

# Forecast Diamond Supply in 2025



Equity Communications  
**Point of View**

## Key Views

### **What will diamond supply look like ten years from now?**

Mother Earth decides what types of diamonds are going to be available for consumption. Thus, supply of diamonds generally precedes demand.

Diamond miners produced more diamonds in the last twenty years than in all of history.

At current mining rates, it is possible that we will run out of accessible diamonds within fifty years.

There is large surplus supply of diamonds because of many years of excessive production of polished diamonds. Thus, future supply shortfalls will be specific to a particular type, size and quality of diamond.

New projects in Canada and Russia are positive for the world's supply of gem quality diamonds over the next five to twenty years.

## Basic Assumptions

“The diamond industry can only market what is produced from the Earth”

There will always be demand for diamonds in jewellery for as long as people use gemstones and metals for adornment (fashion). Basic demand for jewellery exists irrelevant of cost. People will still wear diamond jewellery whether it costs \$10 or \$1,000.

Even so, Mother Earth decides what types of diamonds are going to be available for consumption. Thus, supply of diamonds generally precedes demand.

The diamond industry can only market what is produced from the earth.

For example, the Ellendale Mine in Australia is the world's leading source of fancy yellow diamonds. It produces perhaps 50 percent of annual world supply. Consumer demand for yellow diamonds increased after the mine started production in 1976.

Tiffany & Co has an exclusive life of mine off-take agreement with Kimberley Diamonds for the yellow diamonds produced. Nonetheless, mine supply is fast running out.

Thus, major retailers and diamond brands like Tiffany plan their business strategies around supply projections.

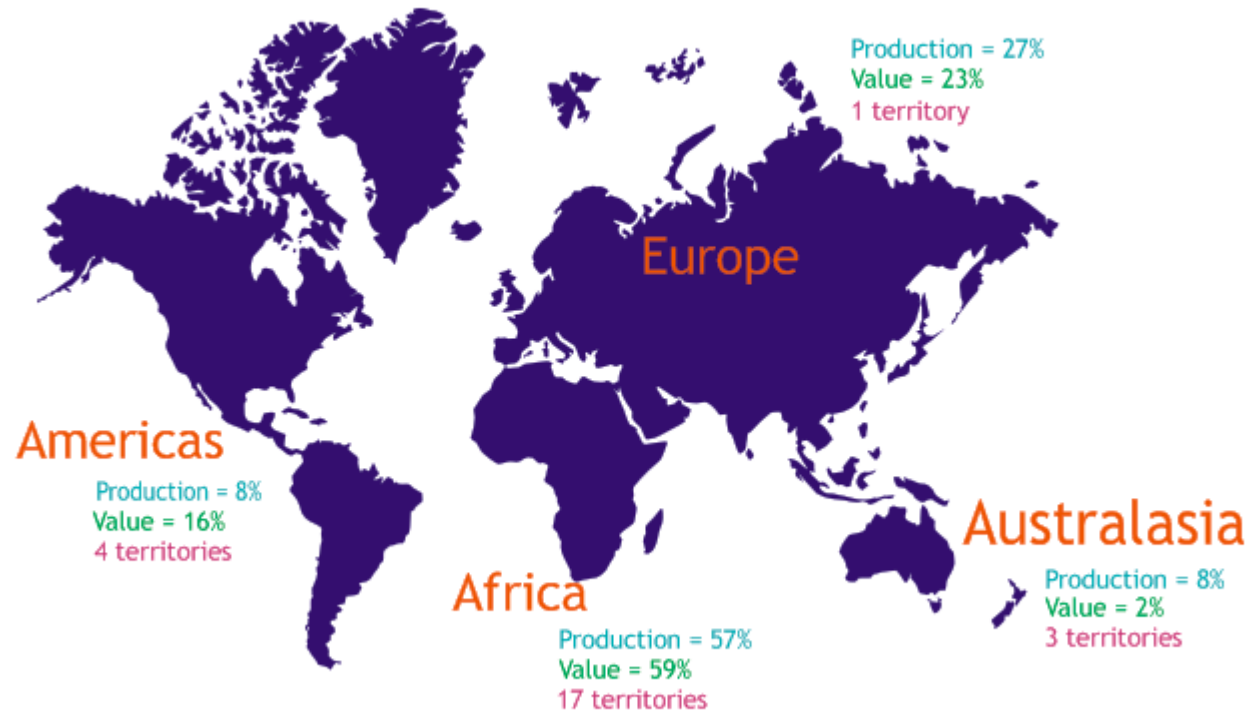
De Beers spent more than 100 years creating demand for the increasing global supply of diamonds. The cartel would often adjust its marketing efforts to match current global supply.

Similarly, so-called fashion diamonds are a direct result of marketing efforts for the prolific production of Argyle Mine in Australia. Before Argyle, near-gem diamonds from the world's mines ended up in industrial markets.

## Diamond Supply Facts

Exhibit: Map of global diamond supply 2013

# Global Supply of Diamonds



Quality of diamonds produced varies from ore to ore, region to region, and country to country

*Source: Equity Communications*

Different regions of the world produce different types of diamonds. For example, diamonds from Namibia cost much more than diamonds from DRC because they are of superior quality in diamond jewellery.

The two main uses for diamonds are in precious jewellery and in industrial applications.

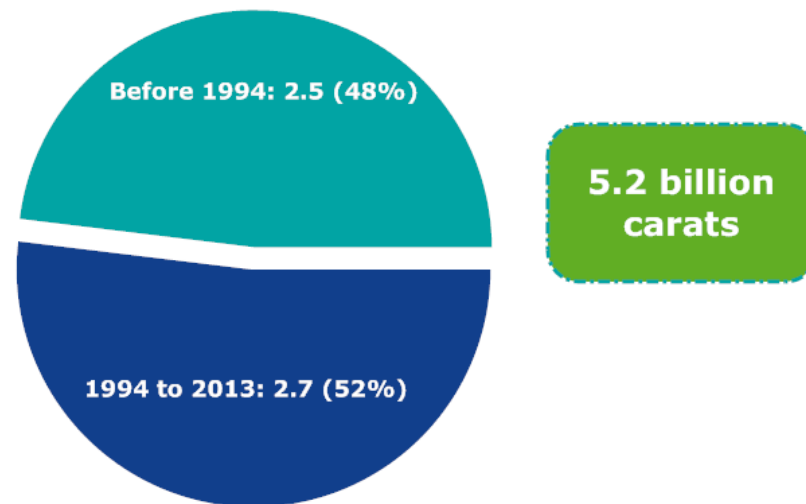
Gem quality diamonds and near-gem quality diamonds are polished for use in jewellery. Gem diamonds gain or lose value depending on how common they are and in relation to their attractiveness to jewellery manufacturers and collectors.

Industrial diamonds are not suitable for use in jewellery because of their poor quality. Instead, they are used for a variety of purposes ranging from drill bits to scalpels to sandpaper.

## Historical Diamond Production

Exhibit: Diamond production from antiquity to the present

### Historical Production of Diamonds (billion carats)



Source: Equity Communications

“Global supply of diamonds is mostly a result of the rise and fall of diamond mining operations in response to discovery and exhaustion of diamond deposits, political conflict in key producer and consumer regions, economic crises and changing consumer fashion tastes”

The total quantity of diamonds mined in the world up to 1993 is approximately 2.5 billion carats or 500 tonnes. The total quantity of diamonds mined in the world from 1994 to 2013 is approximately 2.7 billion carats or 540 tonnes.

Diamond miners produced more diamonds in the last twenty years than in all of history. That is because at least 20 new mines started production, some of them very large.

## Global Diamond Reserves

2.7 billion carats mined in just twenty years is a lot of diamonds.

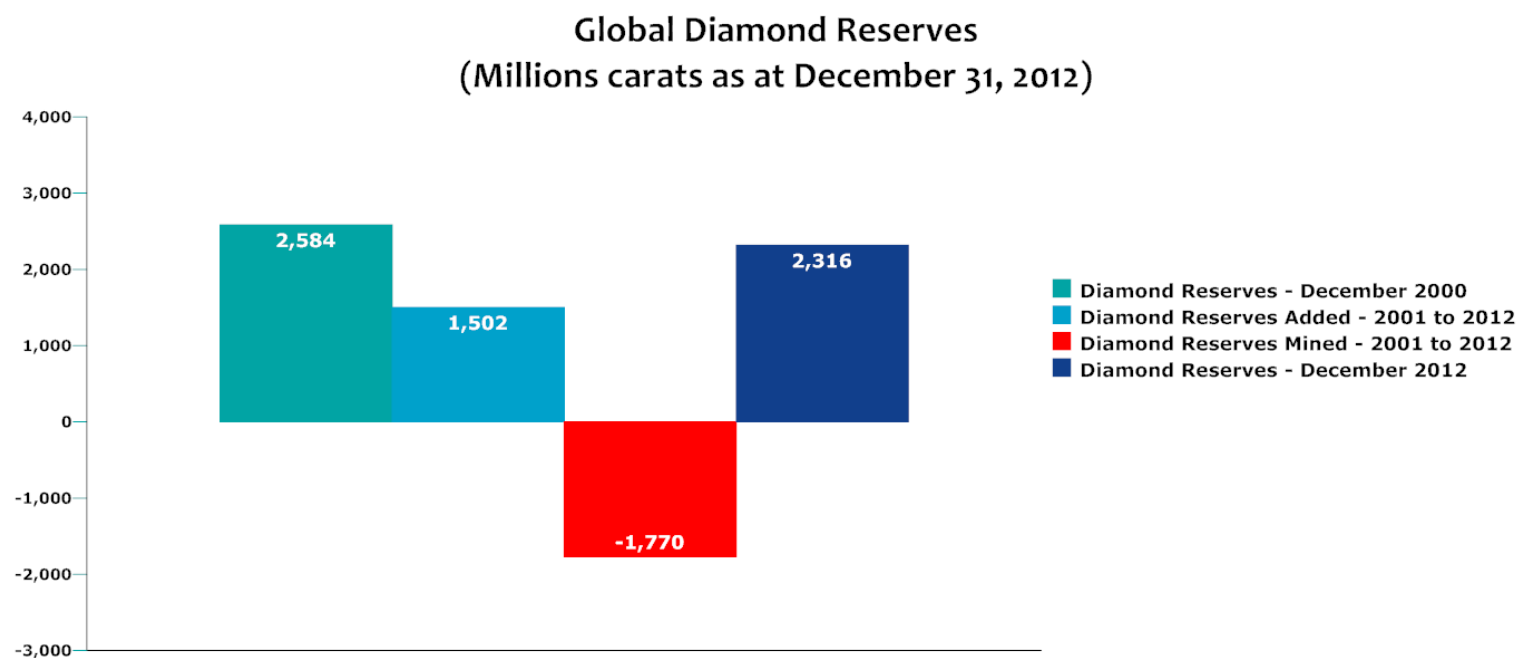
Natural diamonds are a finite resource with exhaustible supply. At current mining rates, it is possible that we will run out of accessible diamonds within fifty years.

Nonetheless, in the last twenty years diamond producers also grew global reserves of exploitable diamond ore. For the time being, diamond miners have reserves to sustain production for 18 years.

The total level of diamond reserves has remained stable in recent years at 2.3 billion carats. Diamond production has roughly offset additions to reserves.

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Exhibit: Current global diamond reserves enough for 18 years of production



*Source: Equity Communications*

In general, large diamond deposits can be mined for a period of 30 years up to 100 years. Diamond producers often discover additional ore reserves while the mine is in operation and usually extend its life. Furthermore, technological innovation and higher diamond prices often improve economic viability of previously unprofitable parts of the deposit.

# Forecast Diamond Production in 2025

We first divide all diamond producing countries into three groups. These groups are based on the average market value of each country's production footprint.

Production footprint refers to a profile of types of diamonds present in a diamond deposit. In this case, in a country's diamond deposits.

Exhibit: Producer countries grouped by average quality of diamonds produced

Classification of Producer Countries		
Average market value of production footprint		
Group 1	Group 2	Group 3
0-100 US\$/carat	101-400 US\$/carat	401+ US\$/carat
Australia	Angola	Lesotho
China	Botswana	Liberia
DRC and Congo	Brazil	Namibia
Ghana	Cameroon	
Zimbabwe	Canada	
	Central Africa Republic	
	Guinea	
	Guyana	
	India	
	Russia	
	South Africa	
	Sierra Leone	
	Tanzania	
	Togo	

Source: Equity Communications, KPCS

## Exhibit: Market share of producer groups

### Market Share of Producers Group 2013

	Production Volume					
	2008	2009	2010	2011	2012	2013
Group 1	30.74%	30.98%	30.96%	30.60%	33.79%	29.07%
Group 2	67.58%	67.90%	67.62%	68.19%	64.53%	69.28%
Group 3	1.68%	1.11%	1.42%	1.20%	1.69%	1.65%

	Production Value					
	2008	2009	2010	2011	2012	2013
Group 1	9.07%	7.07%	8.05%	6.98%	7.44%	5.54%
Group 2	82.16%	86.70%	83.68%	85.61%	85.53%	88.42%
Group 3	8.77%	6.24%	8.26%	7.41%	7.04%	6.04%

Source: Equity Communications, KPCS

**Group 1 countries** produce the fewest pure gem quality diamonds. They mainly produce industrial diamonds and near-gem quality diamonds destined for fashion jewellery markets.

**Group 2 countries** produce the largest number of commercial grade diamonds mainly destined for wedding markets all over the world but mostly to USA, Japan, India and Greater China.

**Group 3 countries** produce a relatively high number of premium quality diamonds – top quality white diamonds and rare large size diamonds - mainly destined for luxury consumer markets.

## Exhibit: 2013 diamond production by producer classification

### 2013 Diamond Production by Producer Group

	Production Volume	Production Value
Group 1	38.063 million carats	\$0.933 billion
Group 2	90.712 million carats	\$14.888 billion
Group 3	2.160 million carats	\$1.017 billion
<b>Total</b>	<b>130.935 million carats</b>	<b>\$16.838 billion</b>

Source: Equity Communications, KPCS



We then add pipeline and expansion projects to the total diamond production for 2013

## Exhibit: High-end estimate of global diamond production in 2025

### High-end Estimate of Global Diamond Production in 2025 (Including Mines On Way Out)

Million Carats

2013 Diamond Production

130.935 million carats

#### Add Pipeline Projects

Deposit Name	Location	Est. First Production	Average	
			Annual Production (mln carats)	
Grib	Russia	2014	4	
Botuobinskaya	Russia	2015	2	
Karpinsky 1	Russia	2015	1	
Gahcho Kue	Canada	2016	5	
Renard	Canada	2017	2	
Star Orion South	Canada	2021	2	
Bunder	India	2019	2	
Ghaghoo	Botswana	2014	0.4	
Other	Global Combine	2016	4	
Total from pipeline projects				22.4 million carats

#### Add Expansion Projects (at least 1 million carats)

	Location		Average	
			Annual Production (mln carats)	
Alrosa (underground)	Russia		4	
Cullinan	South Africa		1	
Liqhobong	Lesotho		1	
Arkhangelsk	Russia		2	
Marange	Zimbabwe		4	
Debswana (capacity)	Botswana		3	
Catoca	Angola		2	
Other	Global Combined		2	
Total from expansion projects				19.0 million carats

High-end estimate of global diamond production in 2025

172.335 million carats

Source: Equity Communications

We then subtract production from mines that are scheduled to close before 2025

### Exhibit: Probable estimate of global diamond production in 2025

## Probable Estimate of Global Diamond Production in 2025 (Excluding Mines On Way Out)

		Million Carats
High-end estimate of global diamond production in 2025		172.335 million carats
<u>Subtract</u> 2013 production from mines closed by 2025		
	Location	2013 Production (mln carats)
Ekati	Canada	1.9
Diavik	Canada	7.2
Argyle	Australia	11.4
Other	Global Combined	11
Total from mines on way out		31.5 million carats
Probable estimate of global diamond production in 2025		140.835 million carats

Source: Equity Communications

### Exhibit: Market share of producer groups 2013 versus 2025

## Market Share of Producer Groups 2013 versus 2025

Million Carats	2013	2025	Movement
Group 1	38	27	-11
<b>Group 2</b>	<b>90</b>	<b>113</b>	<b>23</b>
Group 3	3	2	-1
	131	141	13
Market Share	2013	2025	Movement
Group 1	29%	19%	-10%
<b>Group 2</b>	<b>69%</b>	<b>80%</b>	<b>11%</b>
Group 3	2%	1%	-1%

Source: Equity Communications

## Diamond Supply Landscape in 2025

It is not possible for diamond producers to selectively mine just the type of diamonds in current demand. Thus, diamonds not yet required in consumer markets are stored in the diamond pipeline.

Moreover, sometimes producers oversupply diamonds, even for those diamonds in current demand. Such excess supply is also stored in the pipeline.

There is large surplus supply of diamonds because of many years of excessive production of polished diamonds. Thus, future supply shortfalls will be specific to a particular type, size and quality of diamond.

For example, the closure of the Argyle mine in a few years is going to affect availability of fashion diamonds. Certain hues of coloured diamonds such as fancy pinks will also be affected.

Diamonds in short supply could rise in value in the coming years. Nonetheless, consumer purchases of diamonds are price sensitive. It is customary for consumers to find an alternative diamond if their first choice is not available for whatever reason.

## What Type Of Diamonds Are Going To Be Available Ten Years From Now?

Exhibit: 2025 diamond production will carry a higher proportion of gem quality diamonds



Source: Equity Communications

There is not going to be a blanket shortfall of diamonds to meet consumer demand. Supply shortfalls will be specific to a particular type, size and quality of diamond.

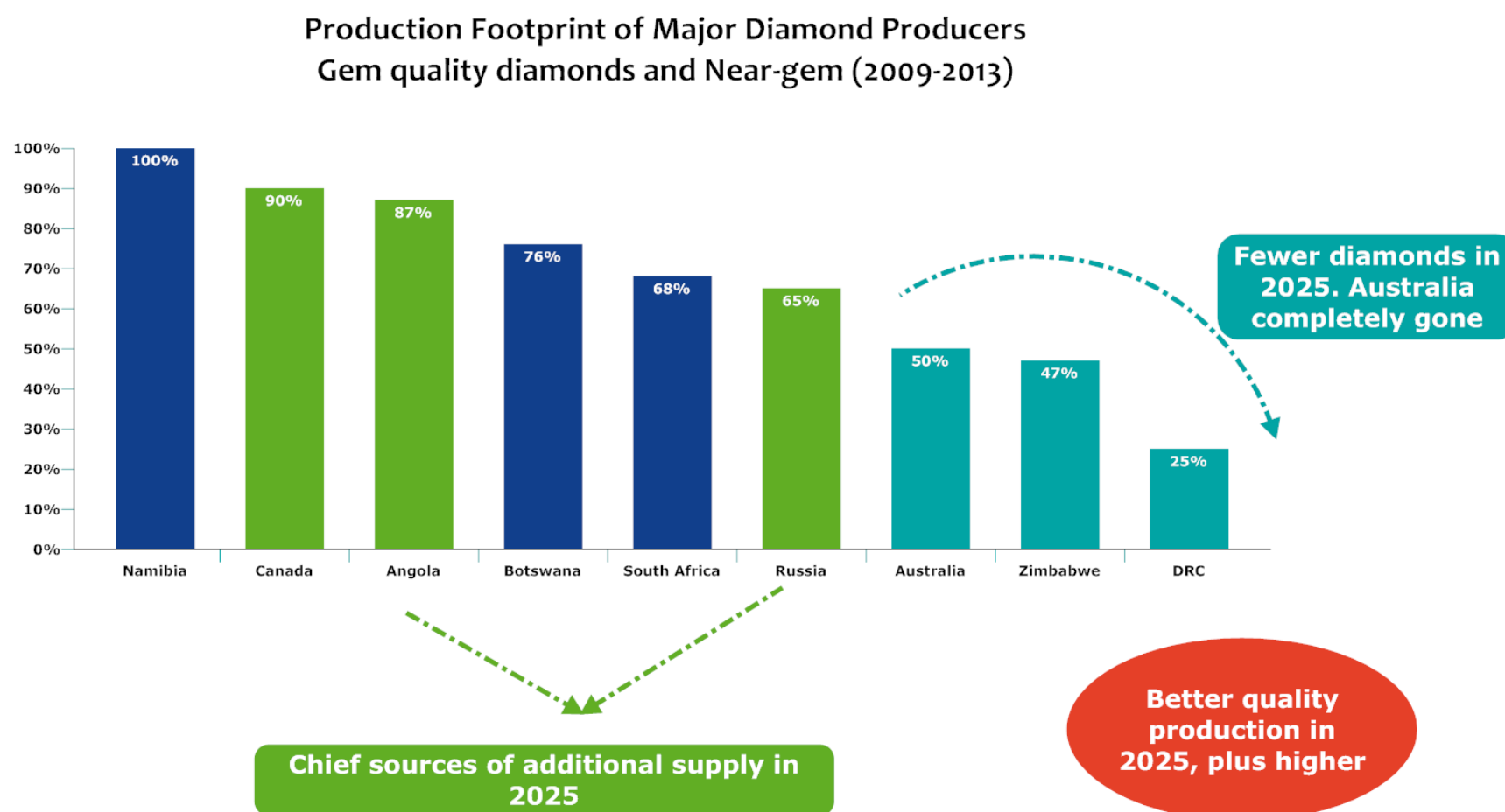
The last five years did not produce any new major discoveries of diamond deposits.

Even so, there are significant new diamonds mining projects now at the advanced stage. Together they are equal to at least one Jwaneng Mine (world's richest diamond deposit).

Generally, diamond value and grade are the dominant factors that influence the decision to proceed with mine development.

In recent years, diamond exploration has focused on the development of deposits with a higher footprint of gem quality diamonds.

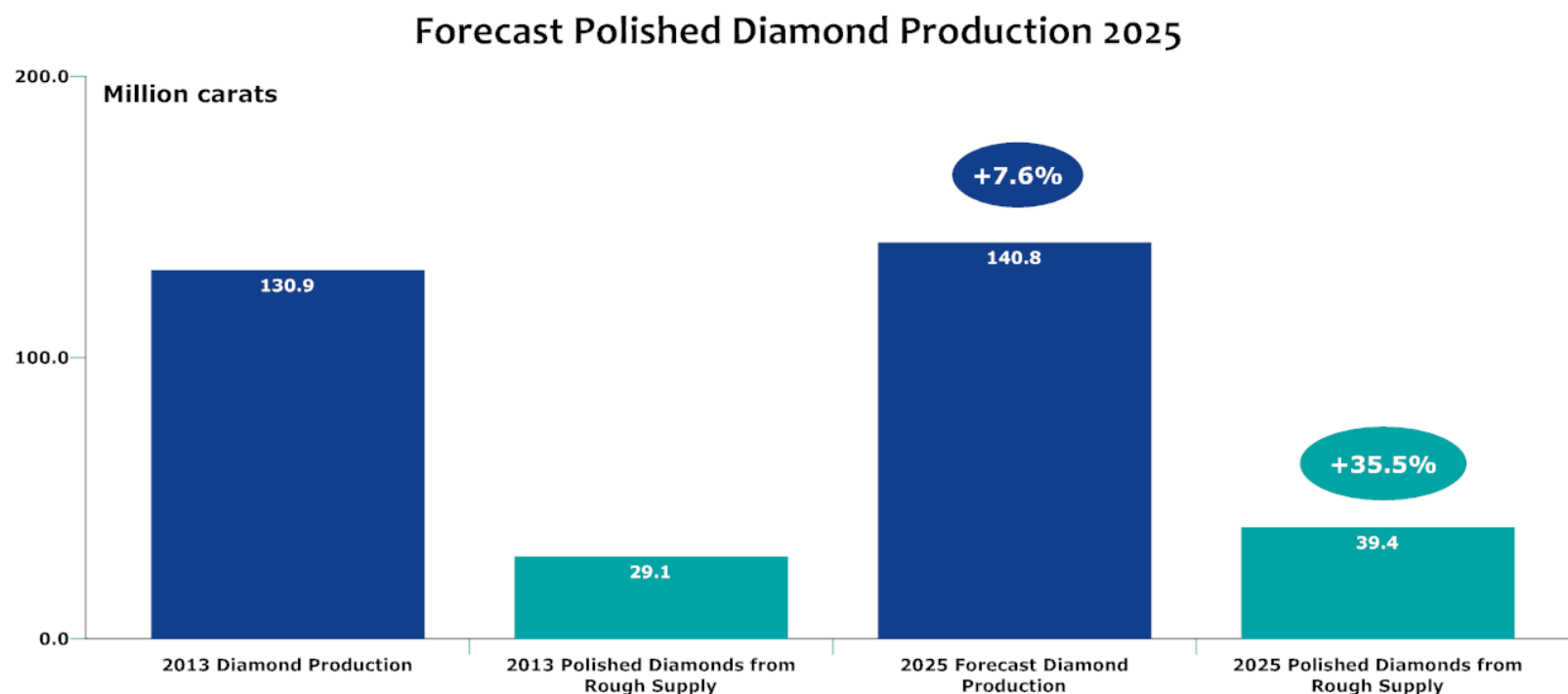
Exhibit: Production footprint set to improve towards 2025



Source: Equity Communications

Nowadays, gem quality and near-gem diamonds refers to any diamonds suitable for use in jewellery.

## Exhibit: Polished diamond production to increase more than rough supply



Source: Equity Communications

The current cycle of production increases and new projects will carry a higher proportion of gem quality diamonds.

In particular, new projects in Canada and Russia are positive for the world's supply of gem quality diamonds over the next five to twenty years.



## A short thousand words to start with,

I'm a director and major shareholder of Equity Communications through Sibling Investments. Equity Communications is the holding company for our commodity trading businesses.

In addition, the company has a Finance and Economic Research Division. Chiefly, the division exists to scrutinize and endorse all investments above \$100,000 made by shareholders of Equity Communications and their associate companies. It is my job to arrange and recruit intellectual talent for this division.

In 2010, I put together a **Diamond Industry Research** team made up of five persons, which I disbanded in December last year.

Our interest in diamonds was triggered by the prospect of a US\$2 billion diamond industry in Zimbabwe. We have a bit of money invested in various sectors of the Zimbabwe economy so we couldn't ignore it. \$2 billion for an economy like Zimbabwe's is a huge deal. It changes a lot of things. So we had no choice but to investigate.

Anyway, we have known for about three years that such projections were pure hogwash. To be sure, the potential for a massive diamond industry is there in Zimbabwe. It's just that economic illiteracy is far more prevalent.

We then turned our attention to the global diamond industry. We look for projects that scale within five years. Unfortunately, the best opportunity we identified is in lab-created diamonds (LCDs). LCDs are coming and it's going to be a deluge. Obviously, growth of LCDs is potentially negative for Botswana's economy so it's not something we are too excited about. Ultimately, we chose not to pursue any investments in the diamond industry.

Still, I made the decision to release our final research on the diamond industry because I believe many people will benefit from it. I meant to get it done in February but we've had a lot of tobacco and food commodities to trade. So it's been coming slowly.

Nowadays I mainly follow the diamond industry from the writings of Rob Bates, Charles Wyndham, Avi Krawitz, Edahn Golan and Ehud Laniado. For anyone who's short on time, reading articles from these gentlemen is a good way to stay current on goings-on in the diamond industry.

Even so, over the years we collected and curated lots of data on the global diamond industry and precious jewellery markets. We became experts by accident. Now I can confidently say I know a great deal about factors that drive the diamond and jewellery business even though I no longer have much use for the knowledge.

But that's ok. Ten years ago, I learnt German for a year in preparation for a visit to Frankfurt only to end up in Mozambique. I can't remember most of what I learned but I did gain a flourishing friendship with one of my former classmates.

So maybe all that knowledge will be useful for something I look at in my spare time. How will 3d printing of jewellery disrupt the jewellery retailing model? So far it's a fascinating journey. I think it's going to be a game changer for e-commerce. Could be very disruptive too.

Anyway, I agree with Chaim Even-Zohar (D.I.B, 27 April 2015) on the current state of diamond industry research. Indeed, the more the diamond industry gets over researched, the more it seems to be under-performing. His words, not mine. But I agree.

I'm all for optimism but the diamond industry urgently needs a good dose of reality. And I don't think we are getting it from the likes of Bain and De Beers.

Maybe the target audience is different because there's just too much smoke and mirrors. Don't get me wrong, their research provides good overview of the diamond industry. I've made generous use of it myself. But I think it glosses over the bad and uncomfortable stuff.

Too bad. I don't see how the diamond industry can conquer its countless challenges while its head is buried in the sand. Anyway, I suspect many diamond industry stakeholders just want assurance that everything is going to be ok. Still, many do see that they are being driven towards the cliff.

From our experience, good diamond industry research is time-consuming and complex. It has to be a slow and methodical process because there's too much written garbage to plough through.

Frankly, it takes too much time and effort and maybe that's why many people just choose to regurgitate information published elsewhere. Sadly, most of what's put out there is appalling.

But I really hope someone will throw serious resources into it. Maybe that's a challenge for the recently formed Diamond Producers Association.

With this in mind, I do hope we can point people in the right direction with our final publications on the diamond industry and precious jewellery markets. I don't think we got everything right but these are serious complex issues that need sorting out.

Finally, it's not included in the reports, but some of our research points to harmful things going on in the so-called silk route. Africa to Dubai to India (rough diamonds). From India to Dubai (polished diamonds). There are things going on there that are potentially problematic for the image of diamonds. FIFA type of things, in my view. It has to be sorted out before someone like Andrew Jennings gets to it. One only needs to scrutinize the statistics and you can see strange things going on. And it tallies with some of the bad media reports that pop up every now and then.

## **State of Diamonds 2015**

### **Part 1: Diamond Pipeline**

### **Part 2: Diamond Consumption**

There are two distinct markets for diamonds. Diamonds are a commodity in the pipeline and a luxury good in consumer market. I think the separation is important for analysis. Most analysts don't know how to reconcile the two and that's why we get problems.

Moreover, diamond industry stakeholders need to thoroughly understand the factors that drive consumption of diamonds. Stronger consumption of diamonds has to multiply from somewhere and so far it's been a struggle. Without it, the diamond industry is stuck in long-term attrition.

Sincerely,

**Tinashe Takafuma**

**Equity Communications.**



# Dark clouds and silver linings

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