

# **Workforce Requirements for Energy Projects in Wyoming**

**by**

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**Wyoming Industrial Siting Council**



# Industrial Siting Council

Seven, Governor-appointed members

Permits construction & operation of  
major projects

Power plants, mines, energy processing

Remedies adverse impacts: social,  
economic, environmental



# Staffing Plans

- üCoal-Fired Power Plant
- üLiquids from Coal Plant
- üSour Gas Plant
- üWind Farm



# Coal-Fired Power Plant

## Description

90 net megawatt, air cooled

Pulverized coal, mine to mouth

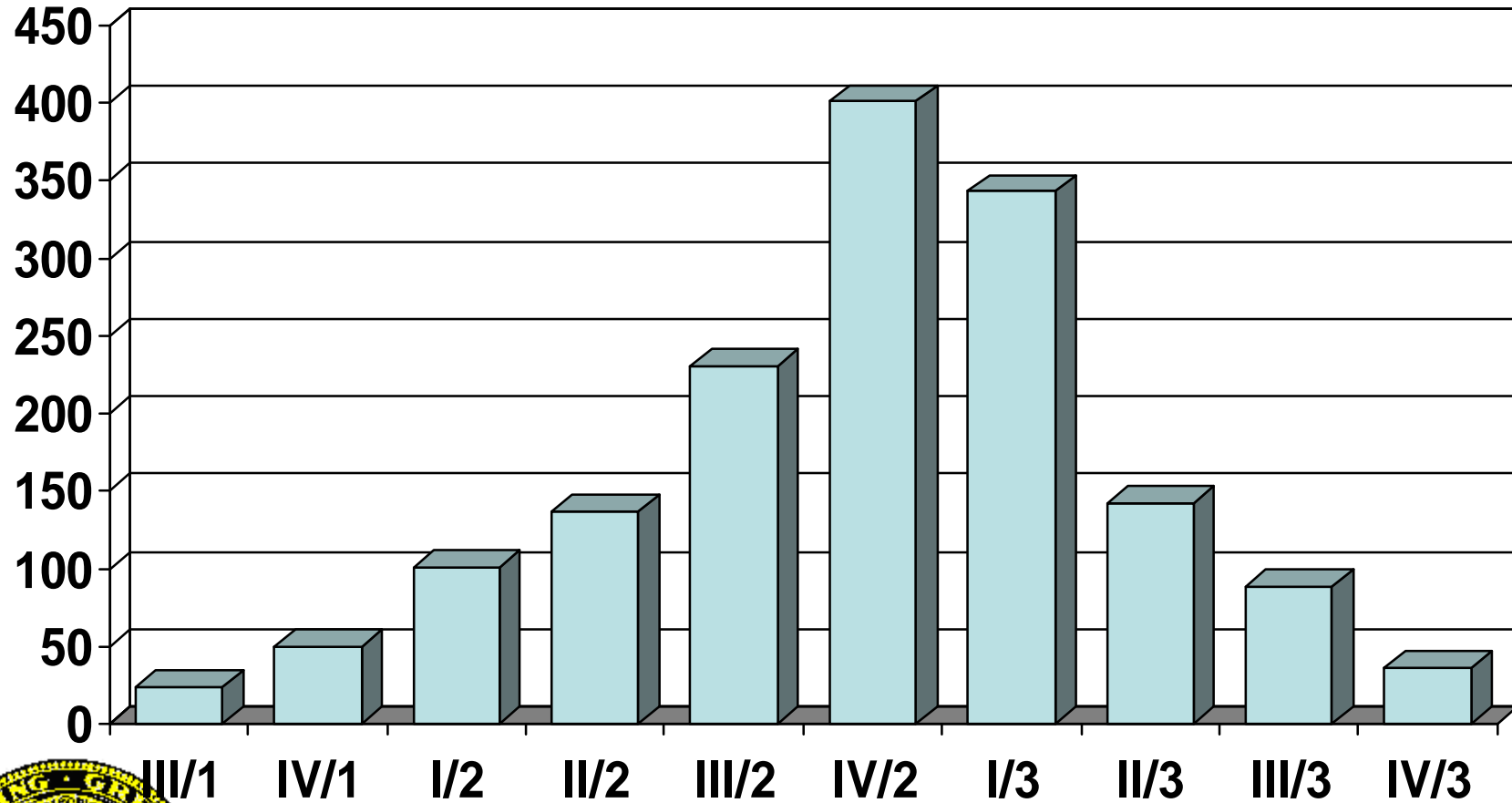
Sixth plant at campus

\$160<sub>2005</sub> million capital  
construction

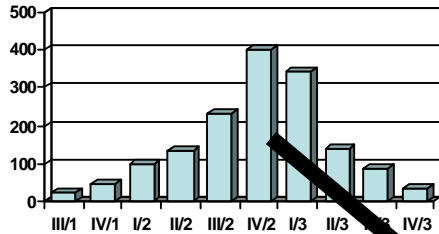
Maximum workforce = 401



# Coal-Fired Power Plant Construction Workforce



# Coal-Fired Power Plant Construction Workforce

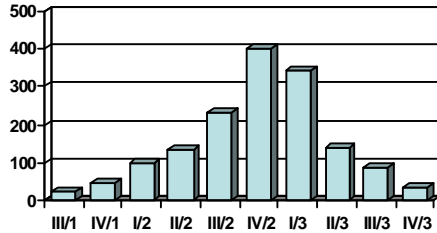


<b>Boilermakers</b>	<b>130</b>
<b>Plumbers &amp; Steam Fitters</b>	<b>105</b>
<b>Electricians</b>	<b>80</b>
<b>Welders</b>	<b>20</b>
<b>Carpenters</b>	<b>15</b>
<b>Millwrights</b>	<b>12</b>
<b>Other Technical</b>	<b>17</b>
<b>Unskilled</b>	<b><u>22</u></b>
	<b>401</b>



# Coal-Fired Power Plant

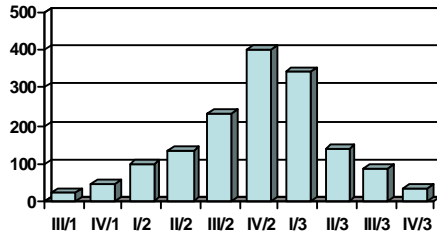
## Selected Mean Wages



<b>Plumbers &amp; Steam Fitters</b>	<b>\$16.13</b>
<b>Electricians</b>	<b>19.80</b>
<b>Welders</b>	<b>17.64</b>
<b>Carpenters</b>	<b>14.68</b>
<b>Millwrights</b>	<b>15.73</b>
<b>Construction Ave Wage</b>	<b>\$15.58</b>
<b>Construction Ave &amp; Benefits</b>	<b>17.88</b>



# Coal-Fired Power Plant Estimated Permanent Workforce



<b>Operations Manager</b>	<b>1</b>
<b>Operations Supervisor</b>	<b>2</b>
<b>Unit Operator</b>	<b>5</b>
<b>Equipment Operator</b>	<b>10</b>
<b>Control Technician</b>	<b>2</b>





# Liquids from Coal

## Description

Six million tons of coal input<sub>year</sub>

Outputs:

Three million tons derived fuel

Six million barrels of derived liquids

240 megawatt power plant

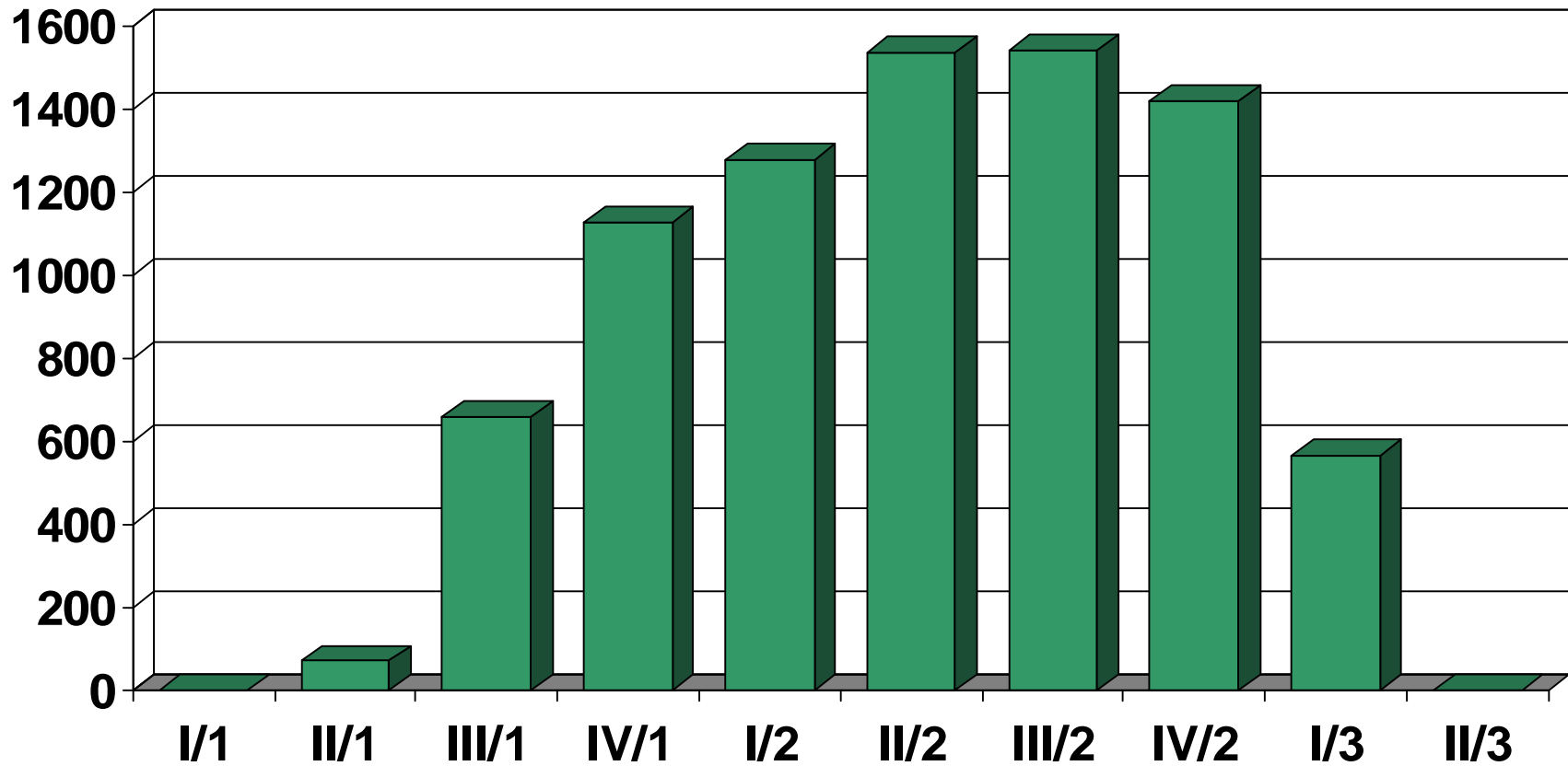
\$926<sub>2005</sub> million capital construction

Maximum workforce = 1,458

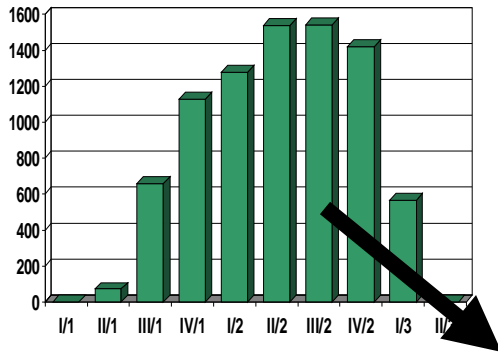


# Liquids from Coal

## Construction Workforce



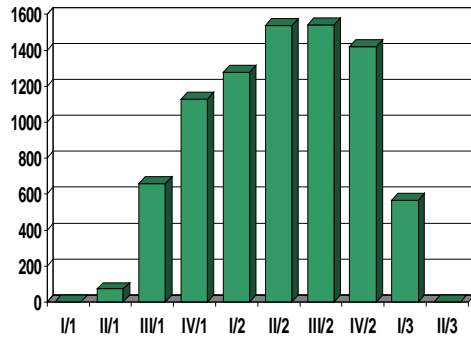
# Liquids from Coal Construction Workforce



<b>Welders &amp; Helpers</b>	<b>248</b>
<b>Electricians</b>	<b>194</b>
<b>Pipefitters &amp; Boilermakers</b>	<b>132</b>
<b>Sheet &amp; Ironworkers</b>	<b>131</b>
<b>Insulators</b>	<b>66</b>
<b>Carpenters</b>	<b>54</b>
<b>Millwrights</b>	<b>47</b>
<b>Other trades &amp; professions</b>	<b>300</b>
<b>Unskilled</b>	<b>257</b>
<b>Support trades &amp; professions</b>	<b><u>29</u></b>
	<b>1,458</b>



# Liquids from Coal Operations Workforce



<b>During Construction</b>	<b>18</b>
<b>After Construction</b>	<b>134</b>



# Gas Processing Plant

## Description

Removes sulfur, water and carbon dioxide

3<sup>rd</sup> Train addition

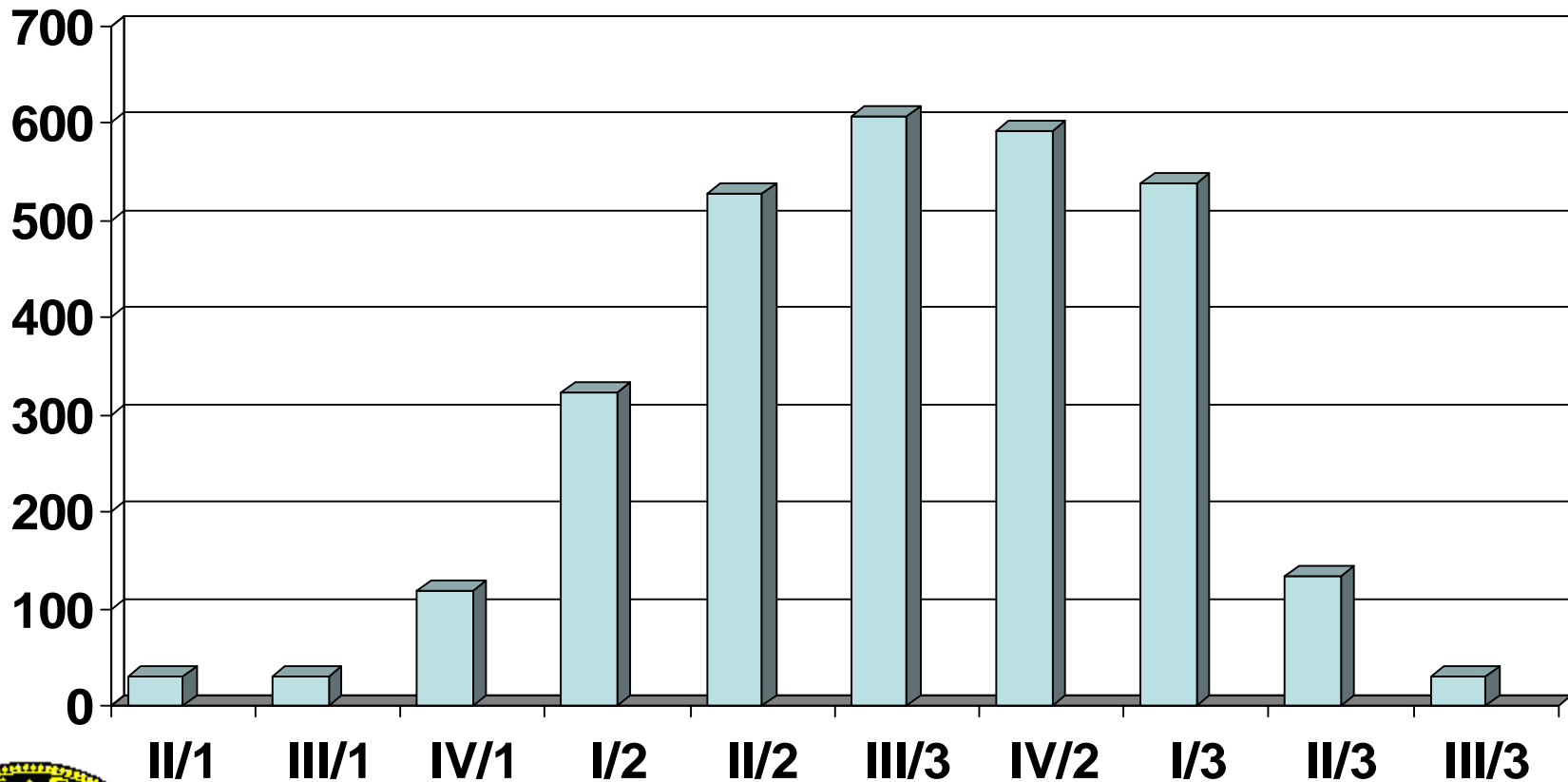
Added 180 million cf per day to 133

\$271<sub>2005</sub> million capital construction

Maximum workforce = 600



# Gas Processing Plant Construction Workforce



31 for Operations



# Gas Processing Plant

## Construction Workforce Categories

**Carpenters, painters**

**Electricians, instrument technicians,  
industrial electricians, millwrights**

**Operating engineers**

**Plumbers, sheet metal and ironworkers,  
concrete finishers**



# Wind Farm

## Description

80, 1.8 megawatt turbines

\$152<sub>2005</sub> million capital construction

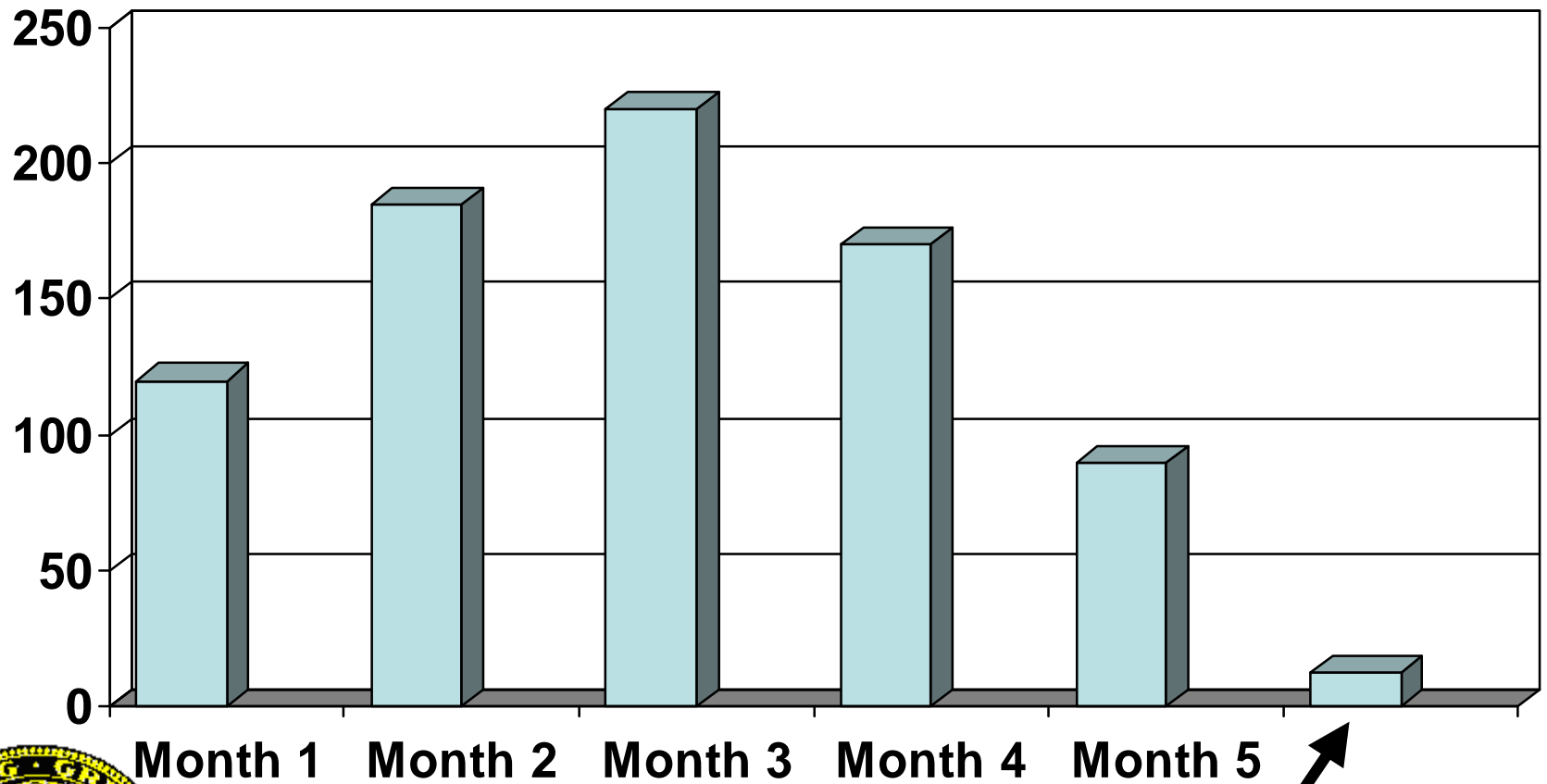
Five months from start to finish

Maximum workforce = 220





# Wind Farm Construction Workforce



12 for Operations



# Wind Farm

## Local Construction Workforce Categories

**Earthwork, roads, fencing, and in-site services**

**Electricians, instrument technicians, industrial electricians for assembly and overhead line construction**

**Concrete foundations**

**Geo-technical work**



Best wishes from Wyoming!

