

SYNTHETIC, LABORATORY-GROWN DIAMOND TRUTHS:

# VALUE

# 1

Laboratory-grown diamonds (LGDs) are industrial products with **no resale value.**

Natural diamonds derive their value from their uniqueness and rarity as finite, billion-year-old precious gems. LGDs are industrially manufactured replicas of natural diamonds and therefore have no inherent value nor resale value. This is why there is no secondary market for LGDs.

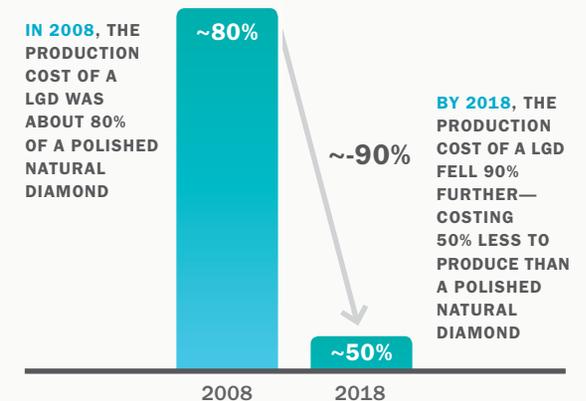


# 2

Production costs of LGDs have **declined 90% over the past 10 years.**

Production costs of industrial products typically fall as the technology matures and production volumes grow. A 2018 study by Bain & Co estimates the production cost to be \$300-\$500 for a 1-carat G color VS polished CVD laboratory-grown diamond—and prices have been steadily declining. This trend is expected to continue, especially as low-cost manufacturers in China increase their production.

## PRODUCTION COST OF 1 CT G VS POLISHED CVD DIAMOND (industry average estimate)



Note: Carat (ct) refers to final weight of polished diamond, production cost excludes polishing and certification, electricity cost of ~\$15-\$30 is equivalent to ~200-400 kWh.  
Sources: Expert interviews, Bain & Company

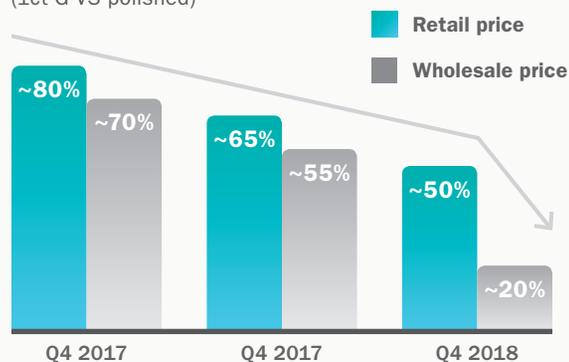
# 3

## Wholesale prices of laboratory-grown diamonds have **dropped threefold over the past 2 years.**

With production costs falling, LGDs now wholesale at approximately 20 percent of the price of equivalent natural diamonds, compared to 70 percent in 2016. Wholesale price decline lags production cost decline, but it is on the same trajectory and will continue to drop as competition intensifies.

### PRICE OF LAB-GROWN DIAMOND AS A PERCENTAGE OF NATURAL

(1ct G VS polished)



Note: Values calculated with the average discount and price for the given period. Sources: Thomson Reuters, expert interviews, online retailers' websites, Bain & Company

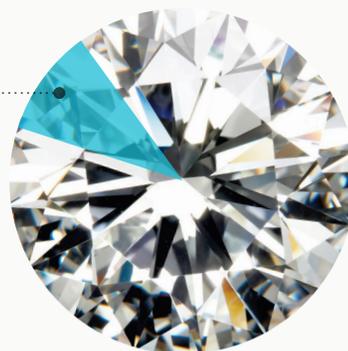
# 4

## LGD prices are likely to stabilize at about **10% of their natural counterparts.**

In 2018, retail prices of LGDs dropped from 80 percent to 50 percent of the price of natural diamonds. It is predicted they will drop to 10 percent compared to natural diamonds because:

- Lightbox LGDs are selling for \$800 per carat, regardless of size;
- Laboratory-grown colored stones currently retail at about 10 percent of the price of natural colored stones.

LGD PRICES WILL STABILIZE AT ABOUT **10%** OF THEIR NATURAL COUNTERPARTS



# 5

## The price difference between natural diamonds and LGDs will increase as size of stone increases.

Natural diamond prices are driven by their rarity and uniqueness. Since large diamonds are significantly rarer than small diamonds, they are much more valuable. LGD prices work oppositely—production cost per carat declines as size grows because it simply requires additional time in the reactor chamber.

