



ATMO
sphere

n e t w o r k
Natural Refrigerants

07/06/18 - Johannesburg





Chemicals and
Waste Management

PHASING OUT ODSs in SOUTH AFRICA

ATMOSPHERE NETWORK – JOHANNESBURG 07/06/2018

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environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA



Outline

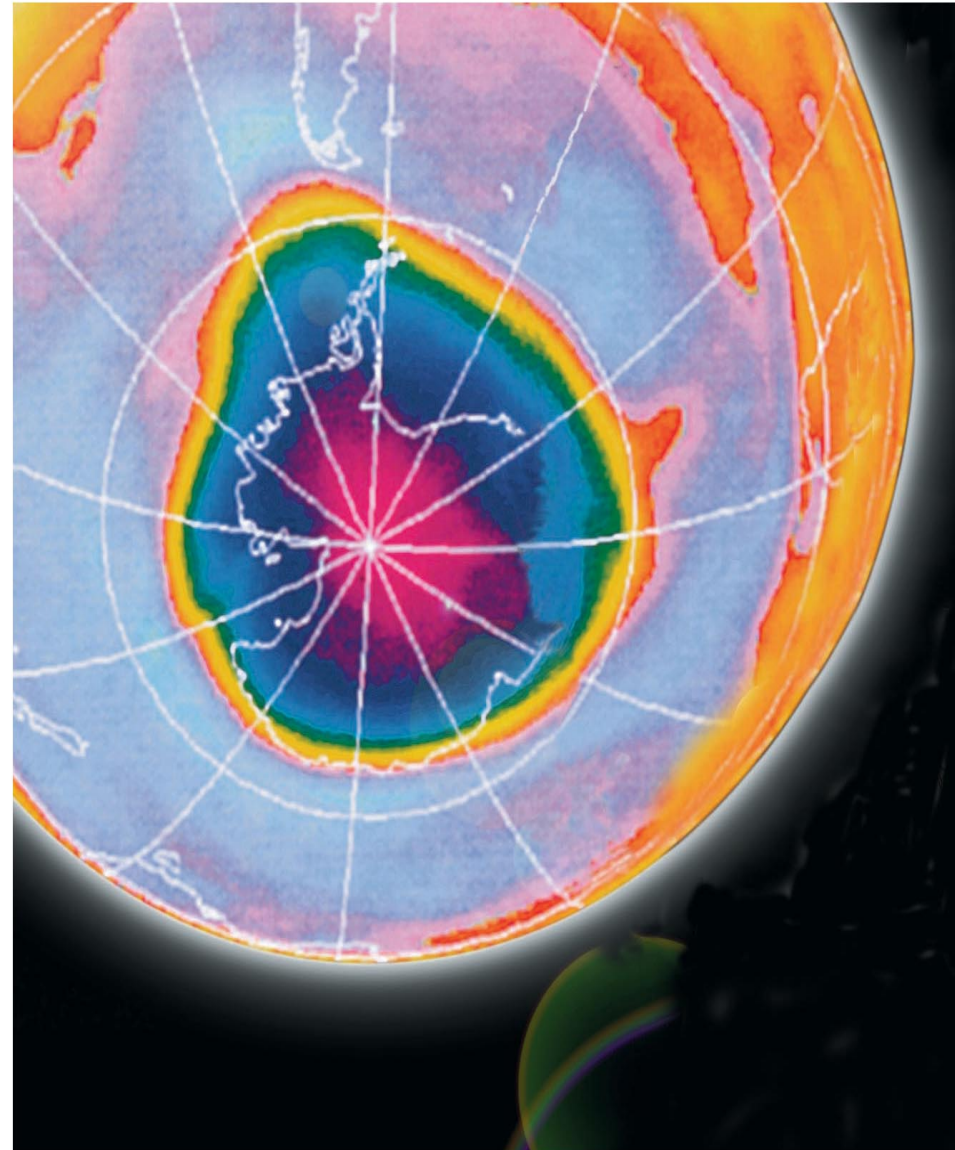
- **Background – Ozone Depletion**
 - **Problem**
 - **ODS - Chemicals**
 - **ODS - Uses**
- **Protecting the Ozone Layer**
- **South African Successes**
- **Formula to success**

Background - Ozone Depletion

Ozone “Hole”

“Ozone Hole” more accurate
“ozone thinning”

Warming at end of winter
releases frozen chemicals
destroying ozone



Background - Ozone Depletion



Chemicals...

- Chlorofluorocarbons (CFCs)
- Hydro Chlorofluorocarbons (HCFCs)
- Halons
- Methyl bromide
- Carbon tetrachloride
- Methyl chloroform
- Hydrogen chloride



Background – Low ODP But High GWP

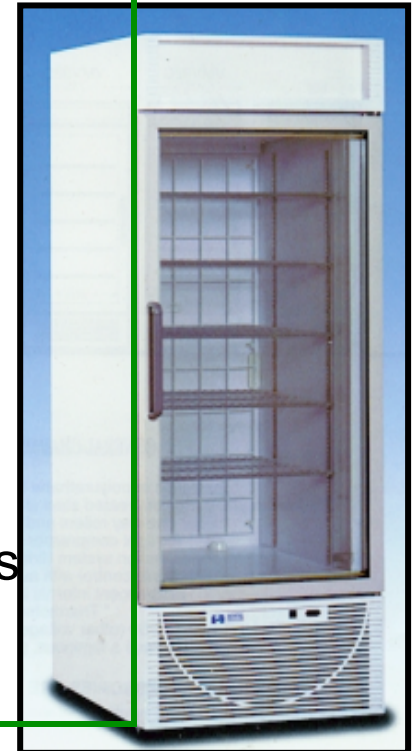


Background - Ozone Depleting Substances uses



Used...

- As **Refrigerant** in Refrigeration & Air-Conditioning
- As **Propellant** in Aerosol industry
- As **Blowing Agent** in Foam Industries
- As **Solvent** or Cleaning Agent in many industries
- As **Fire Fighting** Substance (Halon)
- As soil **Pesticide** for many agricultural crops and grain storage **Fumigant** (MeBr)

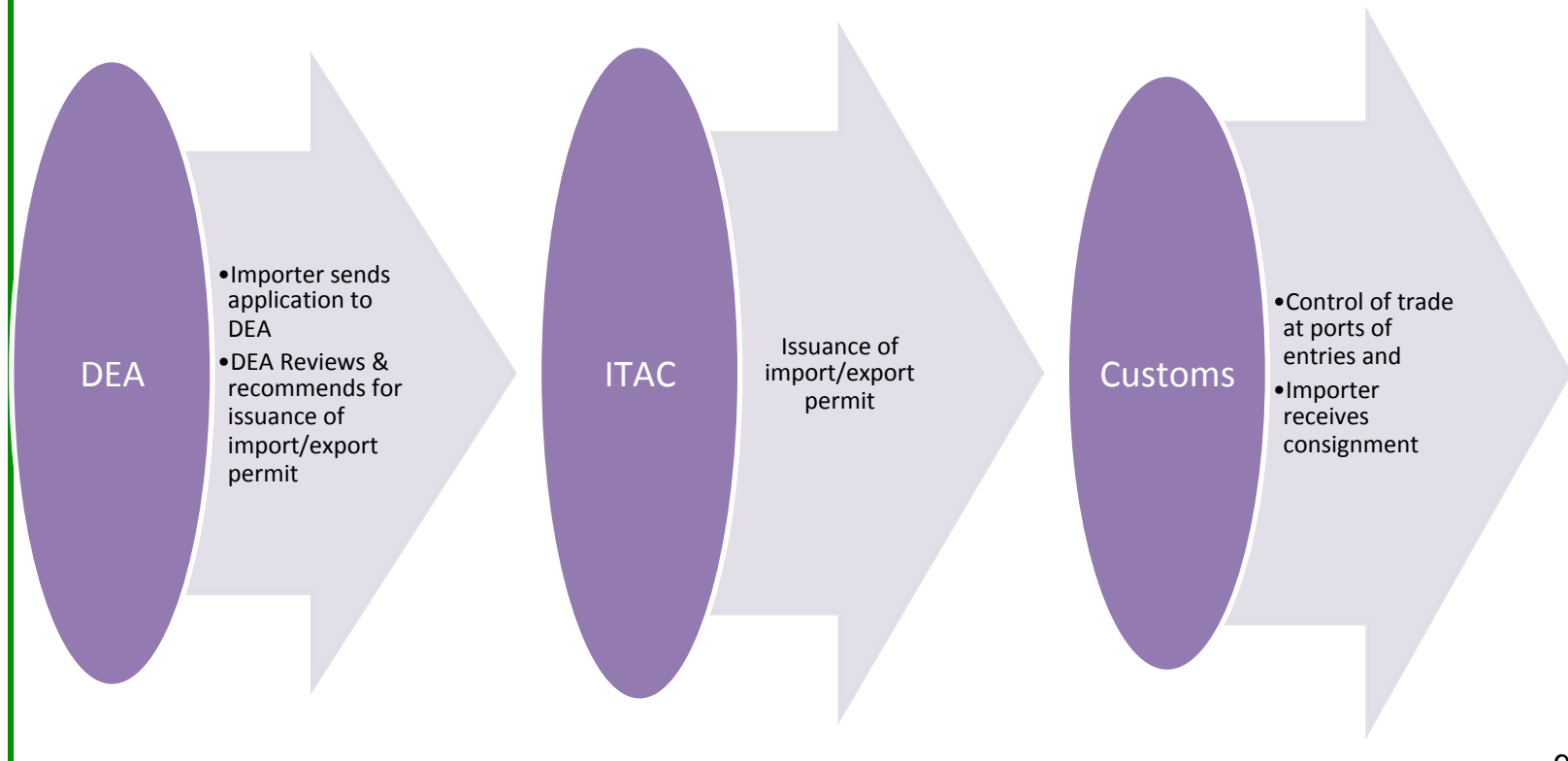


Protecting the Ozone layer

- Vienna Convention (framework on the protection of the ozone layer)- R.S.A became **party in 1990**
- Montreal Protocol (control and phasing out of ODS)- R.S.A became **party in 1990**
- SA ODS Regulations - 2014
- Amendment of Montreal Protocol for phasing-down HFCs- Kigali, Rwanda October 2016.
- **Good News: Alternatives Do Exist**

South African Successes

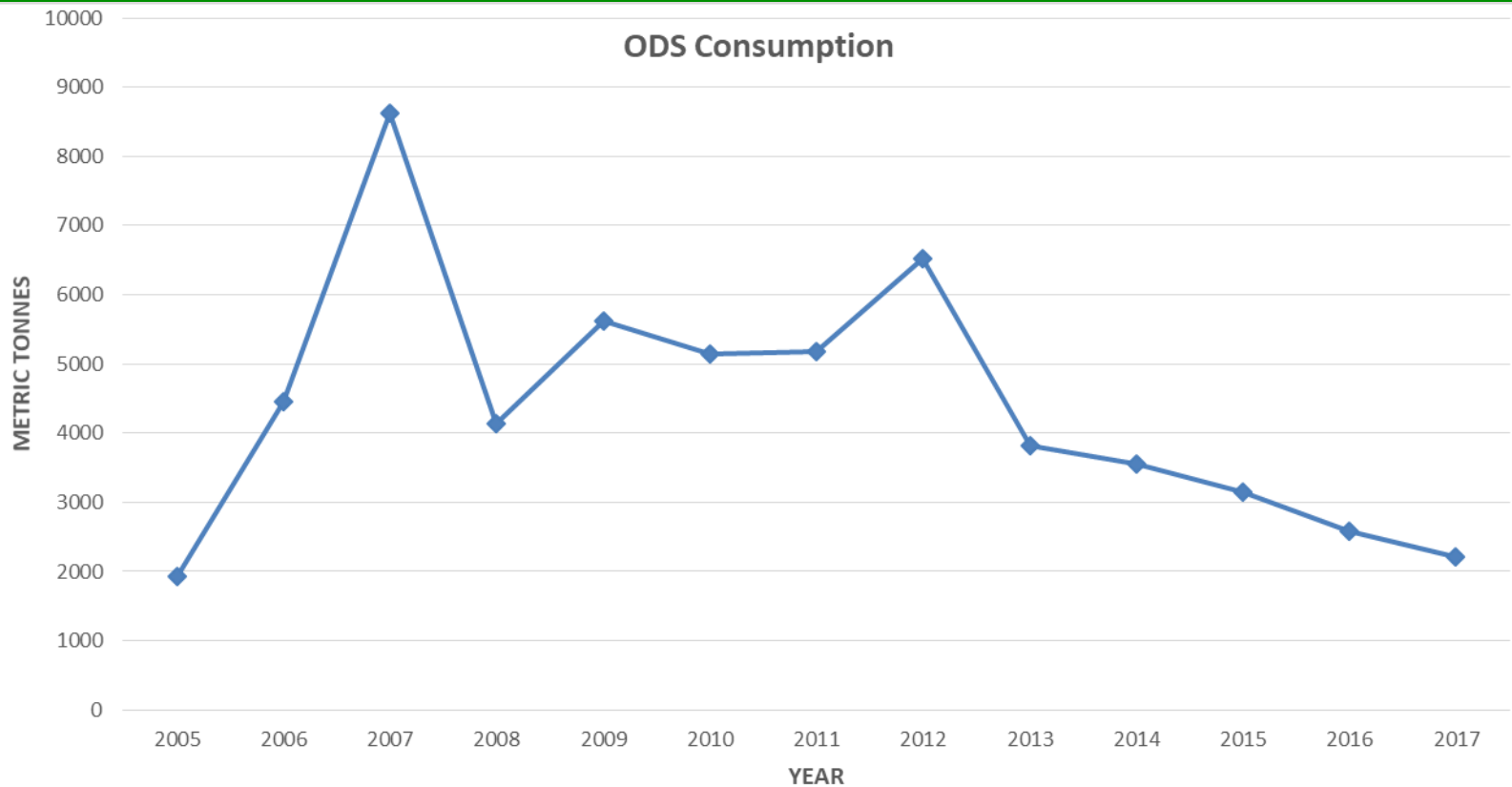
Permitting System & Quota Allocations



South African Successes (HCFCs)

Substance ID				CONSUMPTION	
		IMPORT	EXPORT	MT	ODP Tonnes
HCFC-22		2 353,5	146,5	2248,9	123,7
HCFC-123		20,0	0,0	20	0,4
HCFC-124		0,0	0,0	0	0
HCFC-225		0,0	0,0	0	0
HCFC-141b		0,0	0,0	0	0
HCFC-142b		0,0	2,4	0	0
	Total	2 415,4	148,9	2268,9	124,1

South African Successes

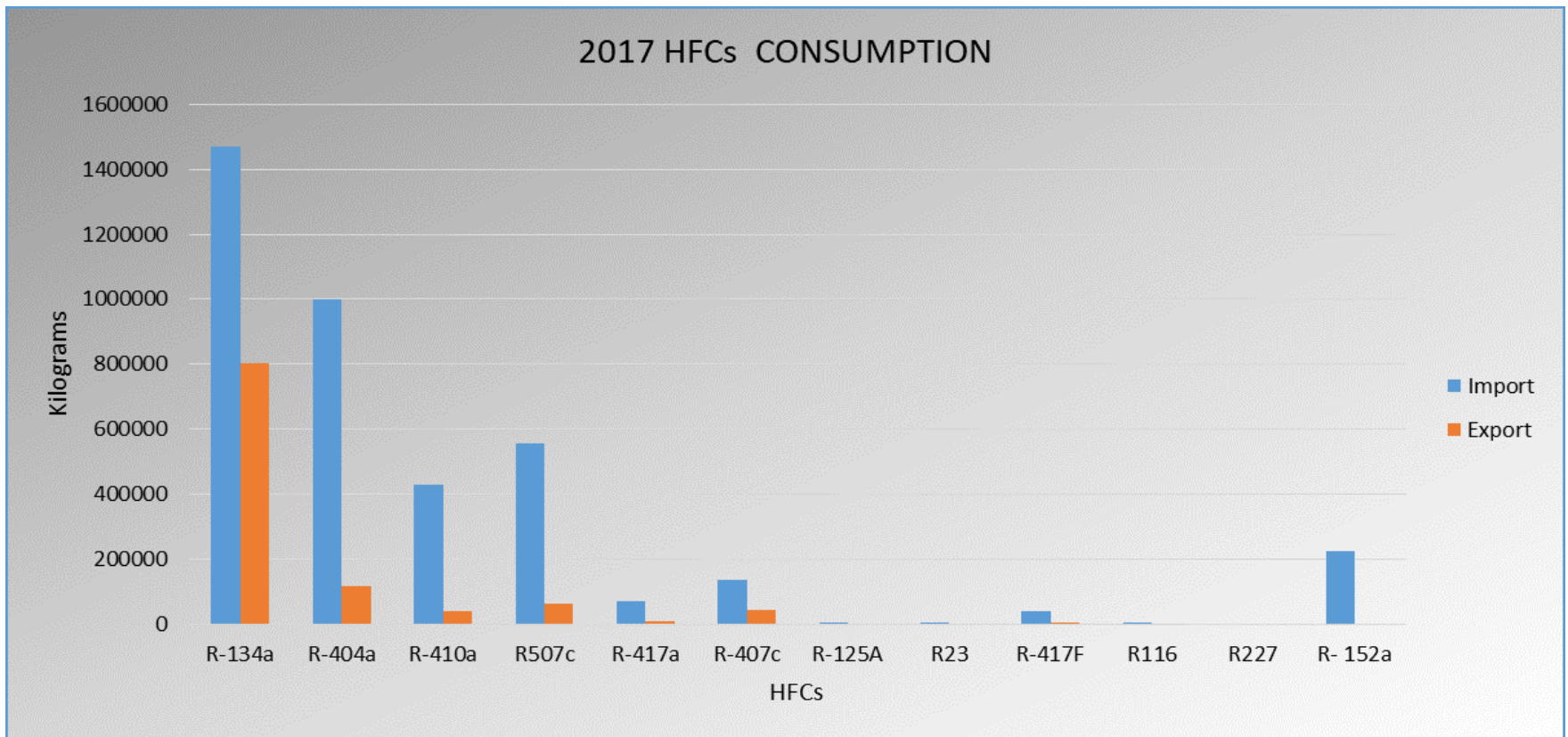


2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
1932,2	4459,4	8630,6	4140,4	5625,4	5147,3	5181,2	6524,8	3821,1	3558,5	3155,6	2581,4	2268,9

South African Successes (HFC - Status)

	Import	Export	Consumption
R-134a	1469898	801158	668740
R-404a	999314	116290	883024
R-410a	426914	39531	387383
R507c	556659	62263	494396
R-417a	70342	7717	62625
R-407c	133803	42329	91474
R-125A	5280	0	5280
R23	3800	0	3800
R-417F	39600	1356	38244
R116	1040	0	1040
R227	56 000	0	56000
R- 152a	224900	0	224900

South African Successes (HFC - Status)



Formula for success

$$X + Y + C = \textit{Success}$$

X = Government

Y = Industry

C = Commitment



Thank You

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