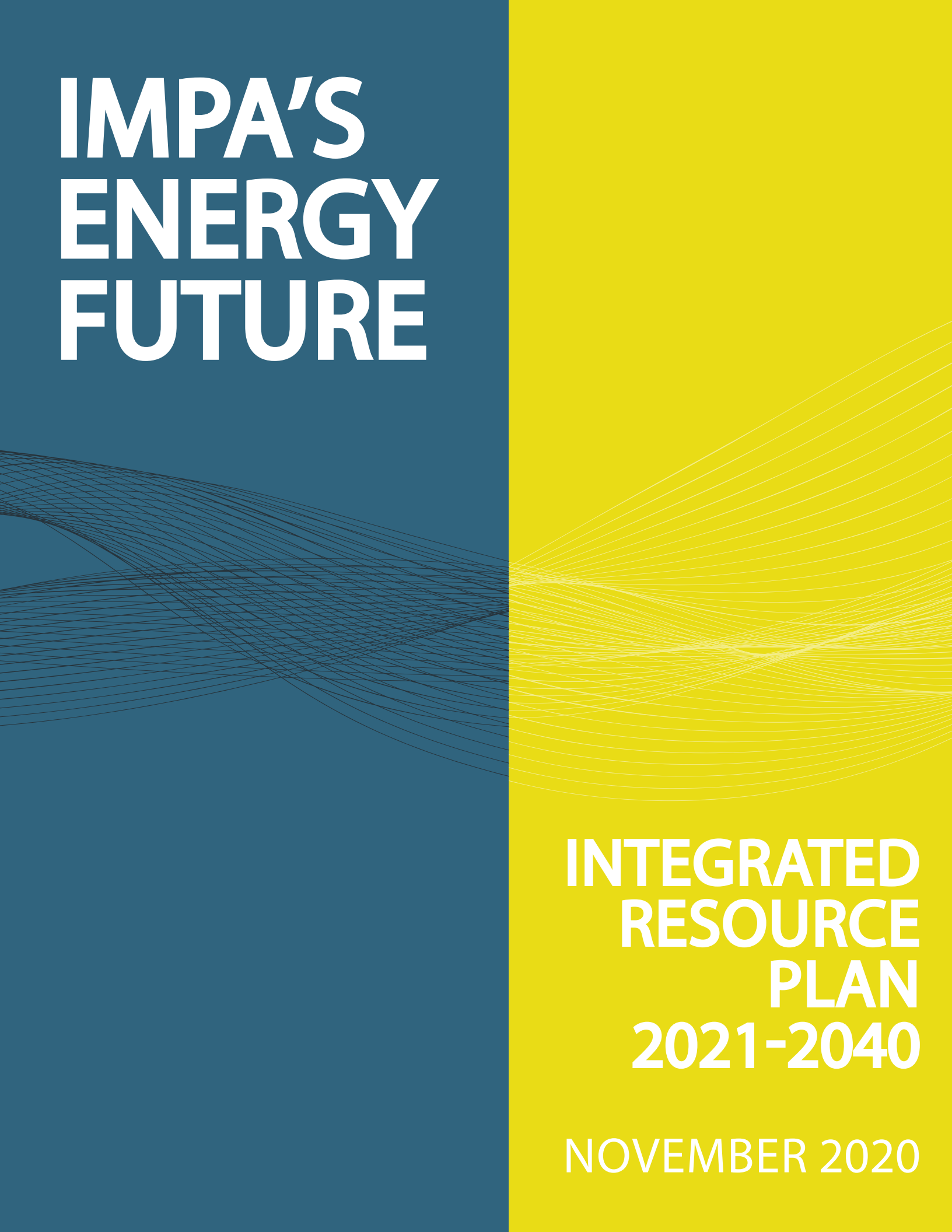


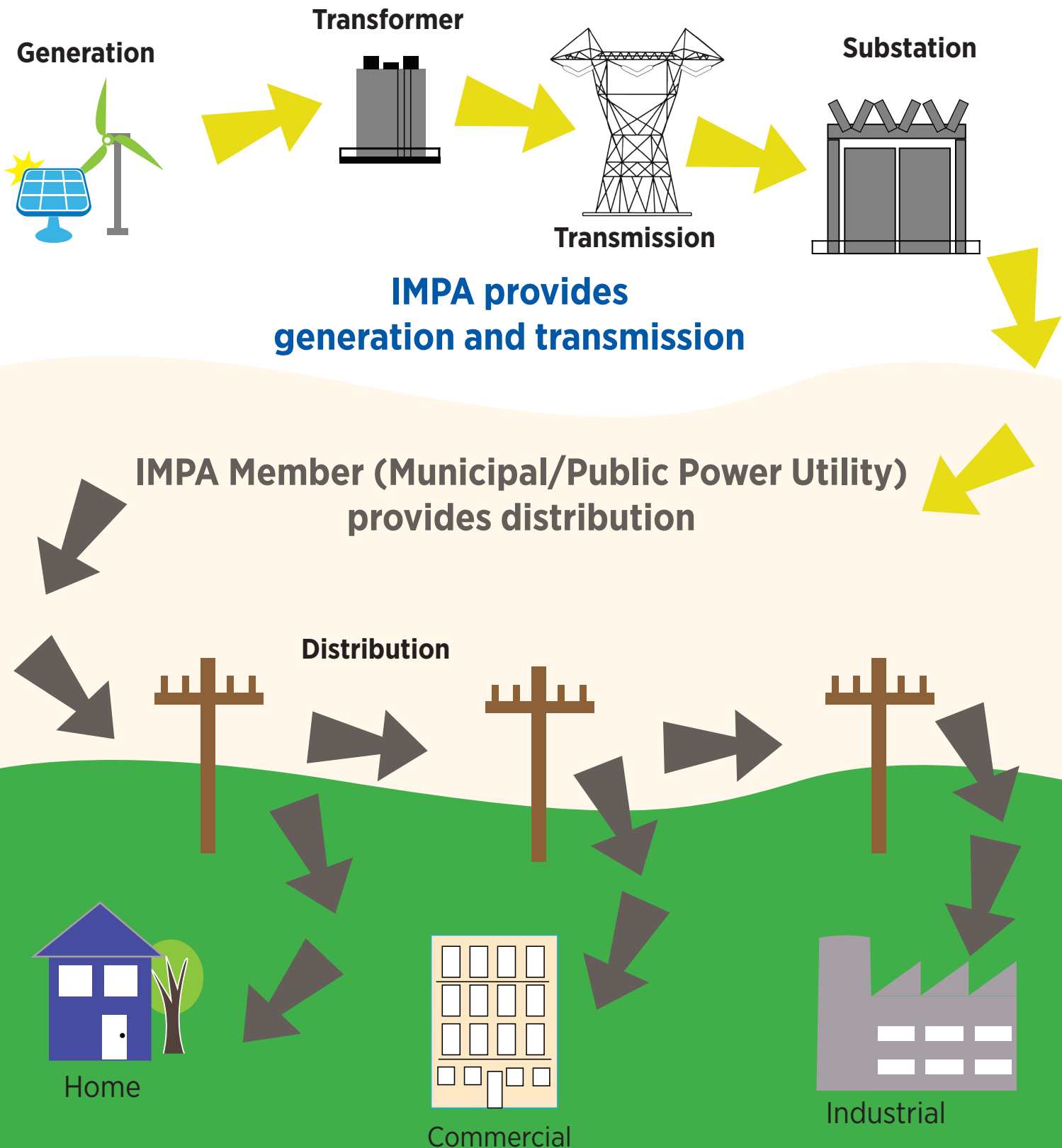
# IMPA'S ENERGY FUTURE

The background of the cover is split into two vertical bands: a dark blue band on the left and a bright yellow band on the right. Both bands feature abstract white line art. The blue band has a dense, overlapping pattern of lines that create a sense of depth and movement. The yellow band has a more sparse, flowing pattern of lines that also suggest movement and energy.

INTEGRATED  
RESOURCE  
PLAN  
2021-2040

NOVEMBER 2020

# HOW DOES ELECTRICITY FLOW FROM IMPA TO ITS MEMBER UTILITIES?





**47  
Million**

customers  
served  
throughout  
the U.S.

**Local &  
Reliable**

service provided  
by friends &  
neighbors

**Not for  
Profit**

entities that  
exist to serve  
customers

**PUBLIC POWER**

# IMPA BY THE NUMBERS

**37**

years of operations

**61**

communities served

**330,000**

customers

**\$450  
million**

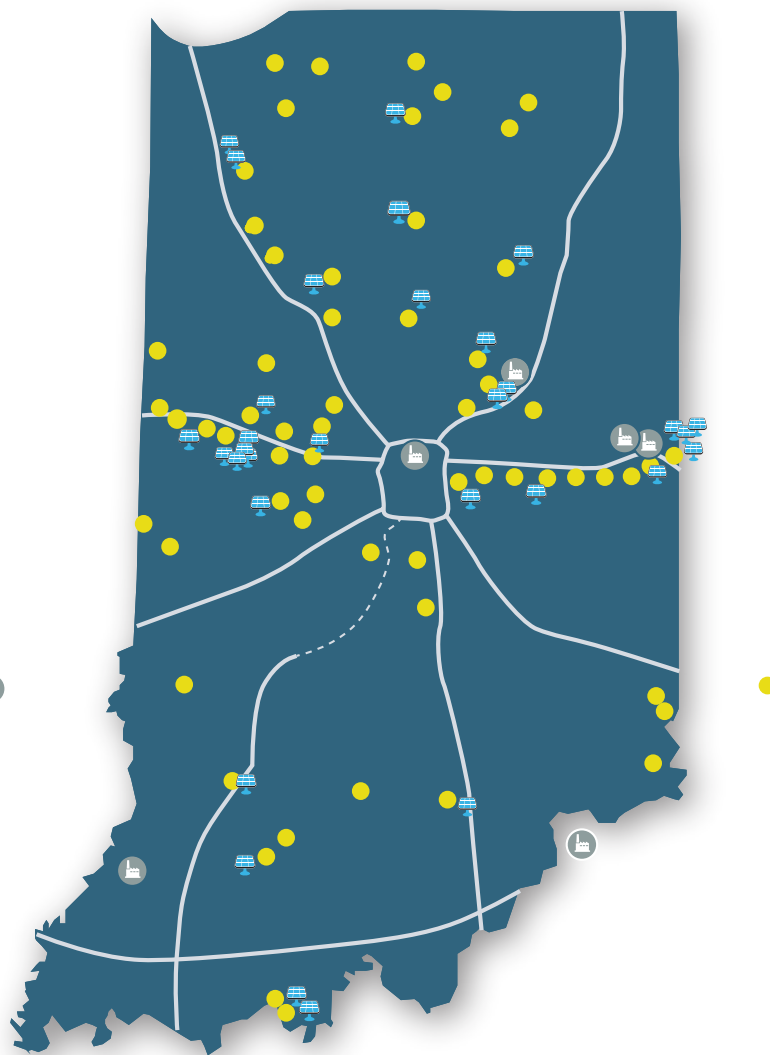
in annual revenues

**~\$2.0  
billion**

in total assets

**A1/A+**

strong bond ratings



**LOW-COST,  
RELIABLE,  
ENVIRONMENTALLY  
RESPONSIBLE  
WHOLESALE  
POWER  
PROVIDER**

# WHAT IS RESOURCE PLANNING?

## Scenarios

IMPA develops its long-term portfolio by striving to make plans that will respond well to future economic, legislative and environmental conditions. In order to do this, IMPA create scenarios containing different assumptions regarding these three factors. These scenarios are then analyzed to determine a plan that best responds to these conditions. Carbon Dioxide legislation has been the biggest issue for utility planners for the last decade. Though legislation has been introduced multiple times, at this time, none has been enacted. For this plan, IMPA created scenarios consisting of a deregulation/no CO2 case, a base case which assumes that modest CO2 legislation will be in place by 2029 and a green case consisting of a punitive CO2 legislation and Renewable Portfolio Standards starting in 2025. Other factors included in the scenarios are utility load levels, commodity prices, technology changes and new resource types.

### Deregulation/High Growth



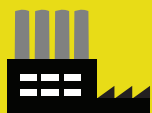
### Base



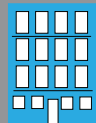
### Green



### Resource types



### Energy Needs



### Regulatory Requirements

FERC

NERC

IURC

EPA

### Costs and Rates



## Planning Process

## Resource

# Integrated Resource Plan

# RESOURCE OPTIONS



## **Baseload** - Coal (CCS) or Nuclear

Long lead time to develop

Capital cost: \$5,000-\$6,000/kW, or more

Operating Costs (production and fuel) are relatively low and stable

Stably priced fuel and proven operating reliability



## **Intermediate** - Natural Gas Combined Cycle

Mid-range development time

Capital cost: \$1,000-\$1,100/kW

Cost dependent on natural gas, currently low-cost



## **Peaking** - Natural Gas Combustion Turbine

Development times are short

Capital cost: \$650-\$750/kW

Operating costs are high

Used during peak energy use times



## **Intermittent** - Wind

Development times are short

Capital cost: \$1,300-\$1,400/kW without subsidy

Operating costs are low

Dependent on wind conditions for energy output



## **Intermittent** - Solar

Development time is short

Capital cost: \$1,100-\$1,200/kW without subsidy

Operating costs are low and stable

On-peak energy



## **Energy Efficiency** - Reduced Consumption

Investment is initial rebate/incentive to participants

Achieves energy savings and reduces peak load

Effectiveness depends on customer participation



# IMPA'S INTEGRATED RESOURCE PLAN

## Key Findings

Due to retirements and expiring contracts, IMPA will need approximately 200 MW of resources by 2026

Will need additional capacity resources with or without renewables and energy efficiency

Current market is attractive due to market conditions

## IMPA's Action Plan

Procure near term capacity and energy needs from market participants and investigate installation of a combustion turbine in 2026

Continue monitoring federal legislative process to gain more clarity on the future of CO<sub>2</sub> regulations

Add 80-100 MW of community solar projects in next five years

Investigate additional renewable purchased power opportunities

Continue energy reduction through the IMPA Energy Efficiency Program and education

Continue to investigate other resource opportunities as they present themselves



**IMPA**  
INDIANA MUNICIPAL POWER AGENCY

**Indiana Municipal  
Power Agency**

11610 North College Avenue  
Carmel, Indiana 46032  
317-573-9955  
317-575-3372 • fax

**[www.impa.com](http://www.impa.com)**

[info@impa.com](mailto:info@impa.com)

@IMPAPower on Social Media