

Bureau for Food and  
Agricultural Policy

BEAP

*Farm Management Program*

*Outlook on wine grape farms*

*13 August 2010*



# Outline

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- The BFAP farm management program
- FinSim analysis
- FinSim wine grape model
- FinSim typical wine grape farm results
- Effect of three scenarios



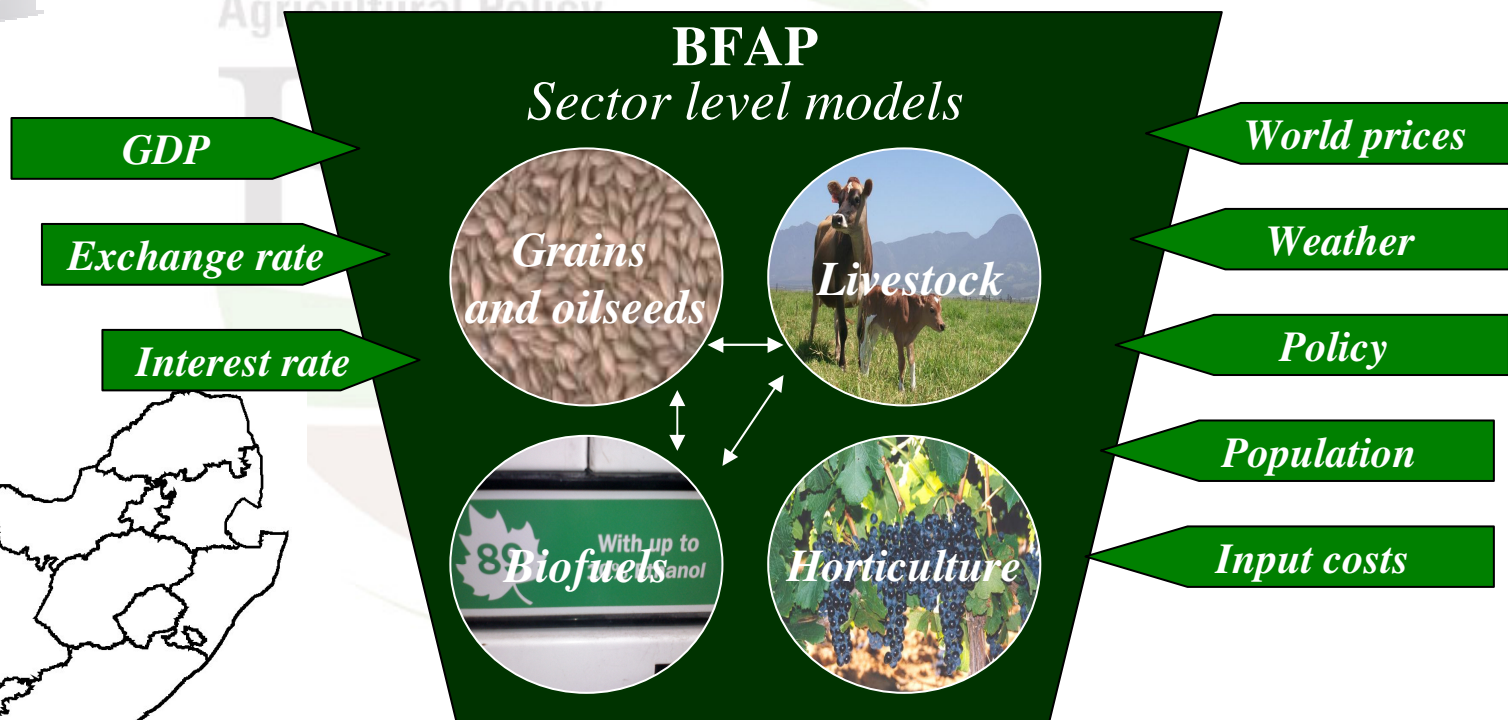
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# Farm management program



FAPRI and OECD - *Global Models*  
**Agribenchmark** – *International farm-level data*



**BFAP**  
*Farm level financial models*



# Farm management program

- Assist agri- & farm businesses with strategic decision-making
- Consists of:
  - FinSim model linked with Sector Model
  - Agri benchmark network



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# FinSim analysis

- Farm budgeting model linked with Sector Model
- FinSim services:
  - Impact of changes in markets and policies on farming businesses
  - Impact of future policy & market scenarios on farming businesses
  - Strategic planning for agri / farm businesses based on policy & market scenarios
  - Risk analysis & management



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# FinSim: wine grape farming

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- Simulation of typical farms
- Total farm budgeting model
- Analysis of present situation
- Projections for the future
- Nine regional VinPro based models



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# FinSim: model structure

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## INPUT:

- Capital structure of business
- Enterprise composition: separate sheets with income and direct cost for each enterprise
- Wine grape enterprise
  - 12 varieties
  - Three blocks per variety
  - Variable lifespan and age for each block
- Separate sheet for cellar



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# FinSim: model structure

## CALCULATIONS:

- Sector to farm level via price index numbers
- Stochastic simulation process

## OUTPUT (performance measures):

- Total farm gross margin
- Net cash farm income
- Net farm income (NFI)
- Return to family living (cumulative cash flow)
- Ending cash surplus/deficit (cumulative balances)
- Net worth



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# FinSim: assumptions

Area per variety for a typical farm in selected production regions

Variety	Breedekloof	Paarl	Stellenbosch
<b>Red (ha)</b>	<b>10</b>	<b>35</b>	<b>48</b>
<b>Cabernet Sauvignon</b>	4.2%	21.7%	28.3%
<b>Cinsaut</b>	2.4%	7.2%	2.5%
<b>Merlot</b>	3.0%	9.6%	14.8%
<b>Pinotage</b>	2.4%	8.4%	9.8%
<b>Shiraz</b>	3.6%	14.3%	16.0%
<b>Other red</b>	4.4%	8.8%	8.6%
<b>White (ha)</b>	<b>40</b>	<b>15</b>	<b>12</b>
<b>Chardonnay</b>	11.0%	4.2%	4.0%
<b>Chenin Blanc</b>	26.6%	14.1%	5.7%
<b>Colombar</b>	15.8%	2.1%	0.0%
<b>Sauvignon Blanc</b>	8.4%	4.2%	8.0%
<b>Sultana/Hanepoot</b>	7.2%	0.8%	0.0%
<b>Other white</b>	11.0%	4.6%	2.3%
<b>TOTAL area per farm (ha)</b>	<b>50</b>	<b>50</b>	<b>60</b>



# FinSim: assumptions

Average yield per variety (ton per ha full bearing)

Variety	Breedekloof	Paarl	Stellenbosch
<b>Red:</b>			
<b>Cabernet Sauvignon</b>	12	10	8
<b>Cinsaut</b>	20	12	10
<b>Merlot</b>	15	12	9
<b>Pinotage</b>	18	12	12
<b>Shiraz</b>	16	12	12
<b>Other red</b>	16	12	10
<b>White:</b>			
<b>Chardonnay</b>	16	10	8
<b>Chenin Blanc</b>	20	18	13
<b>Colombar</b>	23	25	-
<b>Sauvignon Blanc</b>	15	10	9
<b>Sultana/Hanepoot</b>	25	20	-
<b>Other white</b>	20	17	10

# FinSim: assumptions

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## Wine grape enterprise:

- 20 year lifespan
- first yield: year 2
- full bearing: year 4



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# FinSim: assumptions

Average price per variety (R/ton)

Variety	Breedekloof*	Paarl*	Stellenbosch**
<b>Red:</b>			
<b>Cabernet Sauvignon</b>	2 519	1 791	3 473
<b>Cinsaut</b>	1 338	1 207	2 072
<b>Merlot</b>	2 211	1 804	3 269
<b>Pinotage</b>	1 810	1 670	2 872
<b>Shiraz</b>	2 177	2 012	3 155
<b>Other red</b>	759	1 565	3 500



# FinSim: assumptions

<b>White:</b>			
<b>Chardonnay</b>	2 703	2 000	4 162
<b>Chenin Blanc</b>	1 530	1 473	2 877
<b>Colombar</b>	1 461	1 004	-
<b>Sauvignon Blanc</b>	2 738	2 412	4 815
<b>Sultana/Hanepoot</b>	1 460	942	-
<b>Other white</b>	1 019	1 444	3 693

\*SAWIS average producer cellar price 2008 (first estimate)

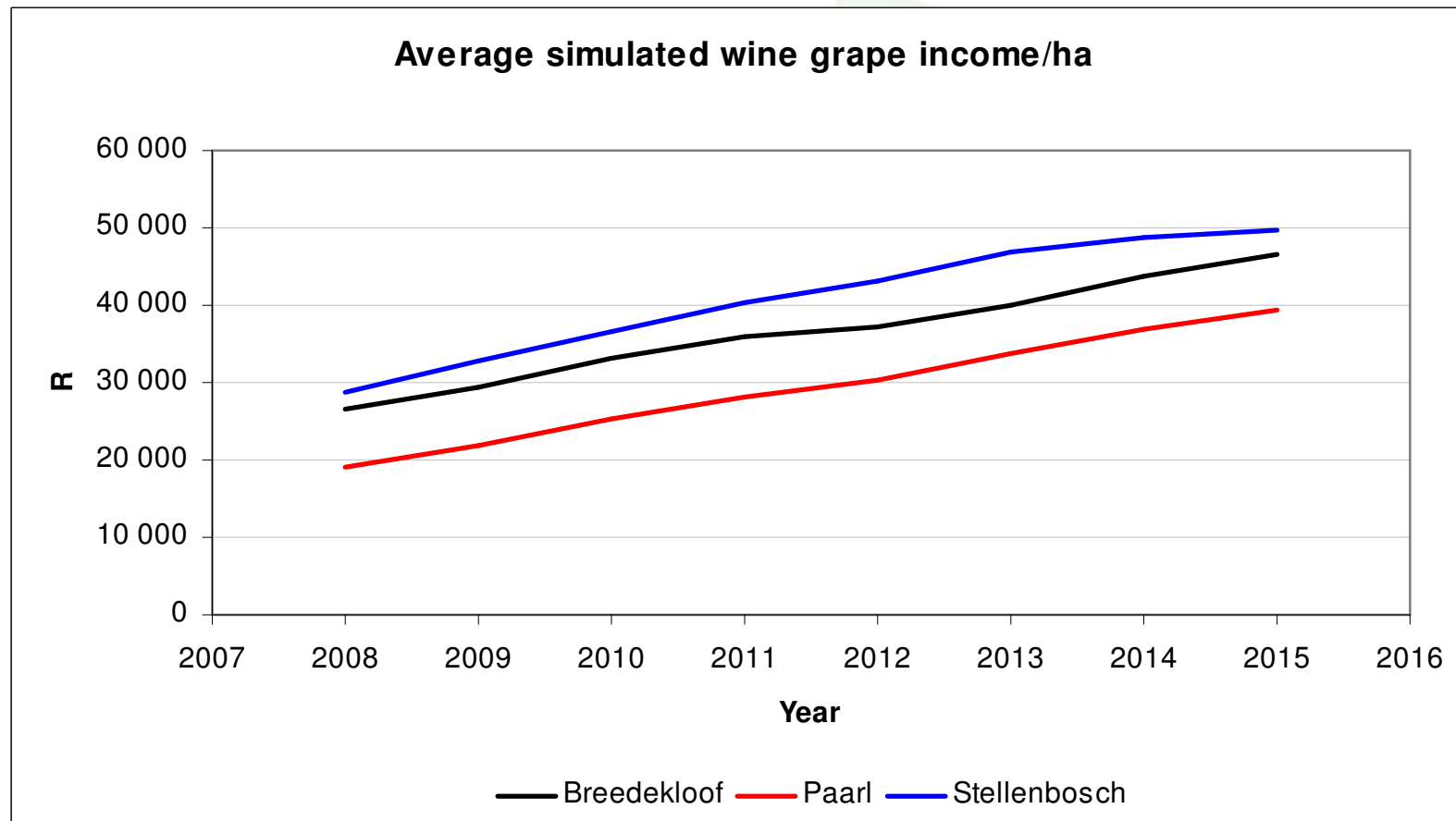
\*\*SAWIS average trade price 2008 (excl deliveries to producer cellars)



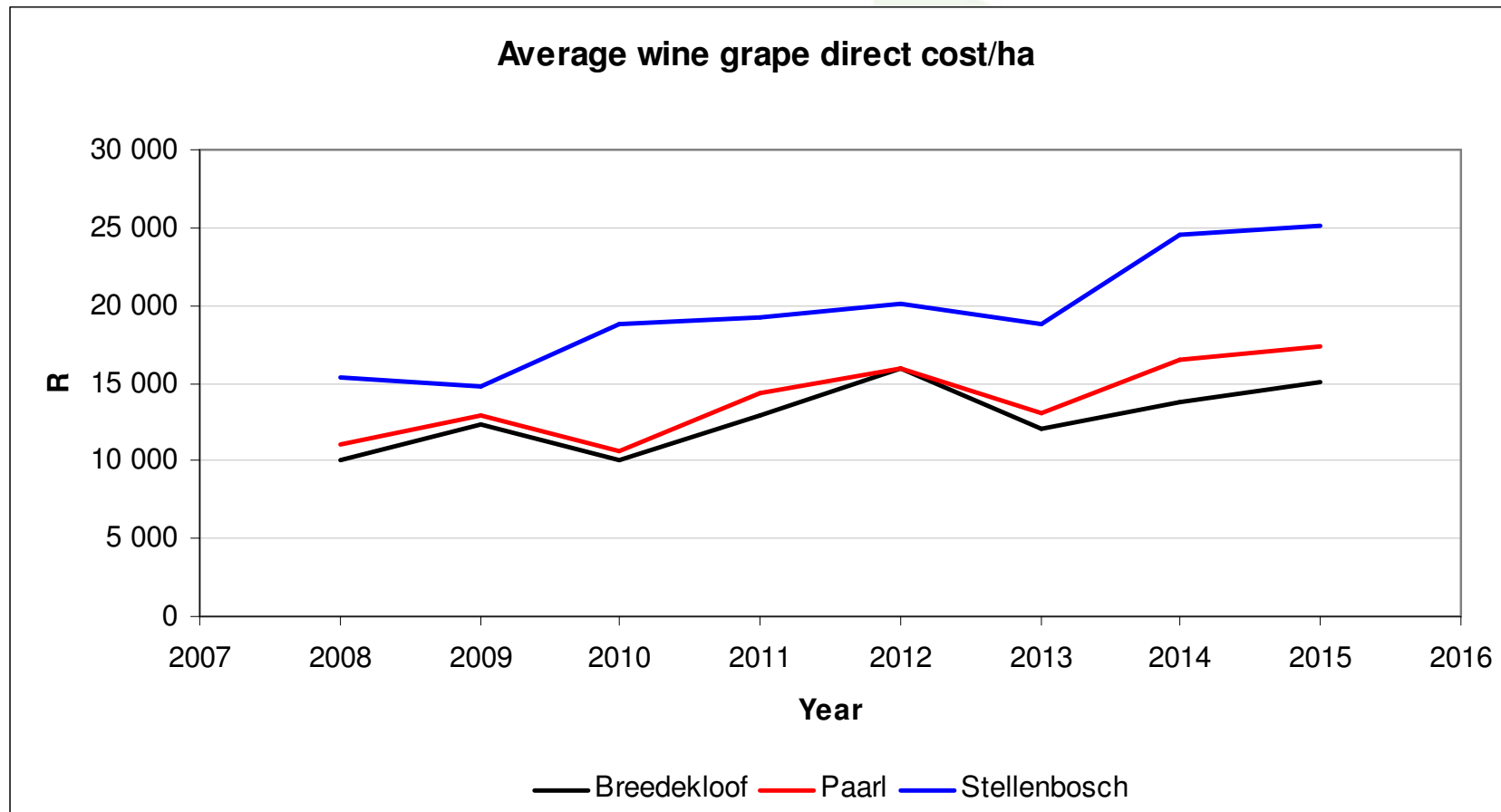
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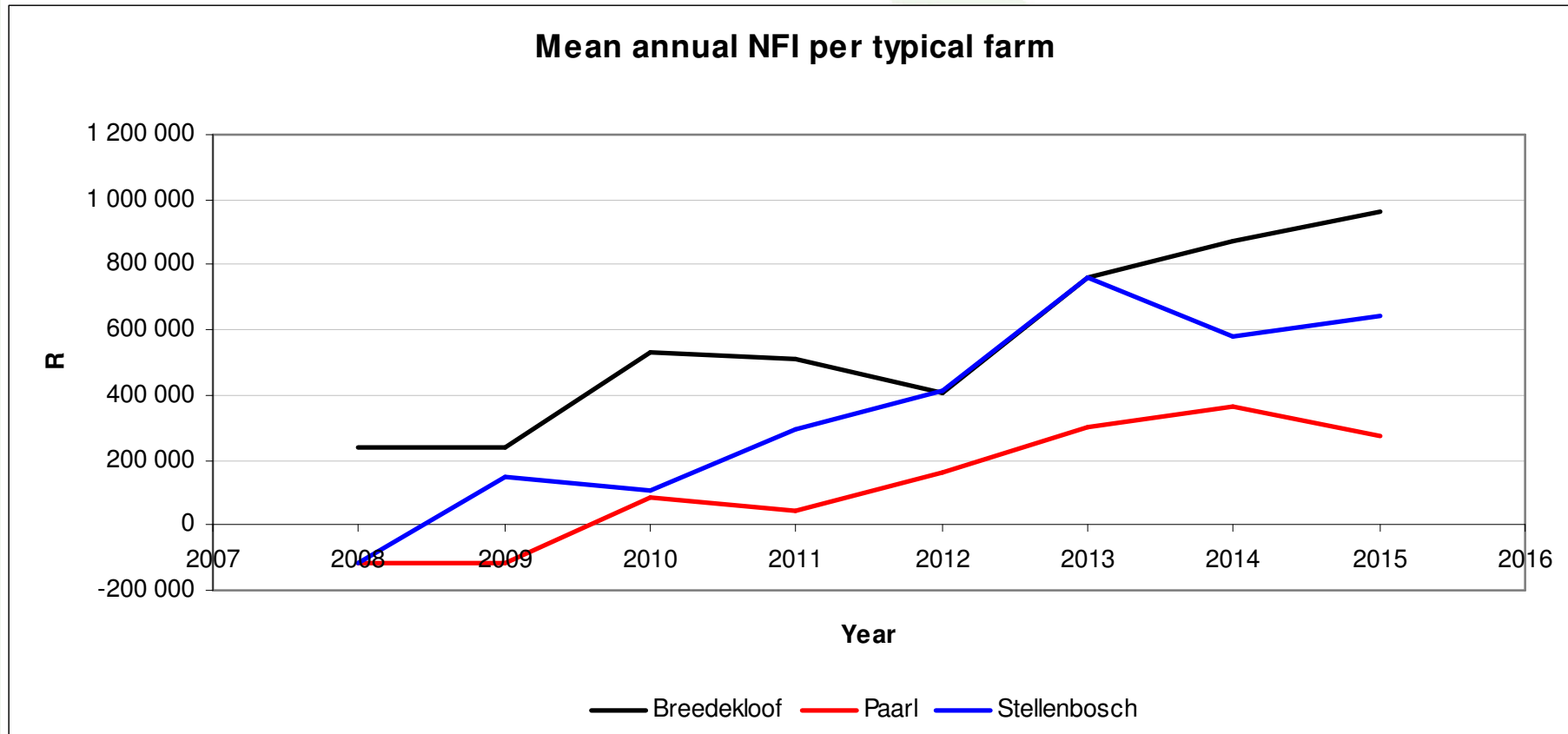
# Results: Wine grape income



# Wine grape production cost



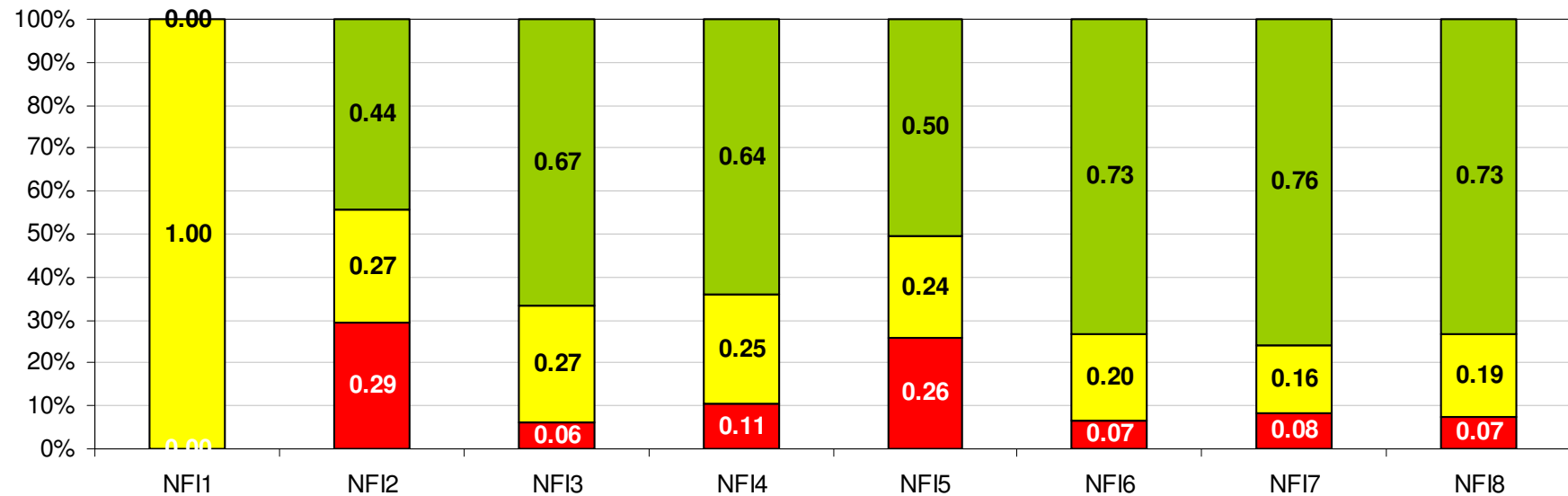
# Mean simulated NFI per farm



# Prob distribution: NFI Breedekloof

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StopLight Chart for Probabilities Less Than 0.000 and Greater Than 300 000.000



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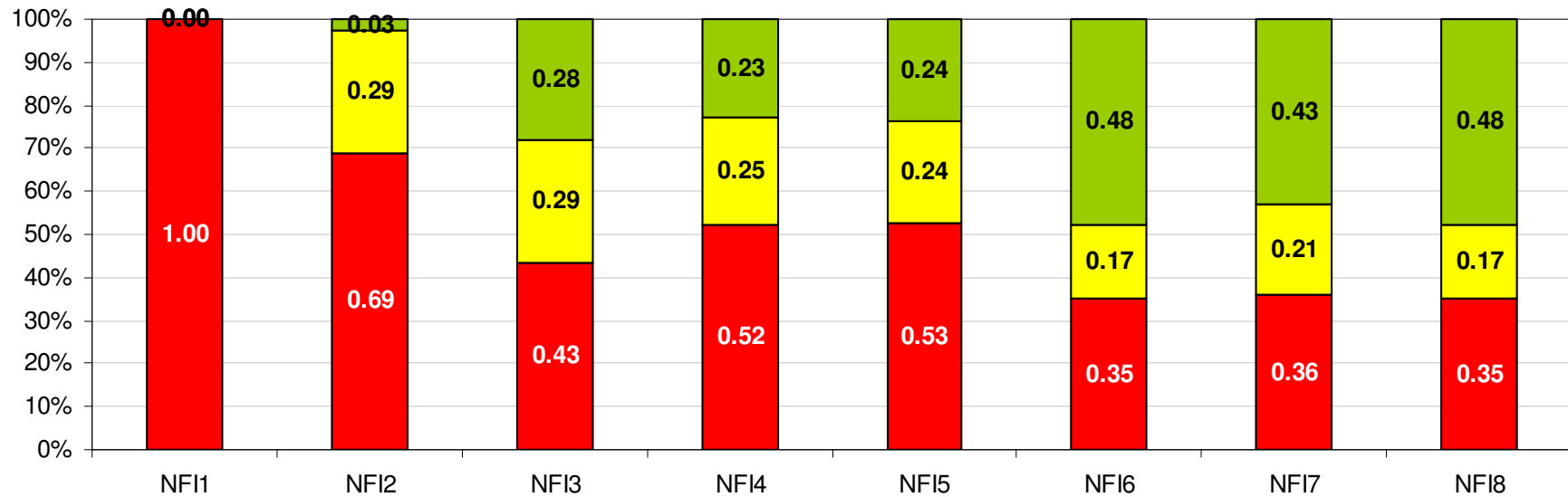


# Prob distribution: NFI Paarl

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StopLight Chart for Probabilities Less Than 0.000 and Greater Than 300 000.000



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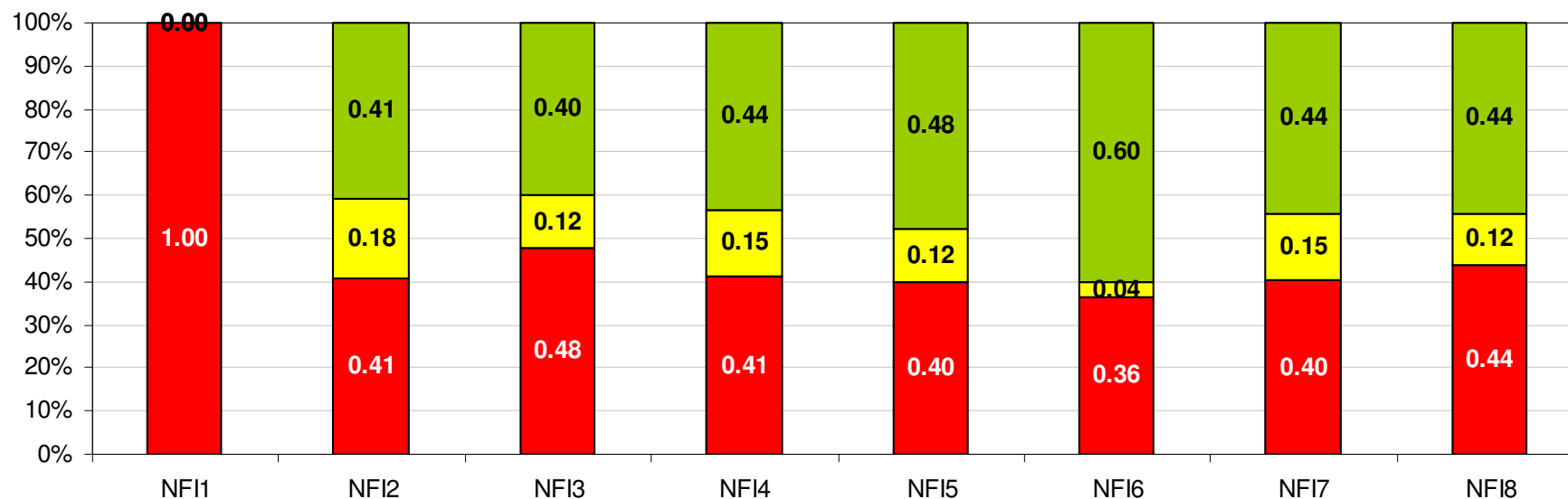


# Prob distribution: NFI Stellenbosch

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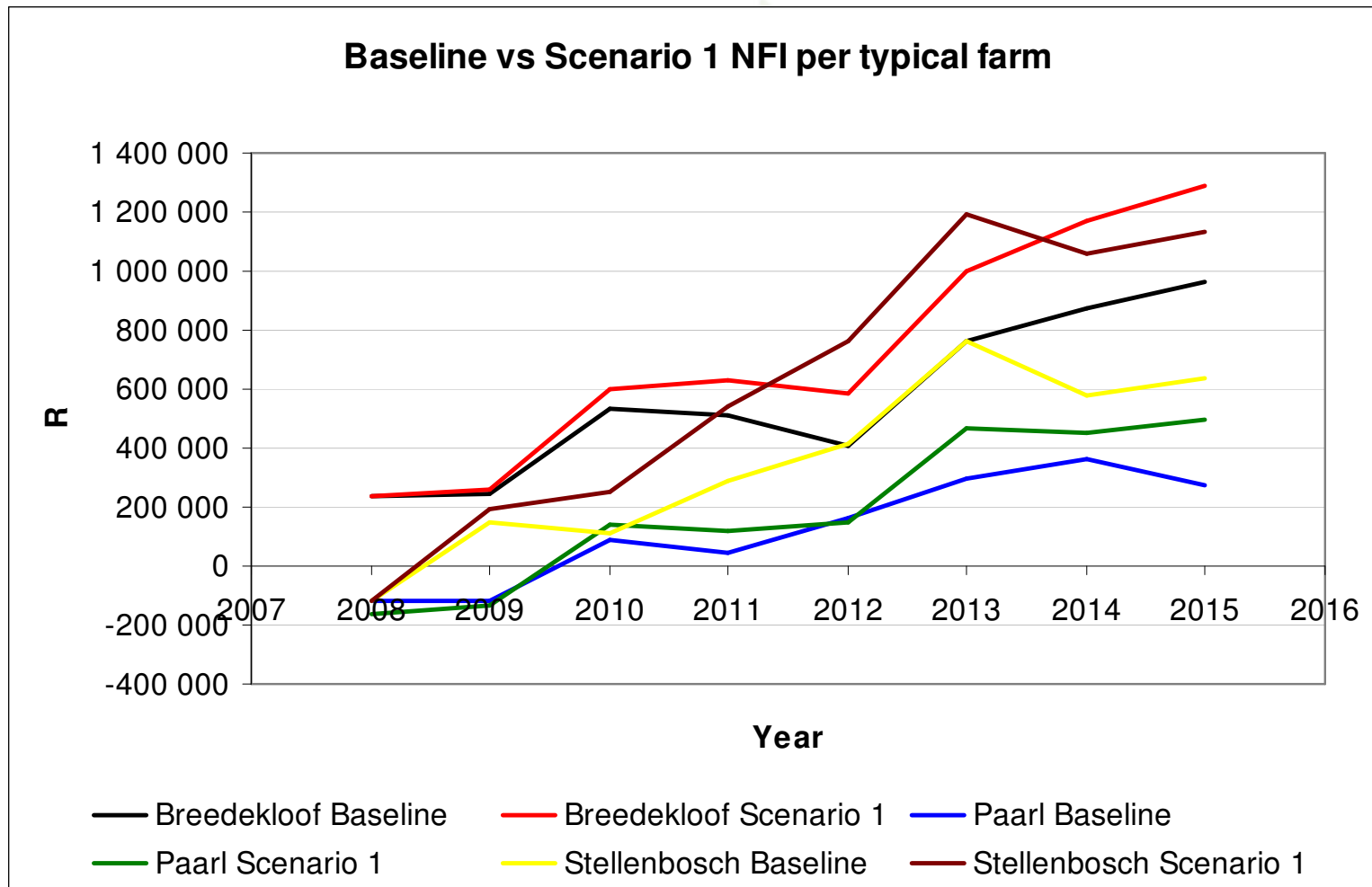
StopLight Chart for Probabilities Less Than 0.000 and Greater Than 300 000.000



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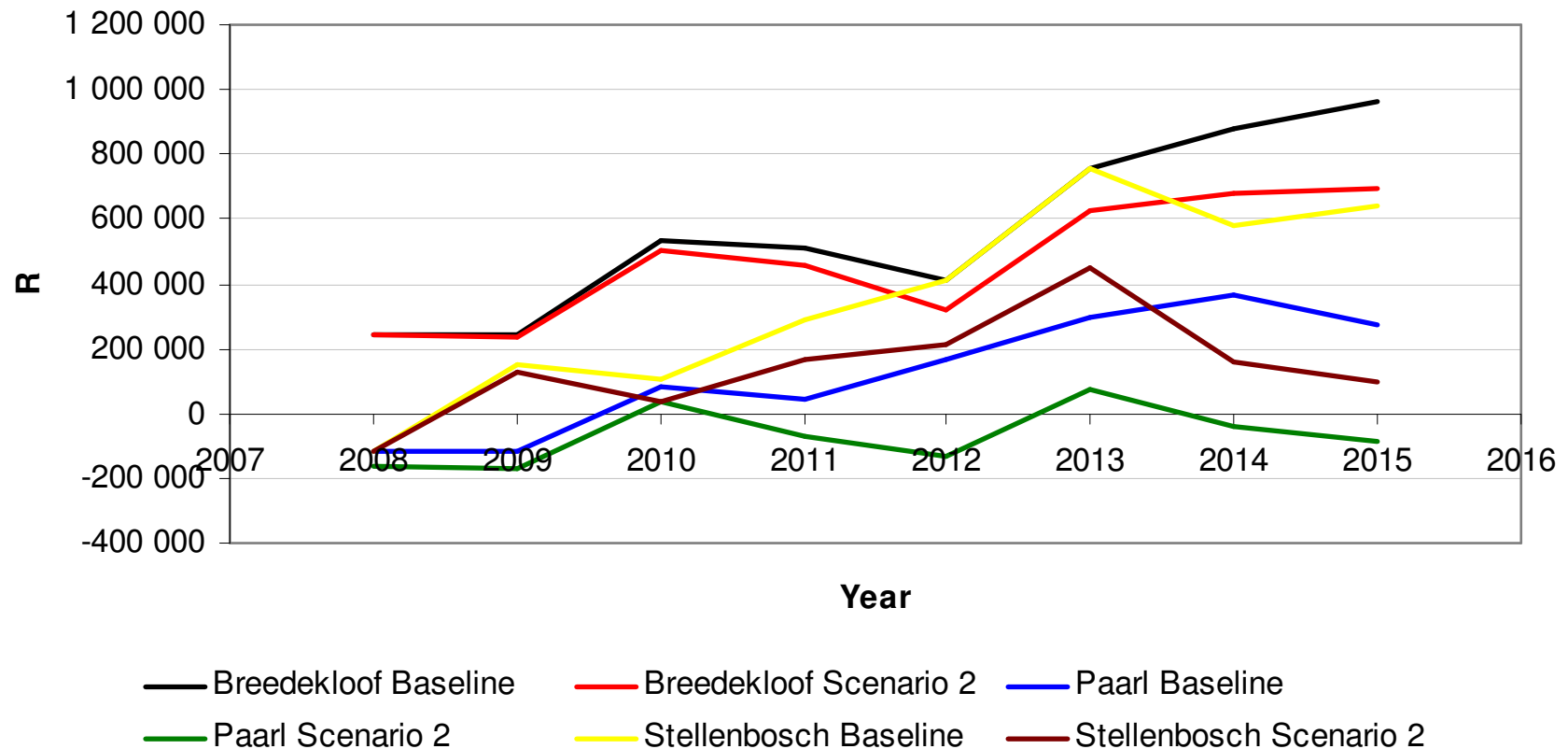


# Scenario 1: exports increase 10%



# Scenario 2: strong Rand (\$1=R8.50)

Baseline vs Scenario 2 NFI per typical farm



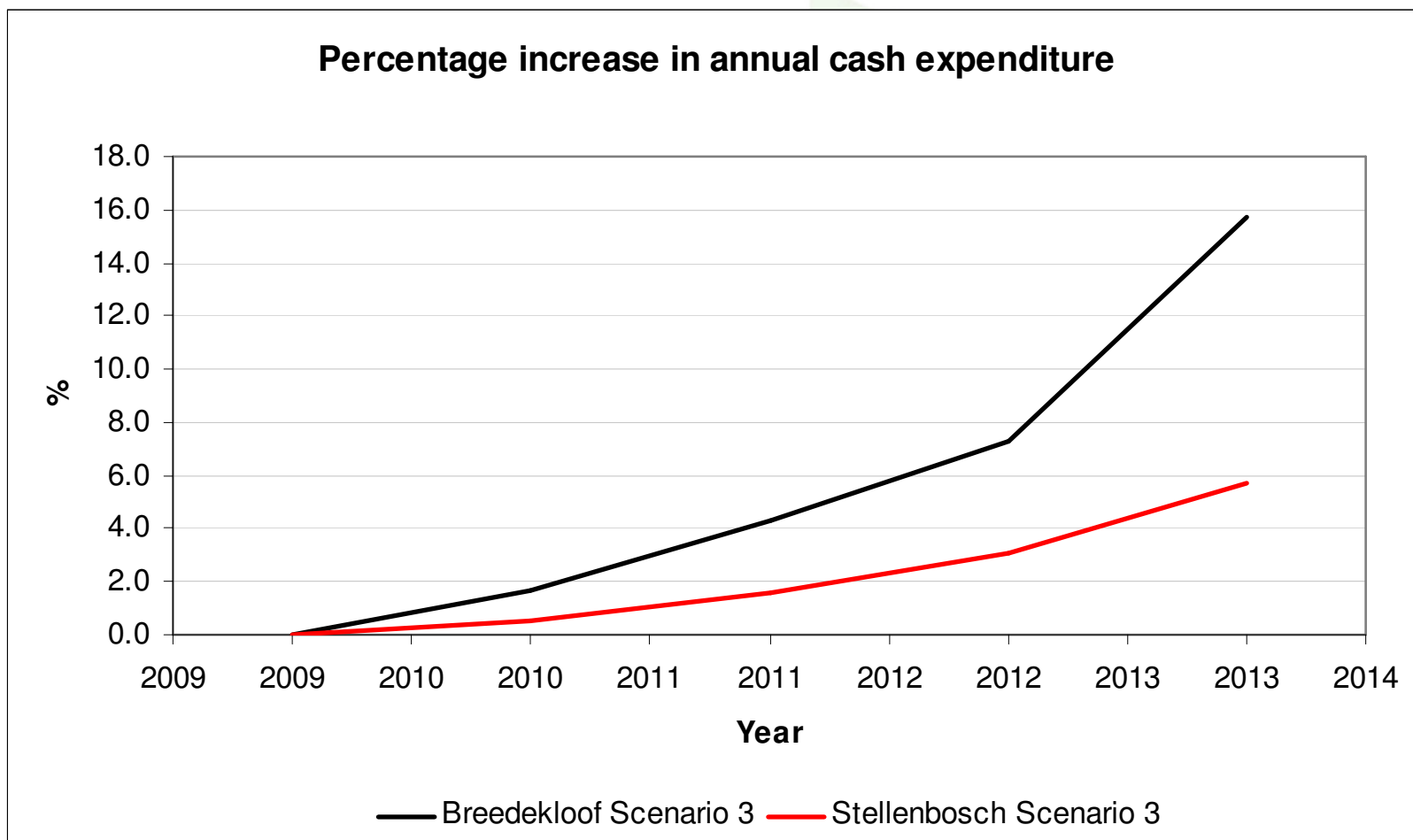
# Scenario 3: electricity tariff increase

Assumption:	2010	2011	2012	2013
Annual electricity tariff increase (%)	31	45	45	45

Typical farm:	Breedekloof	Stellenbosch
Directly variable electricity cost (R/ha)	1 092	625
Electricity cost as % of directly variable cost	12.0	4.7

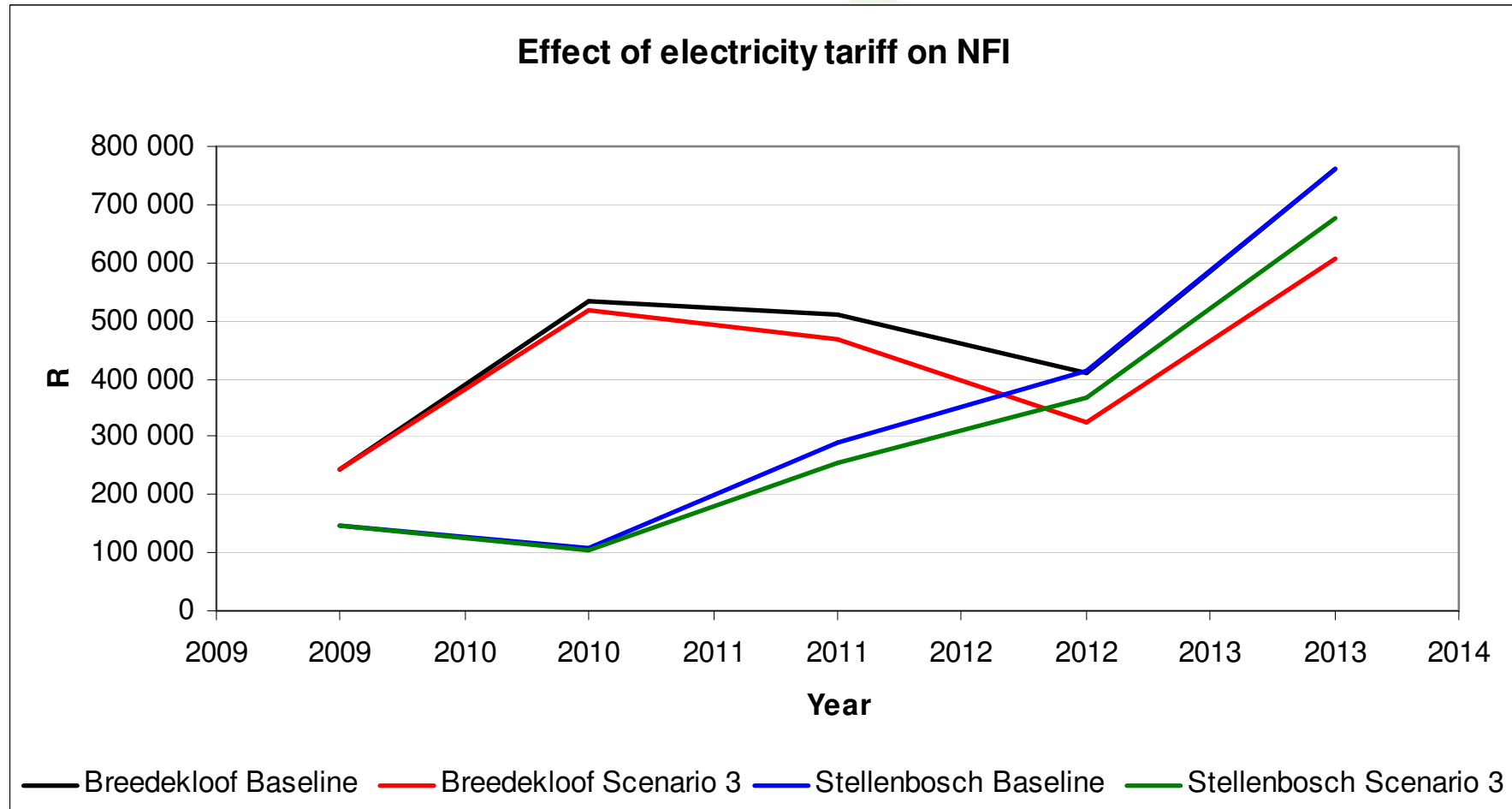


# Scenario 3: electricity tariff increase



# Scenario 3: electricity tariff increase

Effect of electricity tariff on NFI



# Thanks for support



wherever South African wine producers count



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