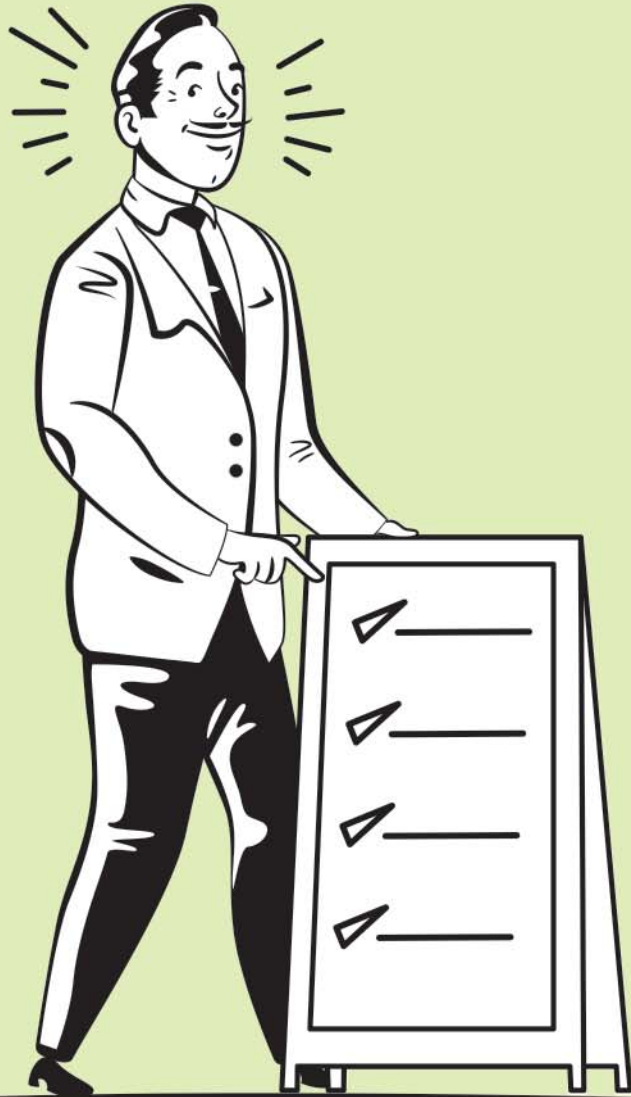




Planning To Buy A Diesel Genset Shortly?

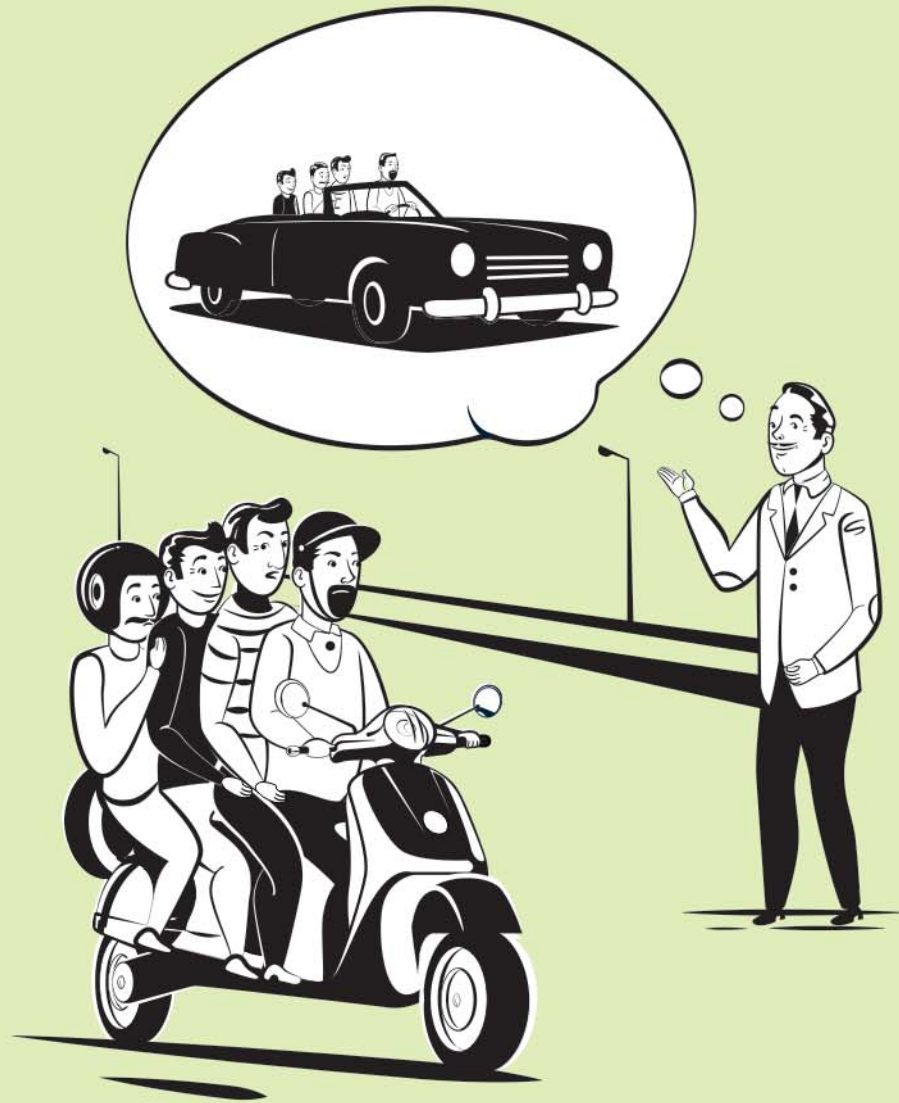
Check Out
The Golden
Tips

Here is a quick check list



- | | Y | N |
|--|-----------------------|-----------------------|
| ① Understand & analyse your power back-up needs, before deciding Genset rating and specifications | <input type="radio"/> | <input type="radio"/> |
| ② Evaluate the options of single large DG set v/s multiple small sets | <input type="radio"/> | <input type="radio"/> |
| ③ Check technical & commercial benefits of system integration | <input type="radio"/> | <input type="radio"/> |
| ④ Check selected site conditions meet Genset's requirements for optimal performance | <input type="radio"/> | <input type="radio"/> |
| ⑤ Your shortlisted Genset brand has proven capability for supporting your DG set for next 15 years | <input type="radio"/> | <input type="radio"/> |
| ⑥ Assess the likely running costs | <input type="radio"/> | <input type="radio"/> |
| ⑦ Assess the likely maintenance costs | <input type="radio"/> | <input type="radio"/> |
| ⑧ Ensure that you aren't buying Genset much earlier than when you need it | <input type="radio"/> | <input type="radio"/> |
| ⑨ Check the service support availability for the Genset In the near vicinity | <input type="radio"/> | <input type="radio"/> |
| ⑩ Check and confirm that you are buying the Genset from a company authorized dealership | <input type="radio"/> | <input type="radio"/> |
| ⑪ Reference checks on the dealership | <input type="radio"/> | <input type="radio"/> |
| ⑫ Has the dealer explained you about the need of correct installation and proper commissioning? | <input type="radio"/> | <input type="radio"/> |

Understand your power back-up needs



Selecting a Power Generating Set (Genset) is hardly a case of rough calculations or “Same as my friend”. Every electrical system and place of operation has unique characteristics viz

- Frequency and duration of power outages throughout the year- Power rating of electrical loads to be supported by the Genset
- Nature of loads (lighting, motor, etc.) and sequence of loading
- Criticality of loads (must run v/s can wait for grid to come back)
- Ambient temperature and altitude at the location of Genset Usage
- Expected future expansions / load additions

Check if your Genset supplier is having load analysis processes, equipment and software programs to assess the unique requirements of your installation and recommend the right Genset ratings.

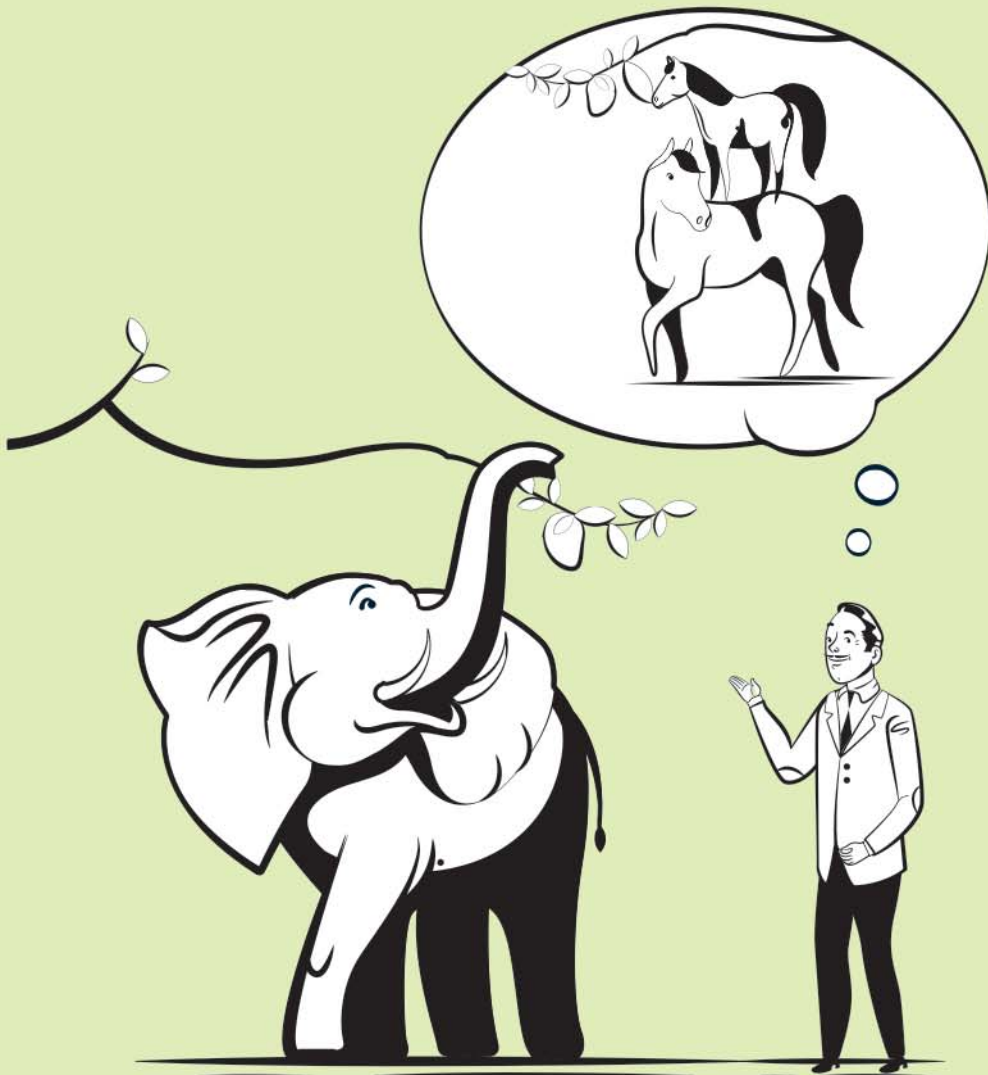
If the site is at very high or very low temperature zone or higher altitude, check if prescribed de-rating factors are applied on Genset rating calculations.

Check if your application needs any step loading and what is the starting power requirement.

Based on your application and ease of maintenance evaluate whether you need air cooled or liquid cooled genset system.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Genset will fully meet your load requirements from day 1 for years to come• Uninterrupted power back-up, optimum running and maintenance costs• Enhanced life of Genset	<ul style="list-style-type: none">• Undesired interruptions in back-up power due to mismatch between Genset specifications and actual loading conditions• Overheating, excess vibrations & noise; increased fuel consumption• Life of Genset may be adversely affected due to improper loading

Choose prudently between one full size Genset and combination of smaller Gensets



Once you have calculated the right size of the Genset, it is prudent to select the right configuration. Genset rating selection is many times governed by high cyclic loads (e.g. first shift requires more power than second shift), provision for future expansion, etc. In such cases, your Genset will run at 40-60% of full capacity for most of its operation.

It is easily understood that fuel efficiency of a large Genset running at 40% load is always lower, as compared to a smaller Genset running at 80% load! Running a smaller Genset at such times saves you substantial fuel costs. You also save a precious natural resource and contribute to reducing India's fuel imports! Further, this helps you build redundancy! You can plan Genset-wise maintenance without affecting your operations and if one Genset requires repair, you have a ready alternate for power back-up.

Therefore, a smart selection of 2 Gensets of lower capacity may substantially lower your lifetime fuel costs, as compared to one Genset of full capacity. There will be a small increase in space and initial costs, but that will get repaid very quickly by the accrued savings.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Run the Genset / s at best fuel efficiency, depending on the actual loading and accrue substantial savings• Ready alternate for planned / breakdown maintenance	<ul style="list-style-type: none">• Genset will run at sub-optimal fuel efficiency and you stand to lose out fuel savings• In cases of planned / breakdown maintenance of Genset, you lose the power back-up

Consider integrating the Genset with your Power system

Genset is a large power back-up with substantial investment. Why not plan for integrating the Genset into your power system?

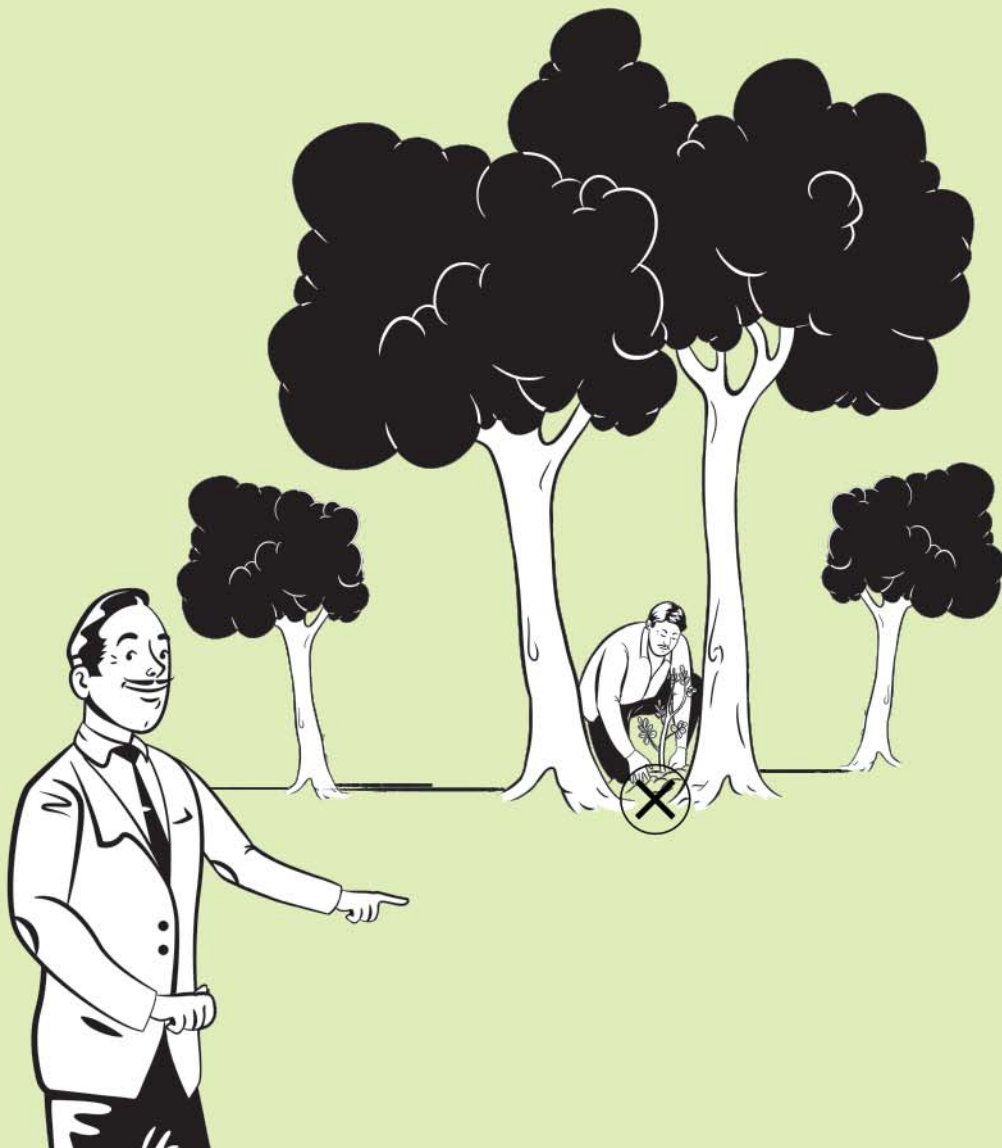
Multiple options viz Auto-Mains-Fail (AMF), Automatic transfer systems, Programmed load segregation are available to support your system integration requirements. A fully integrated, automated and hands-free solution at a nominal incremental price can restore huge peace of mind.

At the same time, these controls are crucial elements for system reliability and robustness. Therefore, procure the systems from a good quality source, viz OE suppliers.



IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Relax with complete automated power back-up. You will not even realize when grid power fails• OE-supplied control systems match reliability of the basic genset and provide lifetime solution	<ul style="list-style-type: none">• Stand-alone Genset will call for manual intervention each time grid power fails• Low-quality control systems will lead to complex failures, thereby increasing down-time

Select site location to meet Genset's requirements for optimal performance



All Gensets complying with Govt. of India pollution norms meet the regulations related to Emission, Noise, Heat and Vibration produced by them. However, for proper functioning of the Genset at your location, specific care needs to be taken while selecting the site.

Genset produces heat which needs to be evacuated. Hence, it requires adequate ventilation and open space around it.

Genset is a combination of electromechanical machines which has moving parts. Hence, some amount of noise and vibration is natural. This may be irritating sometimes if the Genset is placed too close to or within the factory / residential structure. Gensets need to be placed on a proper foundation for absorbing vibrations and in an open area to prevent noise echo.

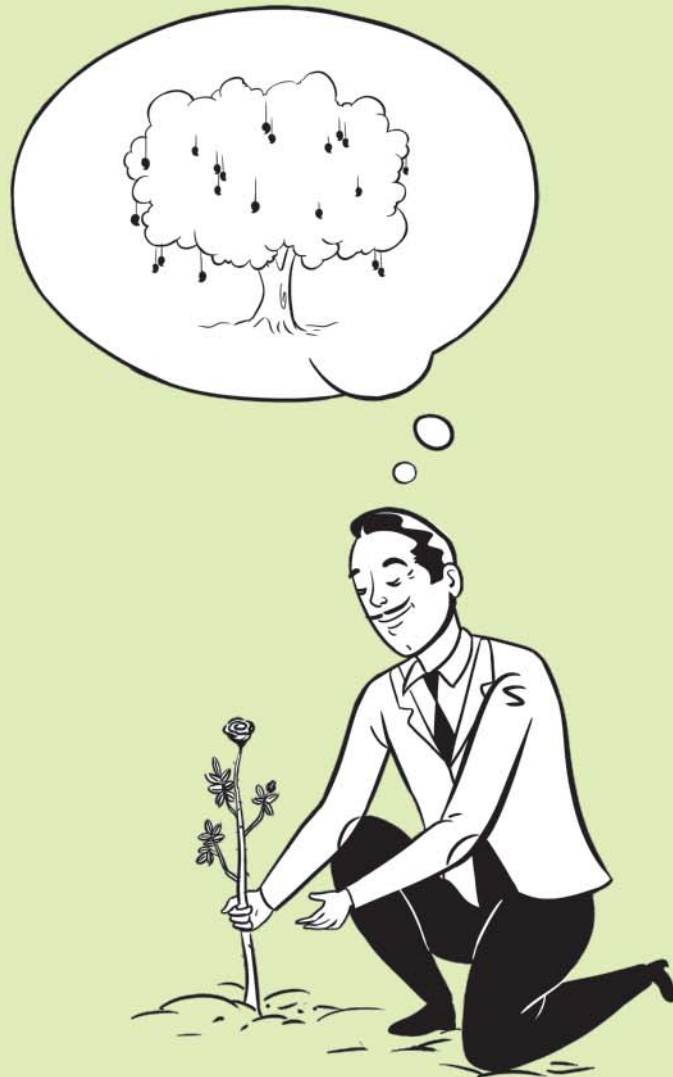
In case of installation in a dusty area, there is a need to protect the Genset from excessive dust ingress. Air flow & wind direction becomes important considerations in such cases.

Genset exhaust also needs to be mitigated properly, as per Govt. regulations and without affecting the nearby ecosystem or other equipment's.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Genset will function to optimal performance and within given specifications and as per your expectations for years to come• You will hardly notice that your Genset is running	<ul style="list-style-type: none">• Genset may overheat and cause disruptions in the back-up power• Noise and vibration disturbing your daily routine functions• Dust entry may cause overheating, frequent maintenance for your Genset

Genset Is A Valuable Asset

Check whether chosen Genset brand has proven capability to support your DG set for 15 years plus



Your favourite car, house, commercial premise or factory is an asset for you, then a Genset is also an asset for backing the power for these assets. Genset can be expected to provide satisfactory service for 15 years and beyond, provided proper maintenance schedule is followed.

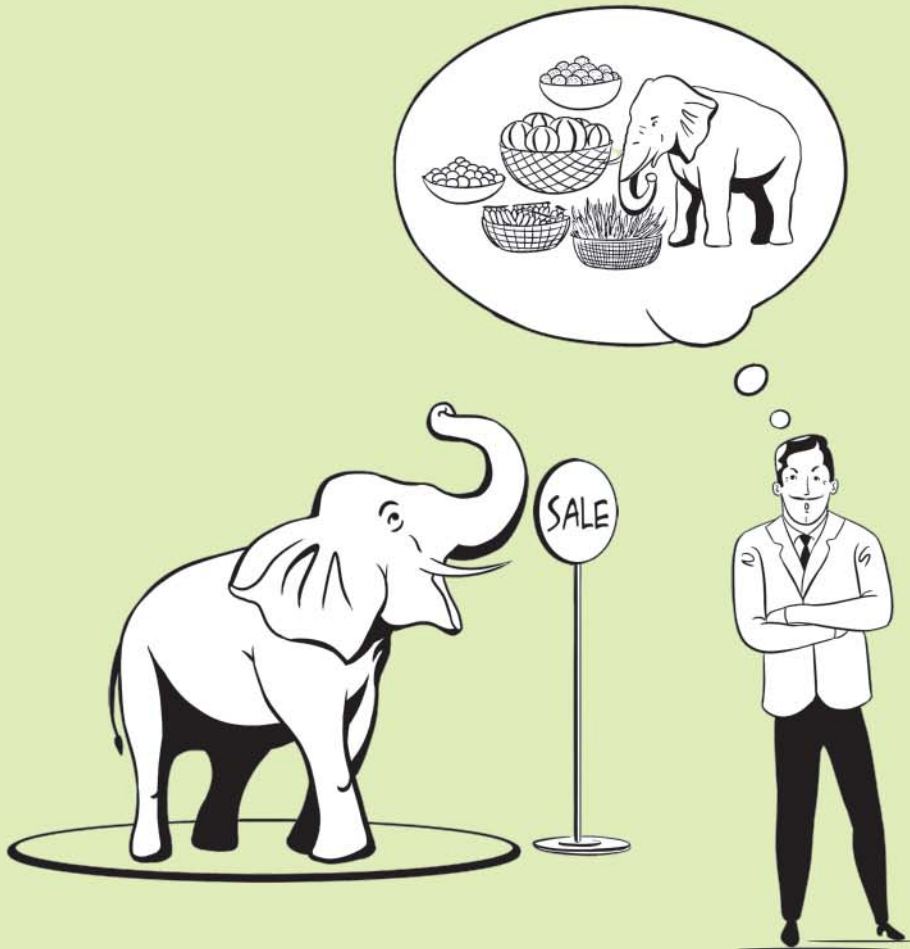
For such a long usage life, you need to ascertain if the chosen brand will be able to provide you the required spares and service over such a long period. Check the track record of the shortlisted brands over long periods. You may also check whether Genset is a core business for the brand or an add-on activity for opportunistic gains.

Robust engine models and high engine population in the market ensures stable and ready availability of spares in the market and that too at affordable prices. This helps buyer to extract maximum life out of the Genset and eliminates the need for early Genset replacement for the want of spares and service.

Market standing of a brand / product also reflects in terms of resale value of the product. It is always prudent to buy a product which has high resale value.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none"> • Genset is promptly supported throughout its life. You extract full value for your investment • You enjoy Peace-of-mind ownership experience 	<ul style="list-style-type: none"> • Parts not available / expensive parts / unreliable, local substitutes • Increased down-time of Genset • Forced to buy new Genset, even when current Genset has usable life left • In case you need to sell your DG set, resale value is low

For any Genset, the running costs are higher than capital costs, hence it is important to check the likely running cost before you decide



No doubt the initial cost is important while buying a capital good like Genset, however, over Genset's life span of 15 years, running costs are even more important.

Running costs are basically the costs of fuel and consumables, which are primarily governed by fuel economy of the Genset and its usage patterns. A Genset offering better fuel economy leads to substantial savings over its life cycle, when compared to its initial purchase price.

A criterion for Genset selection is usually governed by load analysis, starting currents of inductive load and its provision/readiness for future expansion. As such, a Genset typically runs at 50-60% of its rated capacity for most of the time.

Therefore, fuel economy is what matters most rather than loading level which are more relevant when a Genset is operating at 100% load. It is recommended that Genset users should check the fuel consumption data at 50 % loading levels and then compare products for running costs.

Fuel economy is generally expressed at either engine level (Specific Fuel Consumption) or at Genset level. Looking at engine fuel efficiency in isolation may lead to erroneous practical results, hence it is important to look at fuel economy for Gensets as a whole. Hence, user should check the Genset-level fuel economy data at the expected loading from the Genset manufacturers and then compare the running costs.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none"> • Sustained fuel savings throughout Genset life • Proud ownership experience 	<ul style="list-style-type: none"> • Heavy fuel bills and expensive back-up power • Regret over a wrong purchase decision

Having looked at the running costs, check the maintenance costs now



After Initial price of the Genset and its running costs, maintenance costs are the next most important factor in Total Cost of Ownership (TCO). Maintenance costs are the costs for spares, labour charges as well as breakdown costs if a DG is not working. Maintenance costs are primarily governed by the product reliability, spare parts prices and labour costs.

Complex and delicate engines are more expensive to maintain and requires very high level expertise for handling. One critical difference between an automobile servicing and Genset servicing is that a Genset cannot be taken to a garage, where expert manpower and special gadgets are available for its servicing. Therefore always weigh the practical utility and benefits of complex technologies v/s their drawbacks over the product life cycle.

Genset Manufacturers often provide Service packages (AMC) at special rates. Identify the package which best matches your planned usage and compare costs across manufacturers along with service reliability

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Maintenance costs that don't pinch your pocket• Minimum down-time, minimum on-site maintenance• Happy ownership experience	<ul style="list-style-type: none">• Inflated maintenance bill• Longer down-times and waiting periods-lost opportunity cost• Regret over the purchase decision

Genset delivery can be planned in line with your readiness to use. No need to plan in advance



Genset is a high-value, capital purchase. There are disadvantages of buying a Genset too early or too late.

Early purchase decisions could unnecessarily lead to blockages of funds and there is a possibility that your Genset may get damaged in the meantime due to it lying unattended at the site. Further the engine may require revalidation, adding to your costs. Delayed decision would lead to delayed deliveries resulting in delays in desired operations commencing on time.

It is prudent to order the Genset at the right time and get deliveries just before you need them.

Gensets are now available within one week of the confirmed order placement. Check the delivery time offered by your dealer. In the current competitive business context no one need to block the capital in advance.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none">• Make your money work efficiently for you• Avoid damages to Genset due to early delivery & engine validation costs• Avoid perils of work stoppage due to late delivery	<ul style="list-style-type: none">• Your money is blocked for months while the Genset idles at site & may get damaged• Ordering too late may delay delivery and in turn delay the business purpose

Check & assess the service support available for the Genset



Since Genset must provide power on-demand and must be serviced at location, it is important to ascertain whether,

- Service support is available nearest to the Genset site, for quick response to your call.
- Check whether the selected brand has 24 X 7 customer care support.
- Company's trained and experienced service engineers are available at the service outlet, for right diagnosis and quick resolution in the first visit.
- Availability of all spare parts at all times for minimum down-time.

Before buying the Genset, locate the nearest service centre for the brand and have a discussion with the service representative on the above points.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none"> • Quick response • Your asset stays in good hands • Minimum down-time • Happy ownership experience 	<ul style="list-style-type: none"> • Long waits for getting service support • Longer down-time, repeated service visits, inflated labour costs • DG not available when it is needed the most • Regret over the purchase decision

Buy the Genset from an authorized dealership



As per legal requirements in India, Gensets with enclosures (canopy) and adhering to pollution norms are only allowed to be sold/used. Gensets supplied by reputed brands comply with the air pollution and noise norms specified by the regulatory authority (CPCB) and are certified by an authorised body like ARAI.

Buying / using a non-compliant Genset or open Genset is a breach of Govt. regulation and is against the law of the land. When you buy a Genset from an authorized source, you can be sure that your Genset purchase is not in violation of prevailing Govt. regulations.

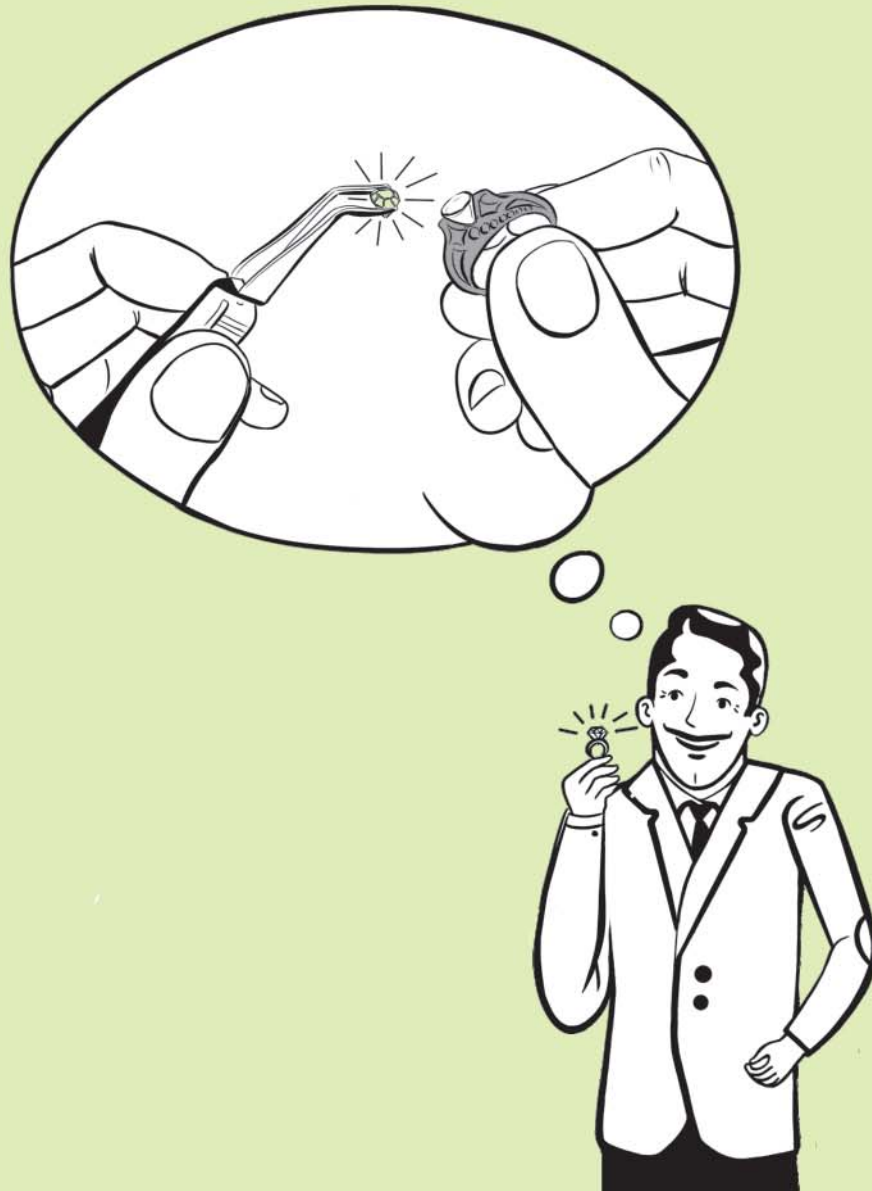
Buying from an authorized source also gives you the peace-of-mind that you are getting the right product quality at a fair price and there is no tampering with the original product. Your advance payments are secure and there is no fear of imitation or tampered products.

Product warranty and free services are subject to proper product installation, registration and maintenance. When you purchase products through authorized channel, you can be rest assured that important processes are properly explained and warranty registrations are fulfilled.

- Check whether the Genset supplier is an authorized dealer and insist on seeing valid dealership certificate.
- Check for how many years the dealer has been associated with the brand which is being offered to you.
- Check whether there has been frequent changes in dealerships for that brand in your area.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none"> • Assurance of regulators compliance • Assurance of right quality and fair price • Smooth execution of warranty and full benefits offered by manufacturer • Secure advance payments • Peace-of-mind with product quality 	<ul style="list-style-type: none"> • Fear of regulatory actions if using a non-complying product • Fear of being saddled with a low quality/refurbished product • Possible financial losses • Guilt of non-compliance and polluting environment • Regret over the purchase decision

Give importance to installation guidelines and proper commissioning



You are planning to buy a stationary Genset and once installed, it is expected to remain there for as many as 15 years! Performance of the product depends on how well it is installed. Civil foundation and electrical connections including electrical earthing are critical to safe and satisfactory functioning of the product.

The dealer offering these services should have company trained installation team. If the installation is in your scope then allocate the contract to an expert in this field. Visit his prior installations and satisfy yourself about quality and diligence.

Ensure that you understand manufacturer's recommendations & guidelines and that the contractor strictly follows them for your installation.

Avoid cutting corners and small expenses in this one-time activity. Compromise on quality aspects in this one time activity can cost very heavily at later stages. Pay specific attention to electrical aspects such as earthing, cable sizing and safe connections.

Carefully follow local regulations in exhaust management. Use proper size of exhaust piping and optimum number of bends.

IF ALL CHECKS ARE DONE WELL THEN ✓	IF CHECKS ARE NOT DONE WELL THEN ✗
<ul style="list-style-type: none"> • Genset that works as per your expectations from day 1 till end of life • Electrical safety and no down-time • Once you fit it well, you can forget about it thereafter 	<ul style="list-style-type: none"> • Excessive vibration, noise • Electricals hazards, fire, electrocution • Frequent disruption in back-up power



Notes



Notes

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Genset buying is a long term asset creation for you or your organisation.

It deserves your time and attention now to save a lot of irritation and money at a later stage.

Underperforming or a suboptimal Genset is a gross national waste of resources.

Issued in the best interest of Genset buyer by

India's #1 Genset Brand



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