



# Financing Hydrogen within Circular Energy Projects

U.S. market opportunities, structures, and practical roadmap for project  
developers, corporate finance teams, and impact-oriented investors



# Executive Summary



## Circular Integration

Hydrogen valorizes waste streams, couples with renewables for storage, and enables industrial decarbonization through circular feedstock strategies

## Policy Acceleration

U.S. federal support via H2Hubs, production tax credits, and grants combined with private capital are rapidly scaling deployment

## Bankability Formula

Successful projects require revenue stacking from offtake, gate fees, and credits plus blended capital structures to achieve commercial viability

# Executive Summary



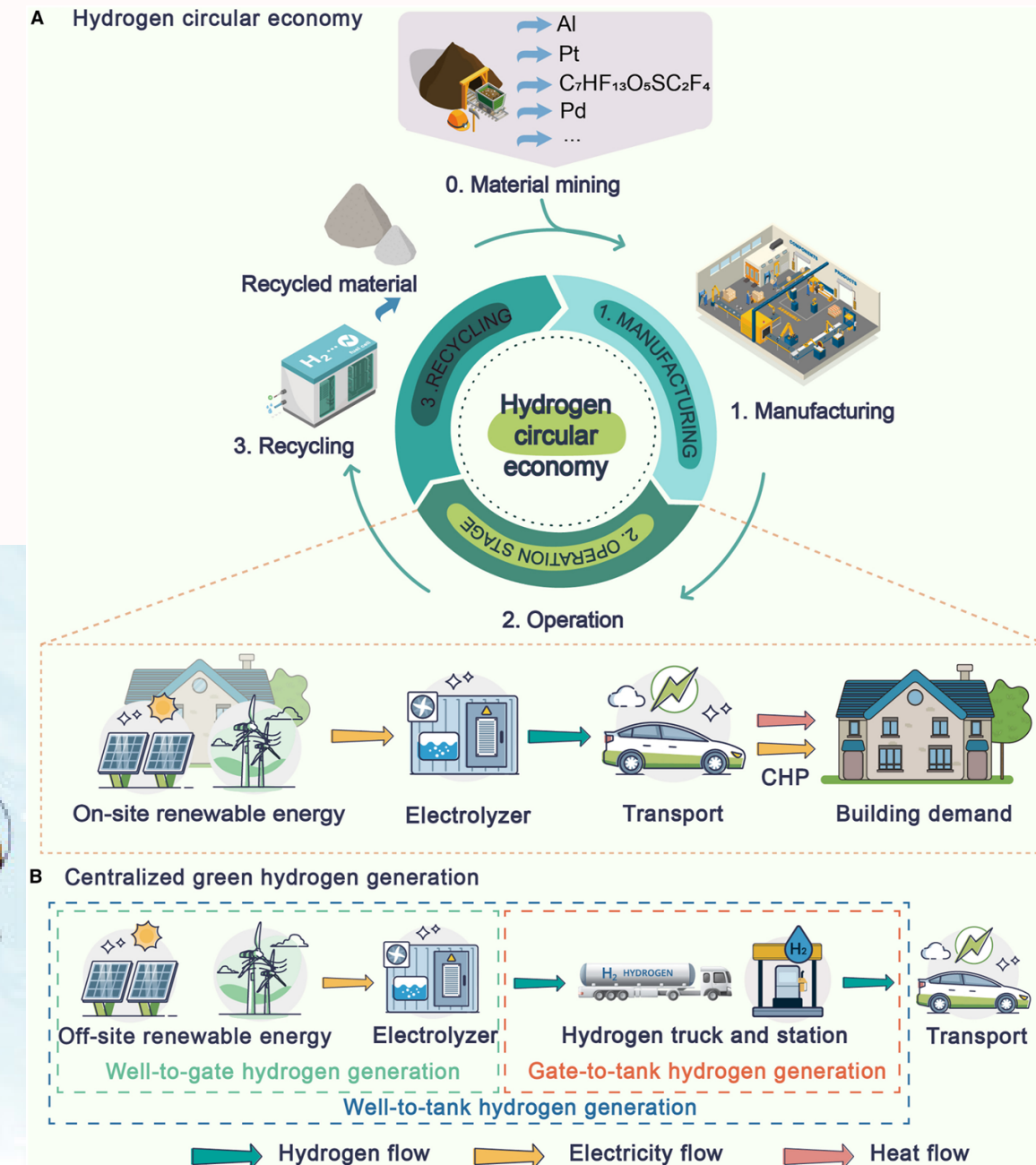
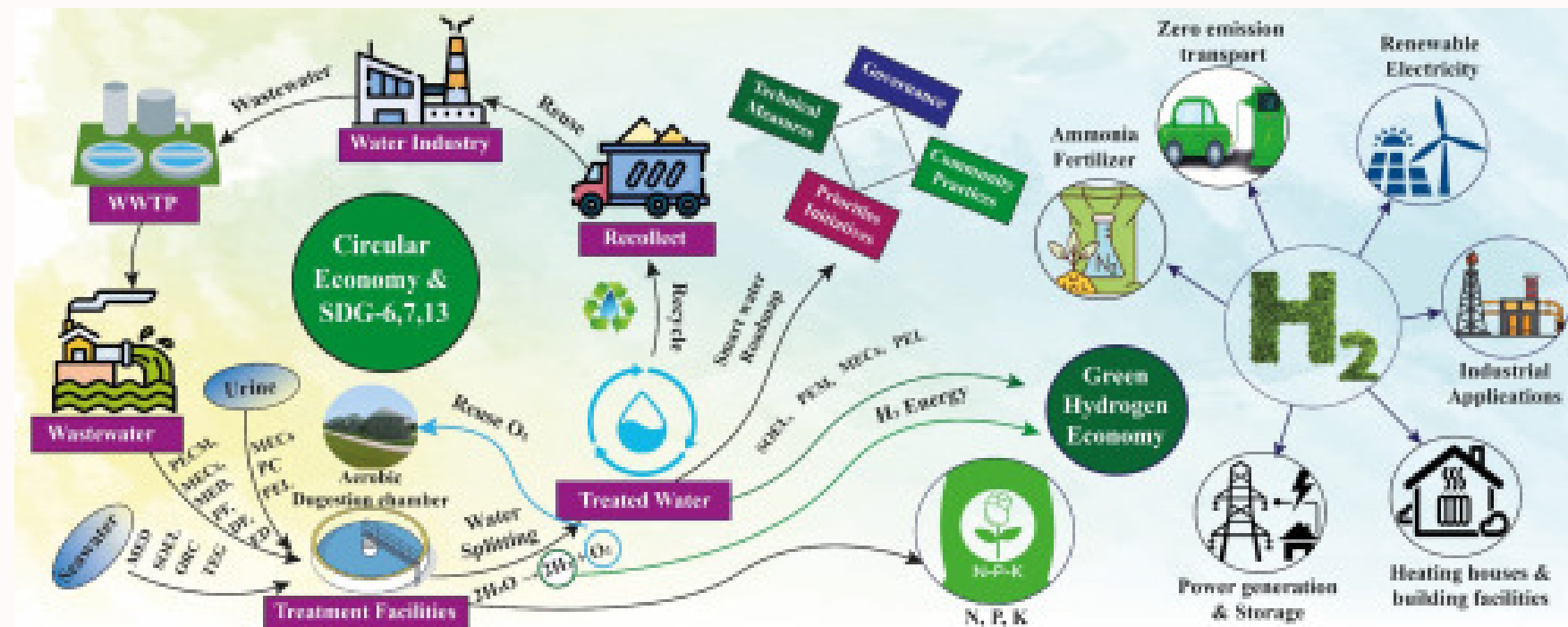
## Bankability Checklist (Due Diligence)

- Technical: technology readiness, electrolyzer efficiency, storage specs, degradation modeling.
- Offtake: contract length, price formula, take or pay, creditworthiness of offtaker.
- Feedstock: firm supply, quality specifications, contract tenure.
- Permits & interconnection: timelines aligned to tax credit and grant eligibility.
- Financial: sensitivity to power prices, capex escalation, inflation, and interest rates.
- ESG: lifecycle emissions accounting, circularity metrics, recycling plan for components.

# Why Hydrogen Fits Circular Energy

## Value Creation Opportunities

- Encourages returns from low-value waste streams and off-gas
- Couples with renewables for long-duration storage
- Enables industrial decarbonization pathways
- Improves lifecycle outcomes through component recycling







# U.S. Investment Landscape



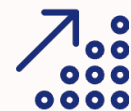
## Federal Support

H2Hub awards, production incentives, and infrastructure grants reduce first-mover risk while creating timing constraints for project sponsors



## Private Investment

Rapid deployment in electrolyzer manufacturing and hub infrastructure as supply chains scale to meet growing demand



## Market Momentum

Manufacturing buildouts and strategic partnerships accelerating commercial-scale deployment across key industrial sectors

# Policy and Incentive Drivers



## Production Tax Credits

45V credits materially improve project returns, requiring alignment with eligibility windows and alternative revenue planning

1

## State Incentives

Clean fuel standards and state-level credits enable revenue stacking strategies critical for project bankability

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## Federal and State Loans

DOE LPO and state clean energy banks can provide bridge financing for hydrogen production and supporting infrastructure, accelerating deployment by covering construction timing gaps, enabling repayment once tax credits or long-term offtakes begin, and lowering sponsor equity requirements to attract private capital.

# Common Financing Structures

## Project Finance

Non-recourse SPV structure for mature technologies with long-term offtake

## Corporate Finance

On-balance-sheet sponsor financing for strategic assets and pilot projects

## Tax Equity

Credit monetization structures leveraging production and investment incentives

## Blended Capital

Grants, concessional finance, and offtake pre-payments reducing overall cost



# Project Finance vs. Sponsor Finance

## Project Finance

- Non-recourse SPV structure
- Lender focus on contracts and cashflows
- Best for long-tenor offtake-backed assets
- Higher scrutiny, complex covenants

## Sponsor Finance

- On-balance-sheet corporate financing
- Faster execution, sponsor risk absorption
- Best for pilots or strategic assets
- Higher cost of capital, operational control

Structure choice depends on technology maturity, offtake quality, and revenue diversification requirements.



# Practical Roadmap for Success



## Structure Capital Early

Design blended finance with staged funding and flexible draw mechanisms

**Perseverance:** Prepare for relationship development and revisiting project designs



## Secure Contracts

Lock in feedstock supply and creditworthy offtake before approaching lenders

**Perseverance:** Prepare for relationship development and revisiting project designs



## Timeline Alignment

Coordinate development schedules with tax credit and grant eligibility windows