

## SMART Workforce

### The UN IPCC GHG Guidelines (2019) and the Impact on the Semiconductor Industry; What are the Changes & Implications?



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#### Abstract

For the last 4 years, a team of 190 lead authors working for the United Nations' Intergovernmental Panel on Climate Change have been refining the 2006 Guidelines document for calculating Greenhouse Gas (GHG) emissions from all anthropogenic (i.e. human activity) sources, which has recently been published on the IPCC website. This presentation discusses the motivation for undertaking this work, compares and contrasts the 2006 and 2019 documents, and assesses the implications for the electronics and semiconductor industries, including additional gases that are now included, two new mechanisms for by-product PFC formation (including their magnitude), and the inclusion of PFC emissions from printed circuit board (PCB) waterproofing (the first time this has been considered).

#### Biography

**Dr./Mr./Ms.:** Professor

**Name:** Mike Czerniak

**Job Title:** Environmental Solutions Business Development Manager

**Dept.:** Marketing

**Company:** Edwards

**Education:**

1982 PhD Electrical Engineering, University of Manchester

**Experience:**

2016-now, Lead Author on UN IPCC 2019 GHG Guidelines

2016-now, Visiting Industrial Professor, University of Bristol

2014-now, Co-Chair SEMI E167 & 175 Energy-Saving standards

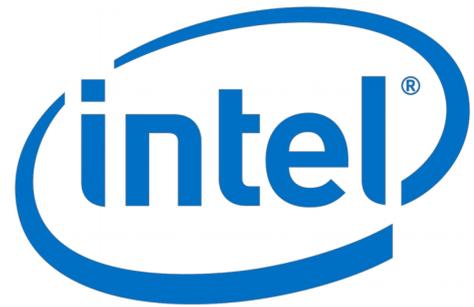
1995-now, Marketing & Business Developpt., Edwards

1982-1995, Semiconductor Manufacturing Technology: Philips, Cambridge Instruments, VSW, Vacuum Generators

## Semiconductor Manufacturing – Enabling the Data Revolution



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### Abstract

The world as we know it is changing at a rapid pace, in fact, the rate of change that we are experiencing in our modern world is exponentially greater than any previous time in history, and it's not letting up! Moore's Law (named after one of the Intel co-founders, Gordon Moore), has provided the opportunity to use technology for the greater good, to help augment and provide better lives for all on the planet. It has enabled a "data-rich" environment, the correct and responsible use of which will enable us to manage our daily tasks more easily, tackle very complex issues, and have fun experiences. This short talk will provide a brief insight into the semiconductor manufacturing industry, and how it has strived for many years to produce the underpinning technologies of our modern world, and how Intel expects to continue the data revolution with sustainable state-of-the-art semiconductor manufacturing.

### Biography

Bernie received a Masters Degree in Engineering (MEng) from Newcastle upon Tyne Polytechnic (with Distinction) and has been working at Intel for the past 22 years holding various Engineering and Management roles across the wafer fabrication facilities. Bernie is currently responsible for all silicon nanotechnology research involving Intel in Ireland, helping to identify potential future technology options to Intel in collaboration with Research Centres, Academia and Industry across Ireland and Europe.

In addition, Bernie owns the relationship development within Ireland's Third Level Education Institutions, helping to produce a highly educated talent pool in the region, progress Intel's research agenda, and help set policy direction for the good of both Academia and Industry. In February 2019, Bernie was announced as an Adjunct Professor within Ireland's first Technological University, TU Dublin.

Bernie's semiconductor career spans 32 years, with other Process and Equipment Engineering positions held at Telefunken GmbH (Ge), Nortel/Bell Northern Research (UK/Canada), Applied Materials (UK) and Newport Wafer Fab (UK).

## Clark Emily



E. Clark  
SSC Sales  
Applied Materials GmbH, Feldkirchen, Germany



## Biography

Emily Clark is the Service Sales Manager for central Europe at Applied Materials and based out of Munich. She joined Applied Materials in October 2018 and has recently received the award for “Best Performance by New Sales Person”. Previously, Emily lead European wide sales teams in the optics industry before moving to the semiconductor industry. She holds a Master’s degree in Engineering Physics from the Technical University Munich.

## Harrington Claire



C. Harrington  
VP - Global HR  
SPTS Technologies Ltd, A KLA Company, Newport,  
United Kingdom



### Biography

As Vice President of Global HR at SPTS Technologies Claire is responsible for all aspects of SPTS's global HR organisation and also oversees the Health and Safety team at the Newport headquarters. Claire joined SPTS in September 2012 as HR Director and promoted to her current role in February 2018. Prior to joining SPTS, Claire worked for a number of years in the food, steel manufacturing, and semiconductor industries. Claire has a wealth of experience in Human Resources and Training, and holds a degree in Psychology and an MSc in Human Resource Management.