

The Institute for the Study of Energy and Our Future and The Great Simplification podcast do not officially endorse any of the products or services linked below. They are merely a reflection of what is discussed in the episode.

00:00 -

- **Watch the new documentary [The Plastic Detox](#)** released on March 16, 2026 ([Trailer](#))
 - [The Plastic Detox Website](#)
 - [Unplastic Your Life](#)
 - **Documentary Toolkit:** [The Plastic Playbook](#)
- [Shanna Swan](#), [Action Science Initiative](#)
 - [TGS Ep #2 Sperm and Our Future](#)
- [Sian Sutherland](#), [A Plastic Planet](#), [Plastic Free](#), [Plastic Free Babies](#) (watch for campaign launch this May)
 - [TGS Ep #89 Innovating the Business of Plastics](#)
- Other Resources:
 - [Finding Plastic Free Alternatives](#)
 - [Yuka app](#)
 - [Removing plastics from your home](#)
 - [Fellow semen test](#), [Million Marker: Urine test](#) + [Approved products](#)

03:30 - [Sperm count decline around the world](#), [Casual relationship](#) to [endocrine disrupting chemicals](#)

03:55 - [Plastic-free supply chain](#)

04:30 - [Testosterone is decreasing \(more rapidly since 2000\)](#)

05:35 - [Non-human species are also experiencing infertility/hormonal issues](#)

06:00 - [Chemicals that affect hormones](#)

06:14 - [Wide Boundary News Playlist](#), [Wide-boundary perspective](#)

06:20 - [Antarctica's* only native insect has microplastics in its digestive system](#)

07:40 - [Declining fertility rates](#) (UN [World Fertility Report 2024](#)), [Human population overshoot](#)

08:13 - [Population pyramid](#), [Effects of an inverting population pyramid](#)

08:45 - [Increase in aging population](#) and its [economic implications \(see Japan\)](#)

09:50 - [Fertility rate](#), [Replacement rate](#)

10:35 - [Idiopathic infertility](#)

10:50 - [In vitro fertilization \(IVF\)](#)

12:16 - Urinary metabolites: [Bisphenols](#), [Phthalates](#), and [Parabens](#)

13:25 - [Million Marker](#) ([Urine test kit](#), [Approved products](#))

14:11 - [Cleaners and phthalates](#)

14:20 - [Microplastics in plastic food storage](#)

14:32 - [Plastic-free toothbrushes](#), [Plastic-free shower curtains](#)

15:10 - [Phthalates in cosmetics](#) ([Plasticizer](#))

15:27 - [Fragrance and phthalates](#)

15:45 - [Function of phthalates](#), [Function of plastics](#)

16:25 - [Petrochemical pyramid \(AI-generated\)](#)

17:22 - [Spermatogenesis in humans](#)

18:02 - [Fellow semen test](#), [Million Marker urine test](#)

18:40 - [At-home blood test](#), [Hormone blood tests](#)

19:35 - Other metabolites: [Pesticides](#), [PFAS](#) ([PFAS in blood estimation tool](#))

20:03 - [Reducing toxins increases sperm count](#)

20:20 - [Embryology](#), [Ovarian follicle development](#)

20:40 - [Germ cells](#), [Transgenerational effects of environmental exposures](#)

20:55 - [How a mother's \(and maternal grandmother's\) lifestyle can affect female child's eggs](#)

21:45 - [Sperm motility](#)

22:00 - Other TGS Podcasts on Plastics, Chemicals, and Endocrine Disruptors:

- [Reality Roundtable #15 The Plastic Crisis](#)
- [TGS Ep #154 with Jane Muncke: Global Plastics Treaty](#)
- [TGS Ep #104 with Jane Muncke: Plastic Packaging](#)
- [TGS Ep #186 with Wes Carter: Plastics and Supply Chain](#)
- [TGS Ep #99 with Jeremy Grantham: Pollution and Fertility](#)
- [TGS Ep #37 with Martin Scheringer: Health Impacts of PFAS](#)

23:33 - [Sperm count threshold for fertility](#).

24:20 - Importance of [male genitalia protection](#) and [fertility](#)

25:20 - [Occam's Razor](#)

25:57 - [Where PFAS can be found](#)

26:00 - [Clothing without PFAS](#)

26:15 - [Clothing](#) and [organic food's](#) role in fertility

26:45 - [Checking fertility/egg count as a female](#)

27:30 - [Hormone levels and reproduction in females](#)

28:35 - [The SHIM \(erectile dysfunction questionnaire\)](#)

29:50 - [Health effects of endocrine disrupting chemicals](#)

30:23 - [Obesogens](#) ([Endocrine disrupters as obeseogens](#))

30:50 - [PFAS affect antibody responses](#)

32:40 - [Carbon pulse](#), [A species out of context](#), [Economic Superorganism](#) ([with a metabolism](#))

36:30 - Documentary Toolkit: [The Plastic Playbook](#)

37:19 - [Organic food is more expensive than non-organic](#)

37:30 - [Certain demographics are more likely to be exposed to environmental toxins](#)

38:55 - [Global heating](#) and [burning fossil carbons](#)

39:01 - [Fossil fuels have replaced human labor at a tiny fraction of the cost](#)

39:25 - Importance of plastic in [healthcare](#) and [food storage](#)

40:32 - [Endocrine disrupting chemicals are everywhere](#)

40:53 - [100x* times more chemicals are outlawed in the EU than in the United States](#)

41:45 - [Possibly over 100,000 Food Contact Materials \(many of which are untested\)](#), [Recent Plastic Chemical Report](#), [Secret food chemicals](#)

42:25 - [Steroids' role in reproductive function](#)

42:43 - [PFAS and immune function](#)

43:40 - [Plastic-free coffee makers](#)

44:15 - [Heat and plastic \(plasticizers are not tightly bound\)](#)

45:07 - [A new chemical is registered every 1.4 minutes](#)

45:33 - [Jane Muncke](#)

45:45 - [Chemical inertness](#)
46:00 - [Medical grade silicone](#)
47:20 - [Plastic-free cookware](#), [Freezing in plastic](#)
48:15 - [Endocrine system](#)
49:00 - [Importance of gut health](#)
49:40 - [A Plastic Planet](#)
50:10 - [Policy around plastics](#)
50:35 - [95%* of plastic is lost to the economy](#)
51:26 - [Plastic Free Babies](#) (watch for campaign launch this May)
51:31 - Plastic Free successes: [World's first plastic-free aisle](#), [Lobbied governments on banning the export of plastic waste to non OECD countries](#), [plasticfree.com](#), [UN Plastics Treaty](#)
42:40 - [Ecological damage from plastic](#)
53:13 - [The importance of the first 1000 days of life](#)
53:35 - Babies are born "pre-polluted": Plastic in [placentas](#), [brains](#), [breastmilk](#), [blood](#)
53:55 - [Plastic in baby items](#)
55:55 - [In a 1-liter baby bottle of liquid, there are over 16 million microplastics](#)
56:02 - [Microplastics are vectors for chemicals](#)
58:35 - [The most vulnerable period in a person's life is the first three months after conception](#)
59:20 - [Phthalate syndrome and male genitalia development](#)
1:00:00 - [People who are infertile have shorter lifespans](#)
1:00:40 - Anogenital distance's relationship to [penis size](#) and [testicular cancer](#)
1:01:35 - [What affects penis size](#)
1:03:00 - [Global heating change controversy in the U.S.](#)
1:04:30 - [Fossil fuel companies lobbyist presence at plastics treaty negotiations](#)
1:05:10 - [The Lancet: Over \\$500B* in public health costs from plastics and chemicals in the U.S. and EU](#)
1:06:06 - [Alligator penises affected by the pesticide atrazine](#)
1:06:17 - [Number of endangered species is increasing \(but so is the number of assessed species\)](#)
1:06:30 - [Plastics are made from fossil fuel byproducts](#)
1:06:58 - [Jeremy Grantham](#) (TGS Ep [#155](#) & [#99](#)), [His foundation](#)
1:07:35 - [All the products that come from one barrel of oil \(Frankly #37\)](#), [Infographic: Products that come from oil and natural gas](#)
1:08:40 - [Banana peel shoe soles](#), Seaweed [products](#) and [packaging](#), [Shrimp waste products](#)
1:09:15 - [Lernaeal Hydra](#)
1:09:27 - [Biodiversity loss](#)
1:11:38 - The [Metacrisis/Polycrisis](#)
1:11:50 - [Deceit of the recycling industry](#)
1:13:20 - [Fertility treatment rates of usage](#)