The Permitting Process: Gasification Facility (Biomass Feedstock)

1. Obtain Land Use / CEQA Clearance

   - CEQA / LAND USE (Local Planning Department)
     - Use permitted in current zone
     - Min. 6 months

   - Building Permit(s)+
     - Local Building / Public Works Departments
     - 3 months
     - Grading Permit
     - 3 months
     - Encroachment Permit
     - 3 months
     - Building Permits

   - Air Permit
     - Local Air District
     - Authority to Construct (ATC)
     - Min. 6 months

   - NPDES Permit (Stormwater)
     - State Water Resource Control Board
     - Stormwater Construction Permit
     - Typ. 1 month

   - Waste Discharge Permit
     - Local Sanitation District
     - Industrial Wastewater Discharge Permit
     - Typ. 3 months

2. Obtain Permits Prior to Construction of Facility

   - Building Permit(s)+
     - Local Building / Public Works Departments
     - 3 months
     - Grading Permit
     - 3 months
     - Encroachment Permit
     - 3 months
     - Building Permits

   - Air Permit
     - Local Air District
     - Authority to Construct (ATC)
     - Min. 6 months

   - NPDES Permit (Stormwater)
     - State Water Resource Control Board
     - Stormwater Construction Permit
     - Typ. 1 month

   - Waste Discharge Permit
     - Local Sanitation District
     - Industrial Wastewater Discharge Permit
     - Typ. 3 months

3. Obtain Permits to Operate Facility

   - NPDES Permit (Stormwater)
     - State Water Resource Control Board
     - Industrial General Permit
     - Typ. 1 month

   - Hazardous Material Reporting
     - Certified Unified Program Agency
     - Annual Reporting

   - Air Permit
     - Local Air District
     - Permit to Operate
     - 6 months (after operations start)

Approximate Timeline for Development

<table>
<thead>
<tr>
<th>Process</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use/CEQA</td>
<td>2-5 years</td>
</tr>
<tr>
<td>Obtain Permits Prior to Construction + Permits to Operate</td>
<td>7 months</td>
</tr>
<tr>
<td>Construct Facility</td>
<td>18 months</td>
</tr>
<tr>
<td>Commissioning + Start-up</td>
<td>3 months</td>
</tr>
<tr>
<td>TOTAL (Time to Operate)</td>
<td>2-5 years</td>
</tr>
</tbody>
</table>

1. Required permits may vary between local jurisdictions. Per CalRecycle, biomass conversion is defined in Division 30 of the Public Resources Code 40106 and if the activity meets this definition it does not require a Solid Waste Facility Permit (SWFP) since it has been separated from the solid waste stream. If there is also an element to the project where there may be chipping and grinding activities, then may be subject to the requirements in Title 14, California Code of Regulations, Chapter 3.1. Compostable Materials Handling Operations and Facilities Regulatory Requirements.
The Permitting Process: Gasification Facility (MSW Feedstock)

1. Obtain Land Use / CEQA Clearance

   CEQA / LAND USE (Local Planning Department) → Conditional Use Permit / CEQA Approval → Environmental Impact Report

Typ. 2-5 years

2. Obtain Permits Prior to Construction of Facility

   - Solid Waste Facility Permit (CalRecycle) → Full Solid Waste Facility Permit
     - Typ. 1 yr.
     - NSWFP issued 1 year after application

   - Building Permit(s) (Local Building / Public Works Departments)
     - 3 months
     - Grading Permit
     - Encroachment Permit
     - Building Permits

   - Air Permit (Local Air District)
     - Min. 15 months
     - Title V - Authority to Construct (ATC)

   - NPDES Permit (Stormwater) (State Water Resource Control Board)
     - Typ. 1 month
     - Stormwater Construction Permit

   - Waste Discharge Permit (Local Sanitation District)
     - Typ. 3 months

   Local Sanitation District

3. Obtain Permits to Operate Facility

   - Air Permit (Local Air District)
     - 6 months (after operations start)
     - Permit to Operate

   - NPDES Permit (Stormwater) (State Water Resource Control Board)
     - Typ. 1 month
     - Industrial General Permit

   - Hazardous Material Reporting (Certified Unified Program Agency)
     - Annual Reporting

   - Annual Reporting

   Approximate Timeline for Development

<table>
<thead>
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<th>Process</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use/CEQA</td>
<td>2-5 years</td>
</tr>
<tr>
<td>Obtain Permits Prior to Construction + Permits to Operate</td>
<td>18 months</td>
</tr>
<tr>
<td>Construct Facility</td>
<td>18 months</td>
</tr>
<tr>
<td>TOTAL (Time to Operate)*</td>
<td>5-8 years</td>
</tr>
</tbody>
</table>

* Permit to Operate for Local Air District obtained 6-12 months after operations start. Able to start operations with ATC.

1. Although the same permits are required for a pyrolysis facility, none are currently operational in California.
2. Per Public Resources (PRC) Section 42117, Facility must meet all of the following criteria to be issued a Solid Waste Facility Permit (SWFP): (a) The technology does not use air or oxygen in the conversion process, except ambient air to maintain temperature control. (b) The technology produces no discharges of air contaminants or emissions, including greenhouse gases, as defined in subdivision (g) of Section 38505 of the Health and Safety Code. (c) The technology produces no discharges to surface or groundwater of the state. (d) The technology produces no hazardous waste. (e) To the maximum extent feasible, the technology removes all recyclable materials and marketable green waste compostable materials from the solid waste stream prior to the conversion process and the owner or operator of the facility certifies that those materials will be recycled or composted. (f) The facility where the technology is used is in compliance with all applicable laws, regulations, and ordinances. (g) The facility certifies to the board that any local agency sending solid waste to the facility is in compliance with this division and has reduced, recycled, or composted solid waste to the maximum extent feasible, and the board makes a finding that the local agency has diverted at least 30 percent of all solid waste through source reduction, recycling, and composting.
3. Required permits may vary between local jurisdictions.
4. Title V air permits are for facilities that exceed the major source threshold for criteria pollutants and there are additional requirements for these facilities. Title V also requires concurrence by the EPA on the facility’s permit.
The Permitting Process: Composting Facility

1 Obtain Land Use / CEQA Clearance

- CEQA / LAND USE (Local Planning Department)
  - Use permitted in current zone
  - Conditional Use Permit / CEQA Approval
  - Mitigated Negative Declaration
  - Environmental Impact Report

2 Obtain Permits Prior to Construction of Facility

- Solid Waste Facility Permit
  - CallRecycle
  - Notification Tier
  - Registration Permit
  - Solid Waste Facility Permit
  - 30 days
  - 60 days
  - 6 months

- Building Permit(s)
  - Local Building / Public Works Departments
  - 3 months
  - 3 months
  - 6 months

- Air Permit
  - Local Air District
  - Authority to Construct
  - Stormwater Construction Permit

- NPDES Permit (Stormwater)
  - State Water Resource Control Board

- Waste Discharge Permit
  - Local Sanitation District

- Waste Discharge Requirements
  - State Water Resource Control Board

- General Order for Composting Operations

3 Obtain Permits to Operate Facility

- Air Permit
  - Local Air District
  - Authority to Construct
  - Permit to Operate
  - Typ. 6 months (after operations start)

- NPDES Permit (Stormwater)
  - State Water Resource Control Board
  - Industrial General Permit
  - Typ. 1 month

- Hazardous Material Reporting
  - Certified Unified Program Agency
  - Annual Reporting

Approximate Timeline for Development

<table>
<thead>
<tr>
<th>Process</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use/CEQA</td>
<td>1-2 years</td>
</tr>
<tr>
<td>Obtain Permits Prior to Construction</td>
<td>1 year</td>
</tr>
<tr>
<td>Permits to Operate</td>
<td></td>
</tr>
<tr>
<td>Construct Facility</td>
<td>6 months</td>
</tr>
<tr>
<td>TOTAL (Time to Operate)*</td>
<td>2-4 years</td>
</tr>
</tbody>
</table>

* Permit to Operate for Local Air District obtained 6-12 months after operations start

1. Typically obtained prior to construction, however only required prior to operation
2. Required permits may vary between local jurisdictions
The Permitting Process: Anaerobic Digestion (AD) Facility

1. Obtain Land Use / CEQA Clearance

   - CEQA / LAND USE (Local Planning Department)
     - Use permitted in current zone (Typ. 1 month)
     - Conditional Use Permit / CEQA Approval (Typ. 1 year)
     - Mitigated Negative Declaration (Typ. 2 years)

2. Obtain Permits Prior to Construction of Facility

   - Solid Waste Facility Permit¹
     - CalRecycle
     - Notification Tier (30 days)
     - Registration Permit (60 days)
     - Solid Waste Facility Permit (6 months)

   - Building Permit(s)²
     - Local Building / Public Works Departments
     - 3 months: Grading Permit
     - 3 months: Encroachment Permit
     - 3 months: Building Permits

   - Air Permit
     - Local Air District
     - Min. 6 months: Authority to Construct
     - Typ. 1 month: Stormwater Construction Permit

   - NPDES Permit (Stormwater)
     - State Water Resource Control Board
     - Typ. 1 month: Stormwater Construction Permit

   - Waste Discharge Permit
     - Local Sanitation District
     - Typ. 3 months: Industrial Wastewater Discharge Permit

   - Waste Discharge Requirements³
     - State Water Resource Control Board
     - General Order for Composting Operations (Typ. 9 months)

3. Obtain Permits to Operate Facility

   - Air Permit
     - Local Air District
     - 6 months (after operations start): Permit to Operate

   - NPDES Permit (Stormwater)
     - State Water Resource Control Board
     - Typ. 1 month: Industrial General Permit

   - Hazardous Material Reporting
     - Certified Unified Program Agency
     - Annual Reporting

   - Industrial General Permit

Approximate Timeline for Development

<table>
<thead>
<tr>
<th>Process</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use/CEQA</td>
<td>1-2 yrs</td>
</tr>
<tr>
<td>Obtain Permits Prior to Construction + Permits to Operate</td>
<td>1 year</td>
</tr>
<tr>
<td>Construct Facility</td>
<td>1 year</td>
</tr>
<tr>
<td>TOTAL (Time to Operate)*</td>
<td>3-4 yrs</td>
</tr>
</tbody>
</table>

* Permit to Operate for Local Air District obtained 6-12 months after operations start

1. Typically obtained prior to construction, however only required prior to operation
2. Required permits may vary between local jurisdictions
3. Required only if facility is composting on-site