



## Power Backup Market - India

February 2009

# Executive summary

## Introduction

- Devices: **Generators or Genset**, battery-based **Inverters** and **Uninterrupted Power Supply (UPS)**
- End-user segments: **Commercial** (generators, inverters, UPS) and **Residential** (inverters and UPS)
- Wide range of products manufactured domestically
- India developing as an exporter of generators and inverters

## Market

Categories	Domestic		Exports	
	Size (2008)	CAGR (2008-12)	Value (2007)	CAGR (2004-07)
Generator	INR – bn	x%	INR – bn	x%
UPS	INR – bn	y%	INR – bn	y%
Inverter	INR – bn	z%	INR – bn	z%

## Drivers & Challenges

### Drivers

- Chronic power deficit; widening supply-demand gap
- Demand from telecom sector
- Growth in desktop user base

### Challenges

- Increasing cost of raw materials
- Competition from unorganised sector
- Lack of consumer awareness

## Competition

- Large unorganized sector across all three product segments
- **Generators:** Few leading organized players; unorganized sector comprise of OEAs
  - In **portable** segment, Company A and B are leaders while in the **stationary** segment Company C and D are some of the major players
- **UPS:** Company X, Y and Z account for x% of low-capacity UPS
- **Inverters:** AA, BB and CC are leading companies



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- **Market Overview**
  - Segments
  - Drivers & Challenges
  - Competition
  - Key Developments



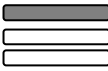
# Power backup devices comprise generators, UPS and inverters

Device	Description	End-use	Size (2008)
Generator / Gen-set	Combination of an electrical generator and engine, which run on fuels like diesel or gasoline, to generate back up power	Industrial and large residential complexes while portable gen-sets are used by smaller establishments like shops	INR -- bn
UPS	Battery-based device providing immediate power backup in case of power failure. Typically used for IT equipment.	PC users like SME & SOHO setups, shops, home users, BPOs, retail chains, server rooms etc.	INR -- bn
Inverter	Electric or electro-mechanical device converting DC (direct current) from batteries to AC (alternating current).	SME & SOHO setups, shops, home users, BPOs, retail chains, hospitals etc.	INR -- bn

Generators are the largest product segment in India.



# Stationary generators, which are largely used in industrial and large commercial locations, are driving generator sales



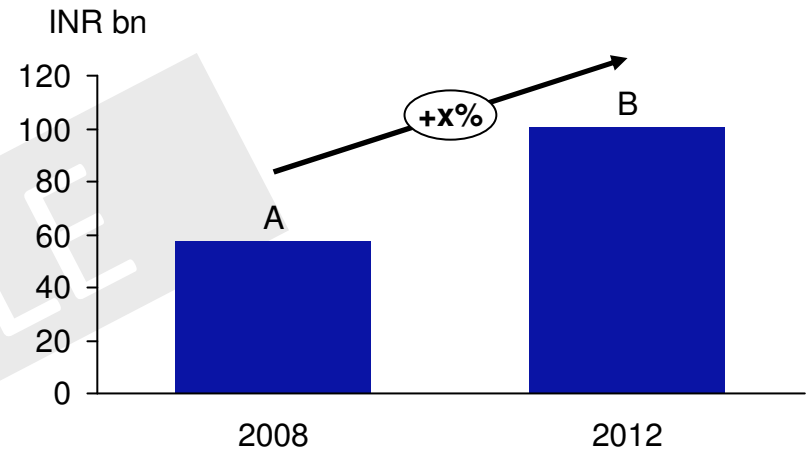
## Generator market overview

- Market size (2008): INR XX bn
- Expected growth rate : x% p.a up to 2012
- Generator sales are declining as inverters gain preference since the latter are:
  - More efficient & cost effective
  - Pollution-free
  - Easy to operate and do not require fuel

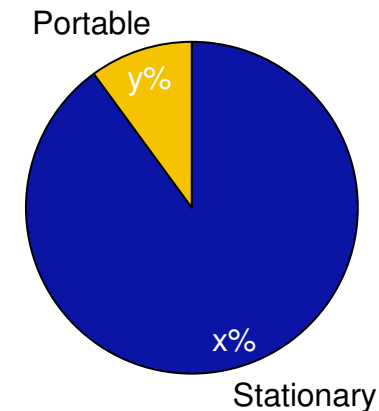
## Product sub-segments

- **Stationary:** Primarily run on diesel
  - <125 KVA used in large residential & commercial complexes, hotels, hospitals
  - >125 KVA used in large core sector industries, process industries
- **Portable** (0.5-6KVA) run on:
  - Petrol
  - Diesel
  - Kerosene

## Market size & growth



## Segment share

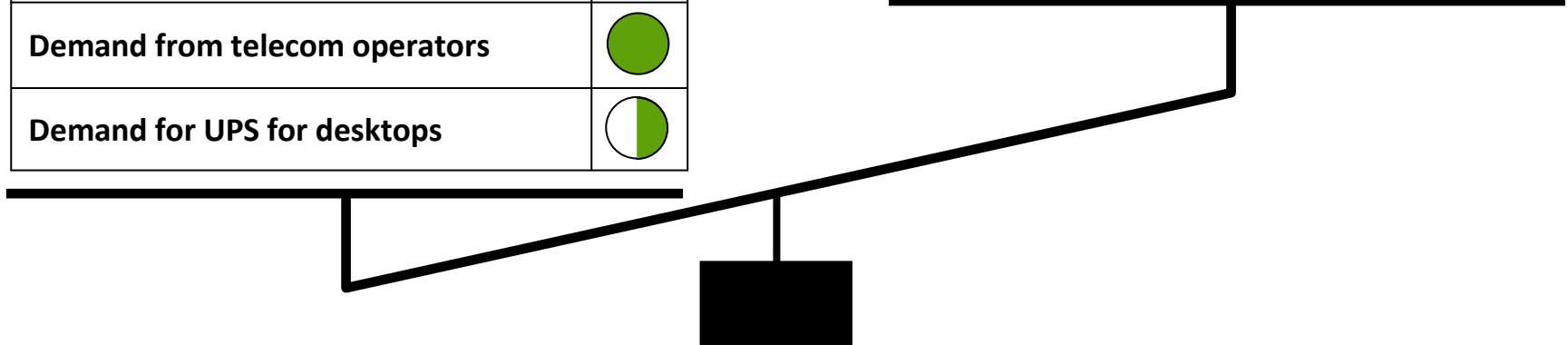


Source:



<b>Drivers</b>	
Power shortages and demand supply gap in India	●
Demand from telecom operators	●
Demand for UPS for desktops	◐

<b>Challenges</b>	
Rising input costs – battery; packaging	●
Competition from unorganised sector	◐
Lack of consumer awareness	◐

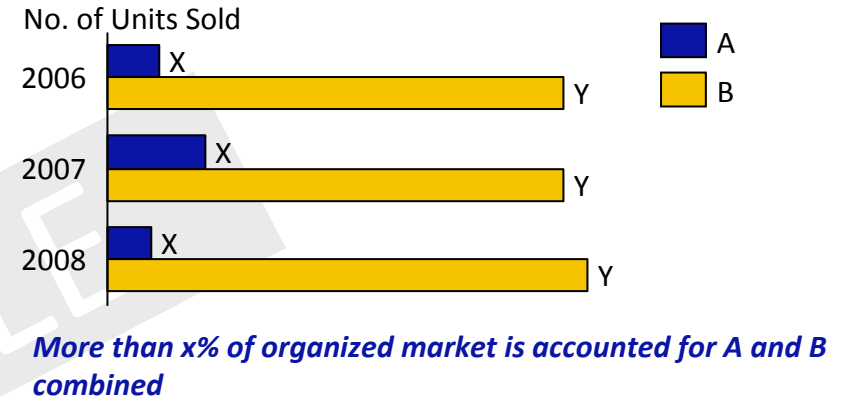


# Unorganized sector comprising of assemblers dominates the market with few, large players in the organized sector

## Generator competition

- Fierce competition from unorganized players, which compete on price, and Chinese imports
- In stationary generator segment:
  - Leaders: AA, BB, CC
  - Others: X, Y, Z
- Few organized players in portable gensets
  - A and B Power are market leaders
  - ABC entered the market in 2008 instead of supplying through assemblers
- Unorganized segment comprises Original Equipment Assemblers (OEA's)
  - Have exclusive understanding for sourcing engines from manufacturers
  - Buy engines and alternators for assembly and sale to customers
  - Major OEAs are dominate their respective regions:
    - Mumbai: Powerica
    - Delhi: Jakson, Sudhir and Bhaskar
    - Chennai: Power Electrics
    - Bangalore: DPK

## Portable Genset Sales (Organized)



## Stationary Generators (Organized)

Company	Units Sold (sales in INR mn)	
	2007	2008
W	A (a)	A (a)
X	B (b)	B (b)
Y	C (c)	C (c)
Z	D (d)	D (d)

\* Production figures; sales data unavailable

