



# CORPORATE SOCIAL RESPONSIBILITY

# Environment & Operations

**IPG fiber lasers use a fraction of the electricity as other lasers, helping our customers reduce their carbon footprint**

**IPG is committed to reducing our energy consumption and driving reductions in our greenhouse gas emissions**

**We are also focused on advancing a global strategy for energy efficiency across our enterprise to not only drive cost reductions and lighten our environmental footprint but also support our customers' sustainability goals**



# Our Environment and Operations

**Our fiber lasers use a fraction of the electricity as other lasers**

**Incandescent = Nd:YAG Laser**



**2% Wall-Plug Efficiency**

Lamp-pumped Nd:YAG laser wall-plug efficiency is **AROUND 2%** which is equivalent to a traditional filament bulb.

The other 98% of input energy is **MOSTLY LOST AS HEAT**. In a laser setting, this means that more electricity is needed to get the required output power, necessitating powerful chillers to dissipate the significant heat which is effectively lost energy.

**Fluorescent = CO<sub>2</sub> Laser**



**7% to 8% Wall-Plug Efficiency**

Although CO<sub>2</sub> lasers are 3-5 times more efficient than lamp-pumped Nd:YAG lasers, **MORE THAN 90% OF INPUT ENERGY IS LOST**, mostly as heat, which can be likened to a compact fluorescent lamp (CFL). Including the chiller, a 6 kilowatt CO<sub>2</sub> laser requires 85-100 kilowatts of input power to run.

**LED = IPG Fiber Laser**



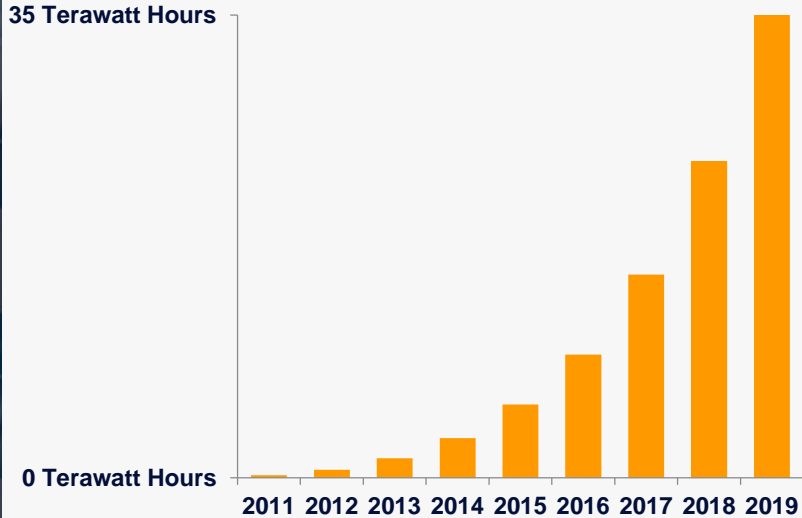
**45% to 50% Wall-Plug Efficiency**

IPG fiber lasers have power **EFFICIENCY OF 45% TO MORE THAN 50%**, dramatically reducing input power requirements compared to competing fiber lasers and other laser solutions. The high surface area to volume ratio of optical fiber, combined with IPG's proprietary architecture and components, significantly reduces heat output and corresponding laser cooling costs.

# Our Environment and Operations

The higher electrical efficiency of IPG products lowers CO<sub>2</sub> emissions helping customers to reduce their carbon footprint

Cumulative Electricity Savings from IPG Fiber Lasers Sold Since 2011



- Electricity savings calculation based on IPG total megawatts of power sold, and assumes IPG fiber lasers are replacing lamp-pumped and diode-pumped Nd:YAG, CO<sub>2</sub>, and disk lasers
- According to the World Bank, ~2/3rds of world energy is produced from oil, gas and coal
- According to the US Energy Information Administration, typical oil, gas and coal power plants produce ~1.9, ~0.9 and ~2.2 pounds of CO<sub>2</sub> for every kilowatt hour of electricity



**40 BILLION**

POUNDS LESS GLOBAL CO<sub>2</sub> EMISSION WHEN OPERATING IPG LASERS COMPARED TO OTHERS (2011-2018)



**24 TERAWATT HOURS**  
OF ELECTRICITY SAVINGS SINCE 2011



**40 BILLION POUNDS CO<sub>2</sub>**  
Approximates the annual output of nine 500 megawatt coal-fired electric plants



# Our Environment and Operations

## IPG is committed to lowering resource usage to lessen its environmental impact

- We track our effect on the environment in a number of operational areas, using this data to work toward continual improvement
- IPG prioritizes energy efficiency, emission reduction and resource conservation
- Since 2015 IPG revenue increased 46% with even larger growth in production; however, resource usage and related CO<sub>2</sub> emissions have both declined over this period
- IPG operations are compliant with the Restriction of Hazardous Substances (RoHS) and Waste Electrical and Electronic Equipment (WEEE) Directives and the Toxic Substances Control Act (TSCA)
- None of our major production facilities are located in regions with high or extremely high water risk per the World Resources Institute's (WRI) Water Risk Atlas

**We install variable-frequency drives that vary the output of HVAC fans, one of the largest uses of energy in our facilities, by adjusting electricity output to the needs of the motor**

- Variable-frequency drives enable us to save electricity equivalent to 357 American households each year

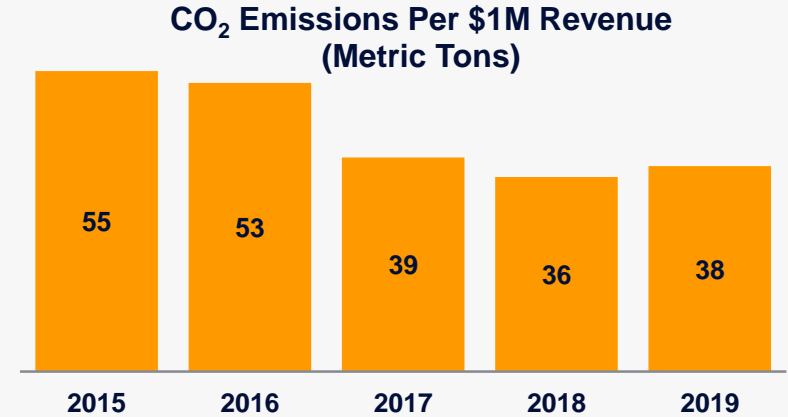
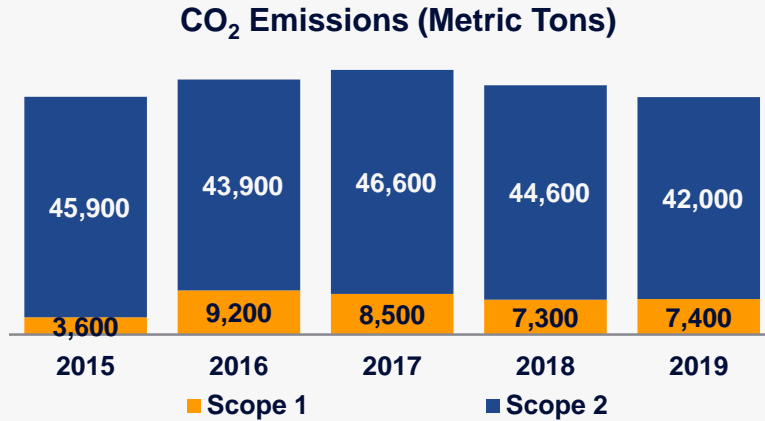
**We apply our latest energy-savings practices to new facilities, including:**

- Building plants that consume energy at levels that exceed current energy code requirements
- Using LED light fixtures, reducing electricity reducing electricity use by 75% compared to incandescent bulbs
- Utilizing the most water conserving plumbing fixtures available

- **Coatings for our printed circuit boards are not carcinogenic and are RoHS compliant.**
- **Solvent vapor degreasers have been installed to reduce risk of irritation from inhalation.**

# Our Environment and Operations

## Reduction in CO<sub>2</sub> emissions related to production facilities since 2016



Scope 1 CO<sub>2</sub> emissions for US production facilities

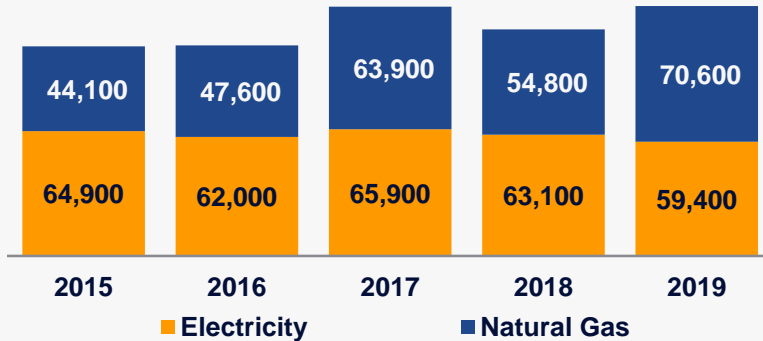
Scope 2 CO<sub>2</sub> emissions for US and Germany production facilities based on electricity usage using standard US EPA emission factor

GRI disclosures 305-1, 305-2, 305-4, 305-5

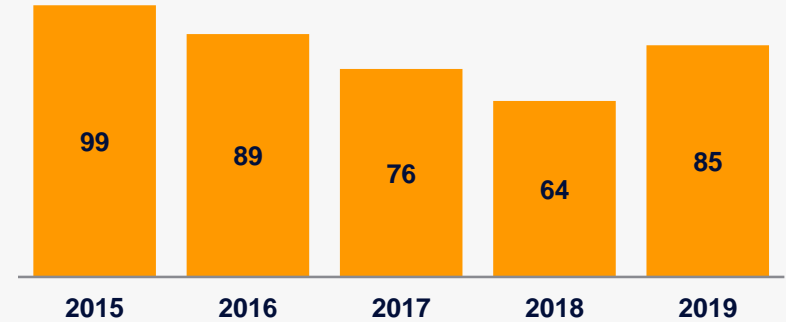
# Our Environment and Operations

**Lowering energy consumption in our production facilities  
IPG prioritizes emission reduction and energy efficiency**

Energy Usage (Megawatt Hours)



Energy Usage Per \$1M Revenue (Megawatt Hours)



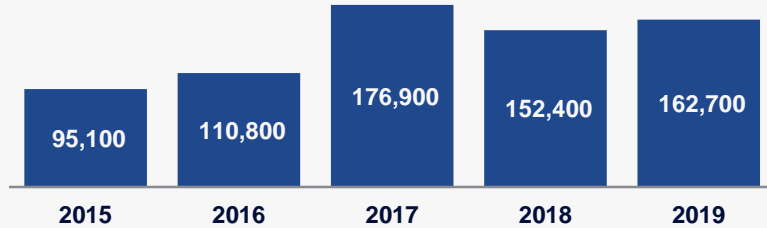
US and German operations  
2019 data includes full year of Genesis Systems Group, which was acquired in December 2018

GRI disclosures 302-1, 302-3, 302-4

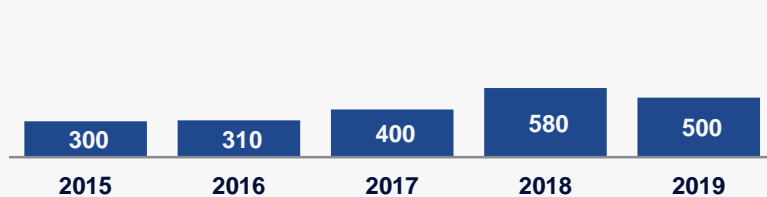
# Our Environment and Operations

**IPG is focused on responsibly managing water consumption and waste water discharge**

Water Usage (Cubic Meters)



Waste Water (Cubic Meters)



Water and Waste Water Per \$1M Revenue (Cubic Meters)



US and German operations

2019 data includes full year of Genesis Systems Group, which was acquired in December 2018

Waste water less than 1% of total water usage in 2017-19

GRI disclosures 303-1, 303-3, 303-4, 303-5



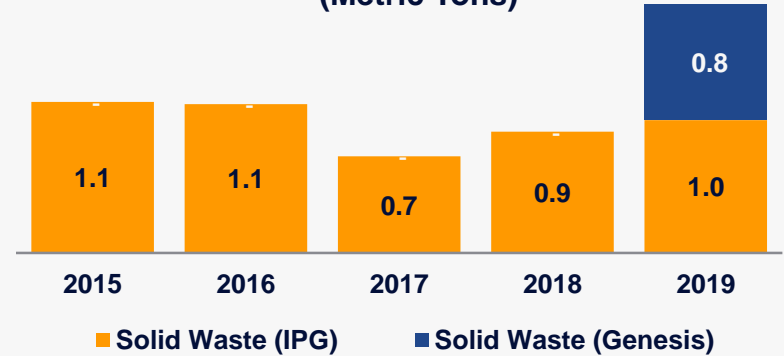
# Our Environment and Operations

**IPG is committed to reducing solid waste across all production facilities**

### Waste Generated (Metric Tons)



### Waste Generated Per \$1M Revenue (Metric Tons)



US and German operations  
Recycled waste for US operations  
2019 data includes full year of Genesis Systems Group, which was acquired in December 2018. Genesis produces large format welding systems.

GRI disclosures 306-2

# Our People

## Empowering our employees to build rewarding careers in a safe and welcoming workplace

### DIVERSITY & INCLUSION

We champion diversity and focus on attracting and retaining talent from varied backgrounds and experiences

- Currently 40% of our global leadership workforce consists of women and minorities in key management roles
- We actively recruit women and minorities into valued positions in IPG while investing in professional and academic programs that develop and empower their growth

### ETHICS & COMPLIANCE

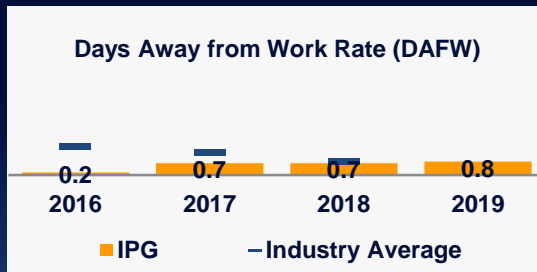
IPG is committed to conducting business with integrity and complying with all laws and regulations for the locations where we operate

- In all interactions, we are accountable to our employees, customers, suppliers and other key stakeholders
- To help ensure compliance, IPG provides ongoing employee training and methods for confidentially reporting violations



# Safety in the Workplace

**Manufacturing employees undergo comprehensive safety training to help reduce workplace accidents, contributing to our low incident rates**



Data includes Massachusetts facilities; TRIR = Recordable cases x 200,000 / total hours worked by all employees; DAFW = Lost time cases x 200,000 / total hours worked by all employees  
Industry average represents Bureau of Labor Statistics data for NAICS 33599 (Miscellaneous Electrical Equipment and Component Manufacturing) all sizes

GRI disclosures 403-2, 403-4, 403-5, 403-98u



# Our Communities

## Supporting local non-profit organizations in the communities where we operate

IPG charitable contributions target education, community welfare, civic and social service programs, disaster and humanitarian relief and arts and culture through in-kind, corporate and personal giving. Over the last two years, IPG and our employees donated ~\$1 million to various charitable and academic organizations.

Examples include: American Cancer Society; March of Dimes; American Red Cross; Boys & Girls Club; and local community food banks. In Germany, we support four local kindergartens and a hospice for children and young adults.

# Our Communities



IPG also provides funding for lecturers, achievement awards and travel grants with the goal of fostering future research in the laser industry:

- IPG co-founded the Siegman International School on Lasers, created by the Optical Society of America, to expand access to laser education
- The company funded an endowed professorship for Optics at the Technische Hochschule Mittelhessen in Wetzlar
- IPG sponsors the Society of Women Engineers, promoting the advancement of women in the engineering field and funded the Thomas F. Deutsch Fellowship in Biomedical Optics, whose first recipient was female
- IPG sponsors masters and Ph.D. degree physicists at Imperial College London and is involved in Project Photon, a laser use training program for local teachers
- In Russia, IPG supports students of the Institute of Radio-Engineering

Our people actively volunteer for causes that create positive impacts around the world. IPG leadership encourages employees to participate in volunteer initiatives that foster teamwork and engage with their local communities.

# Our Governance and Ethics

Strong corporate governance is an important part of our corporate culture, contributing to informed and effective decision-making and appropriate risk monitoring

## Excellence on our Board of Directors

- ▶ 70% of our Board members are independent
- ▶ Presiding independent director
- ▶ Majority voting standard for uncontested elections
- ▶ Half of Audit Committee members are “financial experts”
- ▶ Directors have a mix of skills and experiences providing leadership to advance strategies and deliver returns

## Long-Term Stockholder Alignment

- ▶ Majority of executive compensation performance-based
- ▶ Robust clawback
- ▶ Robust stock ownership guidelines
- ▶ Prohibition on hedging and limits on pledging
- ▶ Approximately 79% of independent director compensation was at risk, based upon stock price performance

## Progressive Stockholder Rights

- ▶ Proxy access rights allowing up to 20 stockholders owning at least 3% of shares continuously for three years to nominate up to 20% of the Board
- ▶ Majority voting with director resignation policy
- ▶ Single class of shares so all stockholders have an equal vote
- ▶ Annual director elections, not staggered board

## Principled Processes

- ▶ Board oversees material risks
- ▶ Annual Board self-assessments
- ▶ Independent directors meet in executive sessions
- ▶ Board regularly considers refreshment and succession planning to ensure boardroom skills are aligned with IPG’s long-term strategy



# Our Governance and Ethics

## Commitment to Ethical Supply Chain

We employ high ethical standards to better manage social and environmental risks, while supporting our sustainable business growth and our customers' responsible sourcing goals

### Superior Suppliers

- ▶ We look for vendors with a proven track record, superior products and services on a performance and cost basis
- ▶ We seek suppliers who are ISO 9001:2015 certified, provide effective technical support and service, can react to our requests on scheduling and production and who continuously strive to optimize their performance

### Supply Chain Human Rights

- ▶ Suppliers adhere to global principles of human rights that include freedom of association, right to organize, abolition of forced labor, elimination of child labor, equality and antidiscrimination rights and provision of legally mandated employee benefits
- ▶ IPG expectations and requirements in Anti-Human Trafficking Policy

### Supplier Code of Conduct

- ▶ Suppliers commit to high standards in the areas of ethics, business integrity, human rights, protection of information, health and safety and environmental management
- ▶ IPG expectations and requirements in IPG Supplier Code of Conduct

### Conflict Minerals

- ▶ IPG is committed to responsible sourcing of tin, tantalum, tungsten and gold ("3TG") used in its products and conducts annual due diligence of its suppliers
- ▶ IPG will not knowingly source any conflict minerals from sources that fund conflict
- ▶ If suppliers cannot demonstrate sufficient compliance with their due diligence and disclosure obligations, IPG will seek alternative sources for the 3TG metals



**THANK YOU**