



FIVE

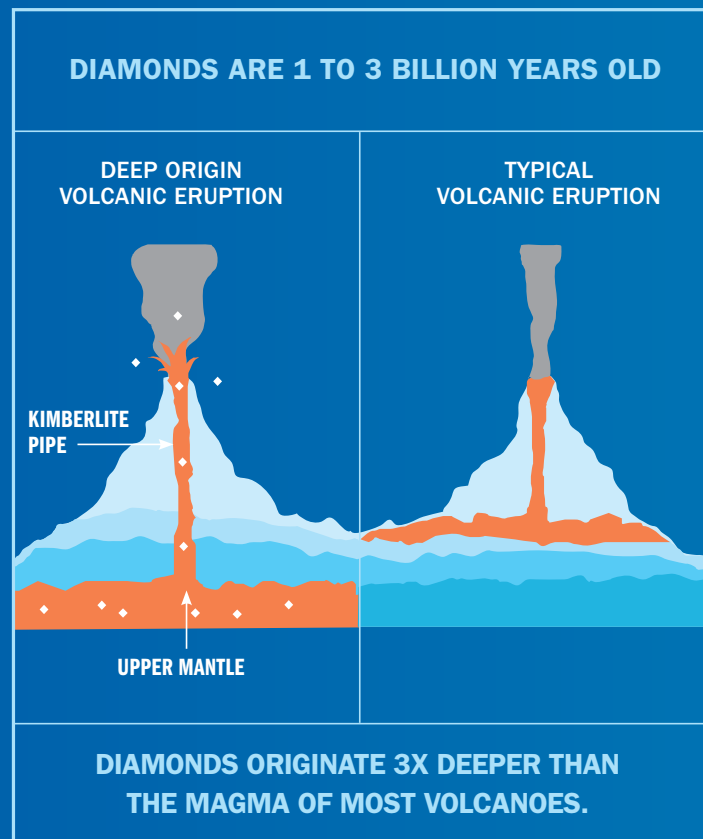
ESSENTIAL DIAMOND TRUTHS



1.

Diamonds are older than life on Earth, a true miracle of nature.

Long before there was life on Earth, there were diamonds. Most were created one to three billion years ago, and the youngest diamond ever found was over 100 million years old. Originating more than 100 miles beneath the Earth, they were pushed to the surface by volcanic eruptions 300-400 million years ago, long before dinosaurs roamed. Diamonds are the oldest thing that most of us will ever hold.



2.

Diamonds are rare and getting rarer everyday.

The number of recovered diamonds peaked in 2005 and will decrease significantly over the next decade. Diamond-bearing kimberlites, the ancient, underground volcanic pipes that hold most of today's diamonds, are very hard to find. In fact, most of the diamonds recovered today come from kimberlites discovered decades ago, which is why diamond production is gradually decreasing and diamonds are becoming rarer.

ANNUAL DIAMOND PRODUCTION

The volume corresponding to the annual production of diamonds 1 carat and up in size is equivalent to the volume of two basketballs. It is that of a soccer ball for diamonds 2 carat and up in size, and that of a tennis ball for diamonds 5 carat and up in size.



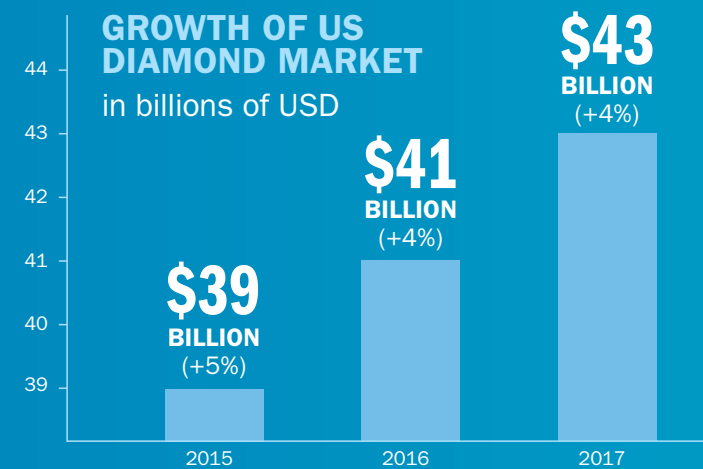
Source: DPA

59% of the value of diamond jewelry demand in 2017 was from millennial consumers.

3.

Demand for diamonds has never been stronger.

2017 was the strongest year ever for diamond jewelry in the world, including in the US. Millennials represent 59% of the value of diamond jewelry demand, while making up only a quarter of the population. Research shows that millennials have a strong interest in products that offer authenticity, rarity and preciousness – and a billion-year-old diamond is an ideal expression of authenticity in their lives and relationships. A real, natural diamond carries deep emotional meaning in a swipe-right world where things are increasingly fast and artificial.



Source: De Beers Insight Reports 2017, 2018

4.

“Conflict diamonds” belong to the past.

“Conflict diamonds,” as depicted in the 2006 movie *Blood Diamond*, set in the 1990s, are largely a thing of the past. Since then, African rebellions have receded and the industry has put in place strict controls – e.g. the Kimberley Process – to ensure that no diamonds coming from conflict-zones are traded. As a result, 99.8% of diamonds are Kimberley-compliant. Moreover, all major producers have safeguards in place to guarantee their diamonds are produced responsibly.



Source: diamondfacts.org

99.8%
of all diamonds are Kimberley Process certified.

5.

The diamond industry makes an important contribution to the world.

The diamond sector supports the livelihood of 10 million people globally, including 1.5 million artisanal and small-scale miners and their families in Africa and South America who provide 15% of the world's diamonds and whose livelihoods depend on demand for diamonds. The discovery of diamonds in Botswana has transformed the country from one of the poorest in the world to a middle-income country. Today, every child there receives free schooling until the age of 13 thanks to diamond revenues that represent almost a third of Botswana's GDP. In the Indian state of Gujarat, the diamond sector employs about one million people and funds schools and hospitals.

By any standard, diamond mining has a very small environmental footprint and no chemicals are used to remove diamonds from the Earth. Mining companies are closely monitored by governments and local communities. Many operations are working on projects to move towards carbon-neutral status. The carbon footprint of a 1-carat polished, natural diamond is smaller than that of most CVD synthetic diamonds of similar size.

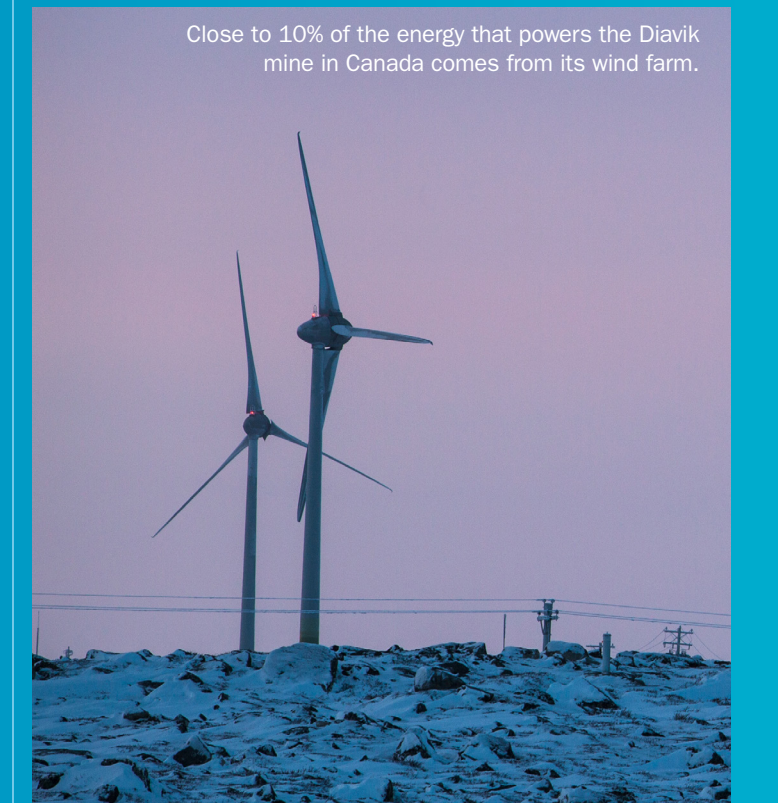




Photo Credit: Getty Images

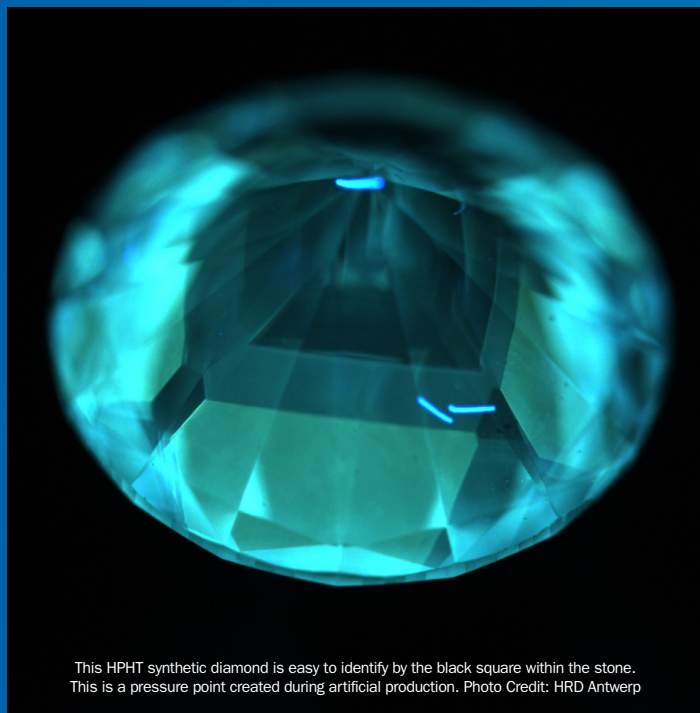
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ESSENTIAL LABORATORY-GROWN DIAMOND TRUTHS

1.

Laboratory-grown diamonds have essentially the same physical and chemical characteristics as natural diamonds, but they are not identical, and they are easily detected.

Laboratory-grown diamonds are produced in 2-3 weeks using two different methods: High Pressure High Temperature (HPHT) and Chemical Vapor Deposition (CVD). Each method leaves growth marks and telltale signs that are distinctive of an artificially produced diamond, this is how they can be identified using professional instruments. Moreover, most synthetic diamonds need to be color treated to correct distortions created during the industrial production process.



This HPHT synthetic diamond is easy to identify by the black square within the stone. This is a pressure point created during artificial production. Photo Credit: HRD Antwerp



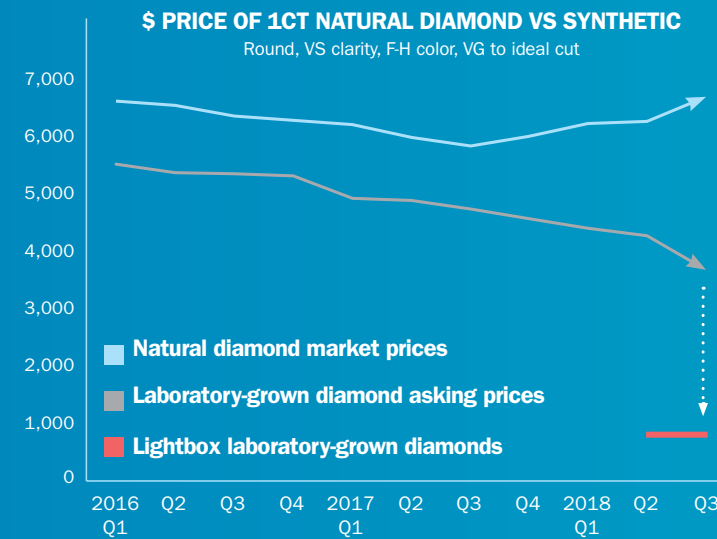
Photo Credit: Google Images

2.

Laboratory-grown diamonds are produced in a matter of weeks, primarily in factories situated outside of the US, mostly in Asia.

Most laboratory-grown diamonds are not produced in the US but in China, India, and Singapore. There is a lot of investment in new production capacity in Asia today and the share of Asian producers is likely to increase further. Laboratory-grown diamond producers often make claims about their product being “eco-friendly,” “transparent,” and “sourced with integrity.” However, these claims are usually vague and unsubstantiated and the origin of the product is almost never disclosed.

As an industrial product, a laboratory-grown diamond has no resale value and its price is falling rapidly.



Data Source: Natural and synthetic prices: Paul Zimnisky, www.paulzimnisky.com

3.

Retail price continues to erode as the costs of production decline.

Production costs of laboratory-grown diamonds are driven almost entirely by electricity usage, which is why some producers move to regions where electricity costs are low. This explains why over time, as technology improves, production costs will continue to decline. In the case of color gemstones like rubies, sapphires or emeralds, the price of synthetic stones is about 10% of that of the natural stone.

Also important to know: due to economies of scale, the larger the synthetic diamond produced, the lower the cost per carat – a stark contrast to natural gemstones.

5.

A large majority of consumers do not consider laboratory-grown diamonds produced in a factory to be real diamonds because they are not formed naturally in the Earth.

A Harris poll from May 2018 shows that 68% of US consumers believe that a laboratory-grown diamond produced in a factory is not a “real diamond.” Only 16% of respondents believe they are. Other surveys show that as they learn about the lack of inherent value of synthetic diamonds, fewer consumers consider them to celebrate important moments in their lives, even if a growing proportion consider them for fast fashion jewelry.

68%

of US consumers believe that a laboratory-grown diamond produced in a factory is not a “real diamond.”

Source: Harris Poll, 360 Study, for DPA



4.

The carbon emissions for a one carat synthetic diamond are similar to, and sometimes greater than, those for an equivalent natural diamond.

When making comparisons with natural diamonds, synthetic diamond manufacturers often quote theoretical carbon emissions for synthetic diamonds that assume that they use 100% renewable energy. In reality, synthetic diamond production today primarily uses electricity generated by fossil fuels, mostly in China, India and Singapore. Rigorous comparisons require case by case analysis, depending on producer and country grid emission factors. Taking the example of a 1-ct synthetic diamond produced in Singapore using the Chemical Vapor Deposition (CVD) method where a significant volume of the CVD synthetic diamonds are produced, the carbon emission per polished carat is approximately 40% higher than for natural polished diamonds.

CARBON EMISSION PER CARAT

NATURAL POLISHED DIAMOND	SYNTHETIC DIAMOND (CVD PRODUCED IN SINGAPORE)
CO ₂	CO ₂
	~40% GREATER CARBON EMISSION

Source: DPA Analysis