responsibility and sustainability and, as is shown on the previous page, this will remain the case when Varex Imaging is an independent business.

Although not all details of the separation have been defined yet, what we can say about the new company is that:

- The CEO will be Sunny Sanyal, who currently heads Varian Imaging Components, and the chief finance officer will be Clarence Verhoef, who is currently Varian’s corporate controller
- Varex Imaging will have annual revenues of close to $600 million
- It will employ about 1,300 globally

- Headquartered in Salt Lake City, it will have manufacturing in the U.S., China, Philippines, the Netherlands, and Germany
- Sales and service operations will be in over 20 countries
- It will serve hundreds of imaging equipment manufacturers around the world in the medical diagnostic, industrial, and security markets

Each year, the business manufactures approximately:

- 22,000 X-ray tubes
- 12,000 digital flat panels
- 100,000 connectors
- 1,100 km of cable
- 10,000+ workstations

More information on the separation of Varex Imaging will be made available throughout the rest of 2016.

Sunny Sanyal, who will be the CEO of Varex Imaging

With 70 years of X-ray innovation, Varex Imaging will hold more than 200 patents.
Injury and Illness Rates Reduced Year on Year

Varian’s commitment to employee health and safety yielded some of the lowest injury and illness rates in the company’s history for the second year running.

In calendar year 2015, the company achieved an OSHA (Occupational Safety and Health Administration) recordable rate of 0.65 and a DART (days away, restricted, or transferred) rate of 0.34, lower than in 2015 for both categories.

The OSHA recordable rate details the number of employees per 100 who had a work-related injury or illness that required medical treatment beyond simple first aid, while the DART rate is the number of employees per 100 who had a work-related injury or illness that resulted in the employee missing time at work, being restricted from doing their normal work, or being transferred to a job with lower physical requirements.

“These results are better than last year’s results and are some of the lowest in our history.”

Jim Weber, health and safety manager, Varian Medical Systems

In 2015, injury and illness rate goals were assigned to each business unit and the major geographical regions, and progress against goals was monitored and fed back to senior management on a regular basis.

“We increased the reporting of results to Varian’s senior leadership so they are more aware of performance and activities, which has led to more communication to all employees and greater attention on potential problem areas,” added Weber.

Two specific health and safety initiatives undertaken in 2015 were to place greater emphasis on ongoing electrical safety training for field employees, and an effort across all business units in the U.S. to comply with requirements driven by OSHA’s updated Hazard Communication Standard. This latter exercise involved updating some 2,000 safety data sheets.

2015 Injury and Illness Rates

Occupational Safety and Health Administration (OSHA) Recordable Rate

Days Away, Restricted, or Transferred (DART) Rate
Mike Ryberg, vice president of global supply chain for Oncology Systems, provides more details on this initiative.

What is being expected of Varian’s suppliers?
At Oncology Systems, we are introducing a Master Supply Agreement template that will be used with our Level 1 suppliers, of which there are about 140 around the world. These suppliers are identified by the components, technology, and capabilities they provide Varian. This Master Supply Agreement includes a link to Varian’s website, where we specify our requirements in a host of areas. So by signing the agreement, our suppliers accept responsibility to comply with those requirements. This link will also be included in our general terms and conditions for all Oncology Systems suppliers — about 1,000 in total — by the end of the year. It also specifies what we expect of subcontractors, distributors, and resellers.

What sort of requirements are specified on the website?
The link at www.varian.com/about-varian/legal-information/flowdowns covers issues such as conflict minerals, human trafficking, and the prohibition of corrupt acts. It states our position on these areas and reinforces what we expect from suppliers. Varian’s supplier code of conduct is based on industry standard requirements determined by the Electronics Industry Citizens Coalition.

Will these rules for Oncology Systems suppliers apply to the whole company?
Although my main remit is Oncology Systems, I also chair a Supply Chain Leadership Council that covers the whole of Varian. Varian’s environmental affairs team recently presented to the Council on areas such as carbon emissions, human trafficking, and conflict minerals, and we are making ESG matters an absolute priority this year. The Council is undertaking a company-wide survey of all our suppliers to better understand where they stand in these areas. We will also be holding educational events with our suppliers to make it clear what we expect.

Why do you consider this of such importance?
As head of the supply chain, I take such matters very seriously. Requirements are changing for companies as we speak and it is vital to have a mechanism for flowing these changes through to the supply chain and keeping them informed of what we expect. Our suppliers are a reflection of Varian and we expect them to behave as we behave.

Q&A
Supplier Code of Conduct
Varian’s global operations place great emphasis on working with suppliers who follow good manufacturing practice and have an established quality system in place. To augment this relationship and focus more on ESG (environmental, social, and governance) issues, a supplier code of conduct is being introduced this year by Mike Ryberg, VP of global, who here answers our questions on this topic.

China Initiatives
Varian Beijing has a risk-based approach to evaluating suppliers and a procedure to ensure consistency. A dedicated team manages quality and efficiency issues with suppliers and this team is proportionally larger than at other global Varian facilities.

“We have worked hard to reinforce messages about ethical compliance with suppliers,” said manufacturing director Andy Partridge. “For the past two years, we have given suppliers a factory tour, a product demonstration, and a comprehensive compliance training session by our legal team.” This year’s supplier event took place at Varian’s Beijing facility in May.

Also, Varian’s Beijing facility this year passed the rigorous compliance audit to secure accreditation to the international environmental standard ISO14001. “This is a great achievement and is a measure of our commitment to protecting the environment and following our value of doing well by doing the right thing,” said Xiao Zhang, head of Varian’s business in China. “ISO14001 provides the company with assurance that we meet, and will continue to meet, our environmental management system commitments and corporate policy requirements.”
Reducing Travel via THE GRID

With about 7,500 linear accelerators installed globally, Varian has more than double the number of machines in the field than any other radiotherapy treatment equipment manufacturer. Servicing such a large installed base has meant the growth of a large installation and upgrade team who visit customer sites on a regular basis, providing a vital service but adding to the company’s carbon footprint. However, a program introduced in 2014 is enabling an increasing number of software installations and upgrades to be carried out long distance. This program is called Global Remote Installation Department (GRID).

“Since we introduced this program, more than 40% of 1,000 software upgrades have been carried out using the GRID process.”

Brian Frederiksen, senior manager of Oncology Information System (OIS) installs for EMEA, Varian Medical Systems

In truth, a process rather than a department, GRID has proven to be an effective way of cutting engineer travel, reducing carbon footprint, and saving money and resources. Introduced in January 2014 and coordinated from Varian’s EMEA headquarters in Switzerland, the program enables a shift from all upgrades being carried out on site to a model where server-based upgrades are done remotely via the SmartConnect system, thereby saving one engineer from having to travel to site.

“This means we have saved more than 866 flights and hotel stays.” The average cost saving per project using the GRID process is about $4,000, which means Varian has saved $1.7 million in the period since its introduction. “Looking forward, with an average of 700 projects per year worldwide where 75% would be using the GRID process, we expect a saving of $2.1 million per year compared with the period before the GRID process was introduced,” added Frederiksen.

He said they are hoping to achieve an even higher GRID utilization than 75% in the future. But the current landscape prevents SmartConnect access to the complete installed base and the SmartConnect remote monitoring service is a prerequisite for GRID to be implemented.

$1.7 MILLION SAVED

The GRID process has an average cost saving per project of $4,000, meaning Varian has saved $1.7 million since 2014.
Broadening Perspectives Through Diversity

Varian Medical Systems benefits from having an unusually high number of female executives and Board members. At those levels of our organization, we are best in class. Lower in the organization – particularly in our Engineering and Field Service Operations – like other Silicon Valley companies, we have a higher percentage of male employees. Recognizing that a richly diverse workforce serves all employees and improves company performance on many dimensions, the company has put programs in place that are aimed at increasing diversity and inclusion at all levels of the company.

Gender diversity has been a key area of focus, but the company also works to promote a culture that embraces differences of all kinds. Here, with the help of Varian’s senior vice president of human resources Wendy Scott, we take a closer look at what Varian has been doing.

“In order to focus on actions that will have real impact in increasing diversity, we have run more than 36 focus groups globally to engage employees in this dialog and analyzed hiring, sourcing, engagement, exit interview, and other data,” said Scott. While internal research continues, programs are evolving.

Varian is in its second year of running a leadership development program aimed at preparing high-performing, high-potential women for more senior leadership roles. “By the end of this fiscal year, 28 women in the Americas and Europe will have completed this six-month program, which combines professionally facilitated peer coaching circles, leadership tools to equip participants to handle tough leadership challenges, and individual coaching,” said Scott.

A particularly promising source of increasing diversity is the summer intern program, which in 2016 included a group that was 42% female and 54% ethnically diverse. “We’ve enhanced our intern program, with various outreach efforts on local college campuses, and have goals to increase conversions from interns to full-time employees upon college graduation,” added Scott.

Other initiatives include the sponsorship of employee attendance at conferences, funded college scholarships, and sponsored programs that encourage young women to go into STEM (science, technology, engineering and mathematics) careers. Varian is also piloting new research-based ideas for mitigating biases in people processes, and working with recruiters and managers on outreach, interviewing, and selection to improve diverse hiring.

Hiring rates for women are up this year. With its current and planned initiatives, Varian also intends to improve retention and advancement of ethnically diverse and female employees, while it continues to offer compelling opportunities for all employees.
Rising to the CHALLENGE

Varian employees in the UK this year completed the Snowdon Challenge, a grueling 12-hour endurance/fitness event, high up in the Welsh mountains, to raise funds for charity. Twenty employees and family members embarked upon a strenuous challenge to cycle, climb, and kayak up, down, and across Mount Snowdon in the space of 12 hours. The challenge raised more than £3,200.

“Overall, this was a great challenge for everyone involved,” said program manager Bruce Pearman, who took part in the event with his son. “Snowdonia is a really beautiful part of the UK, and so with the sun shining, three challenges to complete, and a team that came together from across the UK, it turned into a fun event to remember.”

In the weeks leading up to the Snowdon Challenge, 12 teams took part in the ProBeam® Challenge to complete at least the distance between the two first UK ProBeam® sites in London and Manchester. Variously made up of walkers, runners, cyclists, and swimmers, every kilometer completed through cardiovascular activity was tracked and logged. The participants clocked up a total distance in excess of 16,500 km. With no more than six people in each team, and many of them walkers, the level of activity far exceeded anything anticipated.

Everyone who entered the ProBeam® Challenge made a donation to Varian UK’s charity of the year, Canine Partners, and this, combined with the monies raised by the Snowdon Challenge, helped ensure that the Varian-sponsored puppy, Digby, could continue his training to become an assistance dog.
**VARIAN VOLUNTEERS**

**Volunteering in Tanzania**

John Kuo, Varian’s general counsel and corporate secretary, took his 17-year-old son Brennan to Africa for a month of volunteering. They travelled to the remote village of Dareda Kati in Tanzania and worked on two construction projects: building teachers’ quarters for the village school and constructing a suspension footbridge over a creek that divided the village.

“The creek floods every rainy season, washing out the makeshift wooden foot bridge and therefore cutting off access to the school for half the village,” said Kuo. “While there, we excavated the footings for the bridge support and poured the concrete footings. The Peace Corp and villagers were going to finish the bridge after we left.”

“As for the teachers’ quarters, a previous project team had laid the foundation and we came in to start putting up the brick walls, and the brick is made locally out of mud and grass. So by the time we left, the walls were up and the villagers were going to put up the roof.

“My son invited me along and I was able to take about a month off work and members of the legal team stepped in to cover for me while I was gone for that length of time.”

The trip was organized by Karimu International and included around 20 high school and college students as well as about ten adults, including a doctor, two teachers, a retired computer engineer, and a photographer.

**Building Houses in Mexico**

Oncology Systems hardware engineering senior manager Dave Jensen volunteered to help build houses in Tecate, Mexico, earlier this year as part of his son’s high school service project.

“We in technology and other industries too often lose sight of the many opportunities to serve in our communities and abroad,” said Jensen, 55, who is based at Varian’s Palo Alto headquarters. “Giving our time, energy, and resources is a great way to stay grounded and to come back to the job renewed, refreshed, and with a new outlook on our day-to-day activities.”

This was Jensen’s tenth trip to Tecate with The King’s Academy (TKA) high school to build houses. As a site leader, he worked with adult and student leaders toward the goal of completing the construction of a house. He said, “Basically, I get out of the way and let the team do the work.”

As a result of this service project, the group from TKA built 14 houses, added a classroom to a school, and remodeled a church. “In the more than 20 years that TKA has been serving in Tecate, more than 300 houses have been built,” Jensen reported. “It is truly amazing what can be accomplished together when we are inspired by a common vision.”

He encourages his fellow colleagues to volunteer. “Take some time out of your busy lives and focus your energies in a different direction. It’s good for you, and it’s good for others,” he said.
At Varian, we believe leadership and ethics start at the top, and our commitment to corporate governance and accountability to stockholders is embodied in all our corporate governance policies.

**Leadership and Governance**

The Board is the highest governance body within Varian. It has overall responsibility for setting purpose, values, and strategy, for risk management and for economic, environmental, and social performance. The graphic opposite summarizes the governance structure and highlights key accountabilities with regard to sustainability and corporate citizenship.

**Corporate Citizenship Committee Charter**

The Corporate Citizenship Committee manages Varian’s sustainability efforts and has established the company’s sustainability strategy and targets. The committee is also responsible for communicating our sustainability priorities, including our position on climate change, to our stakeholders in order to continually integrate sustainability and climate change management into our business model. In addition, it is responsible for gathering performance data, setting priorities, and assessing emerging sustainability trends and their relevance to Varian Medical Systems.

**Risk Management**

Like all companies, Varian is subject to various business risks and uncertainties. We are also subject to economic, political, and other factors inherent in doing business globally. All key risks are detailed in our annual report together with mitigation and controls that form part of our risk management program.

Further details, including Board composition and competencies, Board and committee structure, management stock holdings, Corporate Governance Guidelines, and Code of Conduct can be found within the Investor Relations Room at www.varian.com/investor

* CFO Elisha Finney staffs the Audit Committee and sits on the CCC, offering consistency and accountability for the sustainability program.
About Our Reporting
The Global Reporting Initiative (GRI) is a not-for-profit organization that provides a comprehensive reporting framework that enables all companies and organizations to disclose their sustainability performance.

This report contains content that references the GRI’s G4 guidelines, reporting against self-selected indicators based on material aspects.

The Varian GRI G4 Content Index can be downloaded from our website at www.varian.com

This Sustainability Report is intended for anyone interested in learning about Varian operations.

1 Results may vary. Please see Varian.com for side effect and product information.
2 RapidPlan knowledge-based planning and its models are not intended to replace clinical decisions, provide medical advice or endorse any particular radiation plan or treatment procedure. The patient’s medical professionals are solely responsible for and must rely on their professional clinical judgment when deciding how to plan and provide radiation therapy.

Except for historical information, this Sustainability Report contains “forward-looking” statements within the meaning of the Private Securities Litigation Reform Act of 1995. Statements concerning industry outlook, including growth drivers and opportunities in our Oncology Systems, X-ray Products, Security and Inspections Products, and Varian Particle Therapy businesses; future financial or business results or developments; and any statements using the terms “can,” “expect,” “improve,” “could,” “may,” “would,” “will,” “believe,” “hope,” “future,” “pilot,” “intend,” “vision,” “goal,” “potential,” “continue,” “opportunities,” or similar statements are forward-looking statements that involve risks and uncertainties that could cause our actual results to differ materially from those anticipated. Such risks and uncertainties include the risks described in this document and in the company’s annual report on Form 10-K for the year ended September 30, 2015, and the other risks listed from time to time in the company’s filings with the Securities and Exchange Commission, which by this reference are incorporated herein. We assume no obligation to update or revise any forward-looking statements because of new information, future events, or otherwise.