

# End-to-End EPC Solutions for Ethanol, Distillery & Sugar Plants

1G & 2G Process Engineering | Turnkey Execution | Sustainable, Efficient & Future-Ready

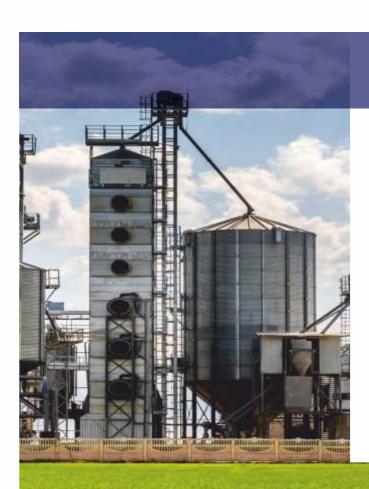


## Your EPC Partner in Ethanol & Bioenergy

KMV Industries is a specialized EPC (Engineering, Procurement & Construction) firm delivering high-performance ethanol plant solutions across India. Founded by experienced professionals from the biofuel and sugar sectors, we provide process-driven engineering services, not just equipment.

From fermentation design to distillation, evaporation, dehydration, and ZLD integration — we deliver custom-built, turnkey ethanol plants optimized for feedstock, cost, and compliance.

Whether you're starting a new project or modernizing an old one, KMV brings technical depth, regulatory understanding, and operational excellence under one roof.



## **Key Highlights:**

- 1G & 2G Ethanol Project Execution
- Feedstock Versatility
- Turnkey EPC Solutions
- Sustainability-Focused Design
- Regulatory Compliance Support

## Our Expertise



**Expertise Rooted in Process. Designed for Performance.** 

### 1G Ethanol Plant Capabilities:

Fermentation design for sugarcane juice, C & B-heavy molasses, grains, sugar beet Distillation systems for Rectified Spirit (RS), ENA & Fuel-Grade Ethanol Dehydration using Molecular Sieve Technology Spent wash evaporation and condensate recovery

## **Spares Supply:**

We supply all types of spares for distillery, ethanol and sugar industry plants, ensuring reliability and minimising downtime across operations.



### 2G Ethanol Plant Capabilities:

Biomass pre-treatment (Agri-waste, lignocellulosic material) Enzymatic hydrolysis and C5/C6 sugar fermentation Integrated dehydration and distillation Suitable for rice straw, wheat straw, corn cobs, bagasse, etc.

### Speciality Process Solutions:

Ethyl acetate production from ethanol/rectified spirit ZLD-Integrated systems for environmental compliance Energy-saving plant layouts with heat integration



## **Our EPC Services**





We deliver every project with a structured and tested approach:



## Feasibility & Conceptualization

- Techno-economic feasibility
- Feedstock evaluation
- Preliminary energy balance



## Basic & Detailed Engineering

- Process flow diagrams (PFDs) & P\&IDs
- Civil/structural layouts & 3D modeling
- Equipment sizing & utility planning



- Site erection coordination
- Instrumentation and automation setup
- Trial runs, SOPs, handover documentation



## Post-Commissioning Support

- Operator training
- Remote technical assistance
- Plant audits & upgrade planning

## Technology Leadership

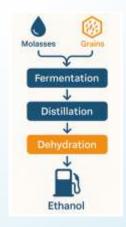


## 1G & 2G Ethanol Process Technology

#### First-Generation

### (1G) Ethanol:

- Feedstock: Molasses, Sugarcane Juice, Grains, Sorghum
- Alcohol Grades: RS, ENA, Fuel Ethanol
- High Recovery, Low Steam Designs
- Automated Fermentation & Distillation Control

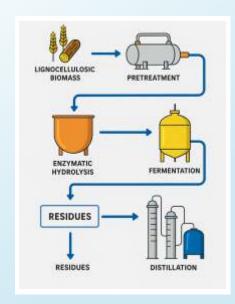


## Second-Generation (2G) Ethanol:

- Feedstock: Agricultural Waste (Rice Straw, Bagasse)
- Biomass Hydrolysis, C5/C6 Sugar Fermentation
- Advanced Distillation + Dehydration
- Designed for low carbon intensity and waste valorization

### **Sustainability Add-ons:**

- Multi-effect evaporation (MEE)
- ZLD compliance systems
- Heat recovery systems
- Water & condensate reuse design





### **DDGS Dryer Solution:**

- Integrated, energy-efficient drying of DDGS for grain-based ethanol plants
- Converts byproduct into protein-rich animal feed with optimised heat recovery
- Energy-saving plant layouts with heat integration

## **Our Distinct Advantage**



# Why KMV Is the Right EPC Partner for Ethanol Projects

#### Versatility Across Feedstocks

We've designed systems for sugarcane juice, molasses, grains, and agri-residues — offering tailor-made engineering for every scenario.

#### Process-Led Execution

We prioritize energy and water optimization, not just equipment installation. Every step is process-calculated and efficiency-driven.

### Compliance-First Design

Our designs are aligned with PESO, fire safety, pollution control, and environmental clearance norms — helping clients avoid delays.

### Technology That Evolves With You

Our platform is designed for future upgrades, carbon credit integration, and biofuel policy shifts. We're building long-term value, not just plants.

### End-to-End Support

From feasibility to technical audits and SOP development, KMV is your partner from project start to performance scale-up.

## Project Highlights 4 1 & Client Base



**Projects We've Supported.** Partnerships We Value.

- Delivered critical process systems for 30+ KLPD to 220+ KLPD ethanol capacities
  - Supported distillery units with energy recovery and ZLD retrofits

## **Project Capabilities Include:**









### **Our Reference:**

**Praj Industries Limited** Project Through

Butter Biofuels, Boudh Distillery, Barghrah Biofuels, Baidyanath Biofuels, Jurala Organics, Dhanuka Biotech, Radico Kaitan, Radico NV Distillery, Parag Agro, Trivini Engg., Kadwa SSK, Kapeeshwar Sugars, Shiraguppi Sugar, Uttam Distilleris, Associates Alcohols, Rajshree Fine Chemical.

#### Project Through ISGEC HEAVY ENGG LTD

Kedarnath Sugar, Pancha Ganga Sugar, JGN Sugar West Kenya Sugar, Shivneri sugars

Regreen Excel EPC India Ltd.(RGEPL) Project Through

Dalmia, Kribhaco, Grain Span, Bharat Spirit, Neelshree Sugar, Globus Spirit, Oasis, CIL-NOVA, UKR, RAR, Bor Seker A.S(Turkey)





- ▶ New Ethanol plant setup
- ► Conversion from RS to fuel Ethanol
- **▶ 2G Ethanol feasibility**
- ► Extra Neutral (Portable) Alcohol ENA
- **▶** Extra Quality Rectified Spirt
- **▶ Ethyl Acetate**
- ▶ Zero Liquid Discharge ZLD
- **▶** Energy Optimization Opex Optimization



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