

**TECHNOLOGY FORECASTERS INC.**

Strategic Supply Chain and Environmental Consulting



# Environmental Timeline for the Electronics Industry

[Technology Forecasters Inc.](#)

2010

# Electronics Industry Environmental Timeline

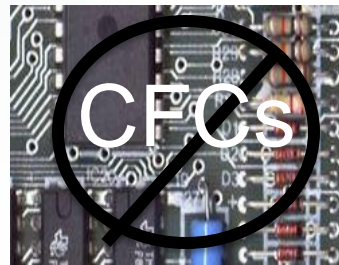
1970  
EPA: End of Pipe

Nixon  
Admin.



1991: Montreal  
Protocol

Clean solvent-free



1996:  
[ISO 14001](#)

Driven in US  
by EU  
corporate  
customers

Mid-1990s:

EU co's & regulators  
focus on *product* DfE\*

Japan advances

US large co's launch  
environ. strategies

2001

Cadmium  
Directive



The  
Netherlands

2002-3

Green Partner  
from Sony,  
Japan's  
unified goals

2005-6:

Major EU  
directive  
deadlines  
begin :  
WEEE,  
RoHS

2005-2007:

Global recycling  
and substance  
restrictions in Asia  
and North Amer.  
[EPEAT](#) required  
for US Gov't

2008-2009: →

Voluntary  
reporting ([CDP](#))  
and corporate  
sustainability  
programs popular



TFI ENVIRONMENT

# TFI's Electronics Industry Environmental Predictions

2010:

Wider reporting of carbon footprint

EU continues to lead with ErP Directive, RoHS Recast, REACH

Leaders use and generate renewable energy

Beyond-regulation recycling / reuse of products by some

2012:

Geographic alignment between mfg. and sales

Leasing model starts to pick up renewed popularity

Moderate use of alternative materials

Companies reclaim products for reuse.

Telecommuting: vast popularity

2014:

Renewable energy used and generated more widely

Dematerialization gone further (hardware is half the weight)

Wide adoption of electronic sensors and controls to reduce power and water consumption



# TFI's Electronics Industry Environmental Predictions

2016:

Abundant use of alternative materials

OEMs design products/services aimed at repairing environmental health

More companies flee from hardware, leveraging software on existing platforms

2018:

Consumer and corporate customers buy according to Lifecycle Analysis

Further hardware dematerialization (1/4 weight)

Substance restrictions escalate globally

2020:

Electronics industry subject to carbon fees in some regions--forcing further, creative reduction of resources for delivering desired functionality

Simplicity culture: streamlined and reclaimed materials that perform necessary functions

*When will the electronics industry be environmentally "sustainable"?*



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**We invite your perspectives!**

*TFI's [High-ROI Environmental Roadmap](#) keeps clients profitably ahead of the industry timeline*

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