

GRID

Tariff Determination for Waste to Energy projects

Experience so far...

*Strictly Private
and Confidential
February 2016*

Agenda

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Section 1

Introduction

Introduction: PricewaterhouseCoopers (PwC)

- **Government Reforms and Infrastructure Development (GRID)** team advises Government, multilateral funding agencies, Urban Local Bodies, Public Sector Undertakings and Project Developers in,
 - Policy development and sector reforms
 - Tariff and Economic regulations
 - Institution development, Capacity-building
 - Business plans and strategies
 - Economic and feasibility studies
 - Investment promotion, PPPs
 - Transaction advisory & contract management
 - Preparation Detailed Project Reports

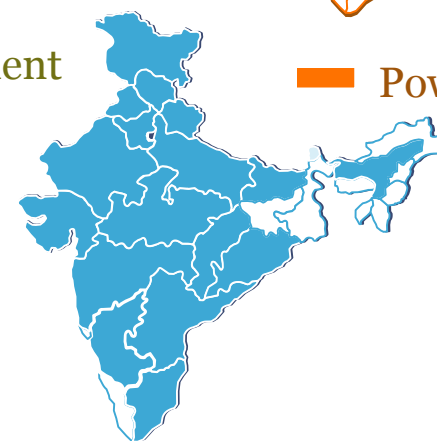
157
Countries

2860
Advisors



Government

Power Utilities



Regulatory

Introduction: Nimish Vora



Principal Consultant, GRID- Power & Utilities

Policy formation, economic regulations, Tariff assistance, PPPs structuring, strategy & business plans, bid process management, commercial due diligence, etc.

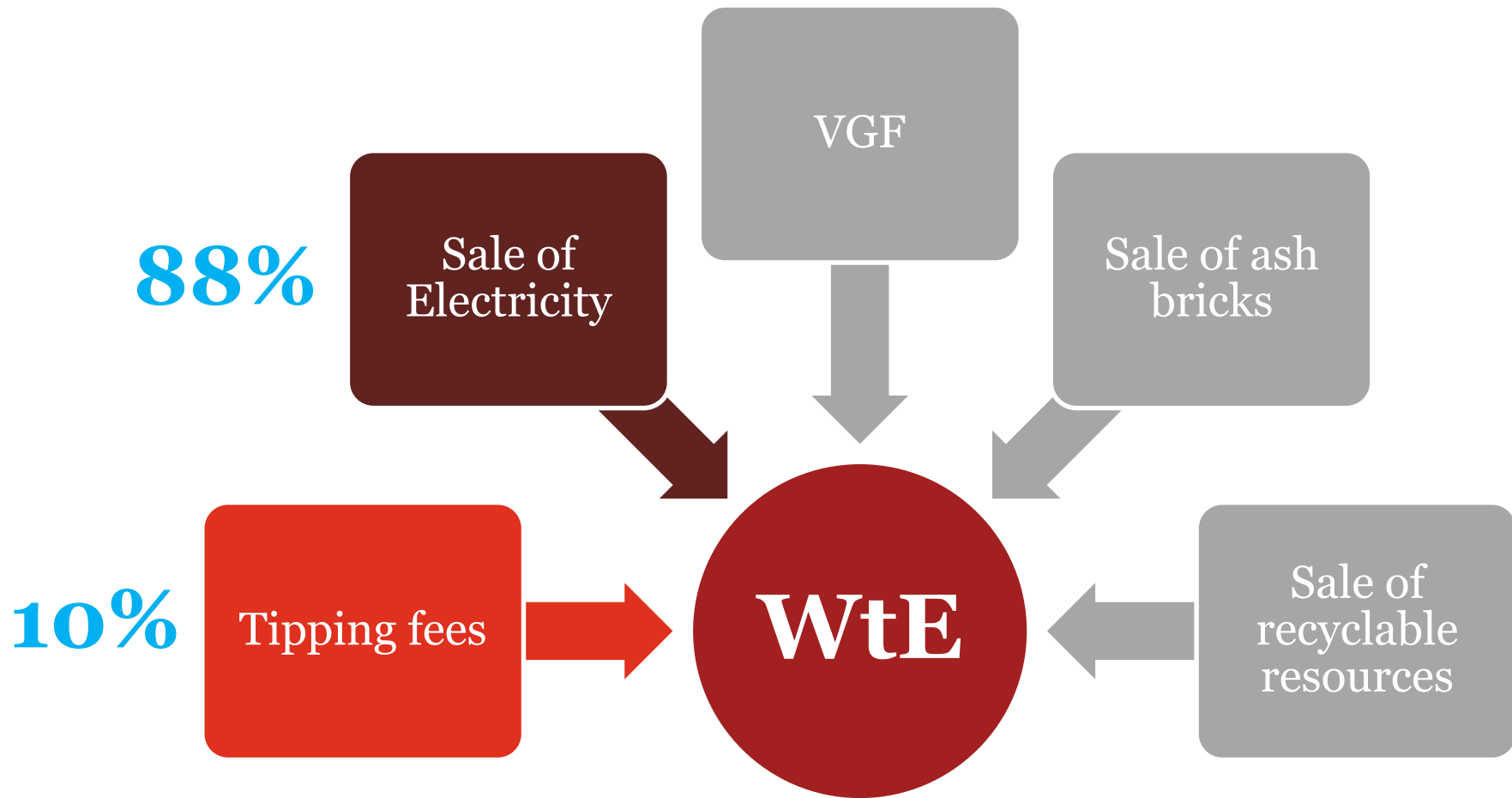
Specifically in Waste to Energy...

- Leads the team in advising clients for the portfolio of waste to energy projects in Eight (8) states of India
- Advising Govt. of MP in developing Renewable Energy sector, Facilitating private sector investments, developing Waste to Energy policy
- Assisted utilities and regulators of several states in tariff regulations, Power Purchase Agreements (PPAs)
- Authored PPP schemes in multiples states

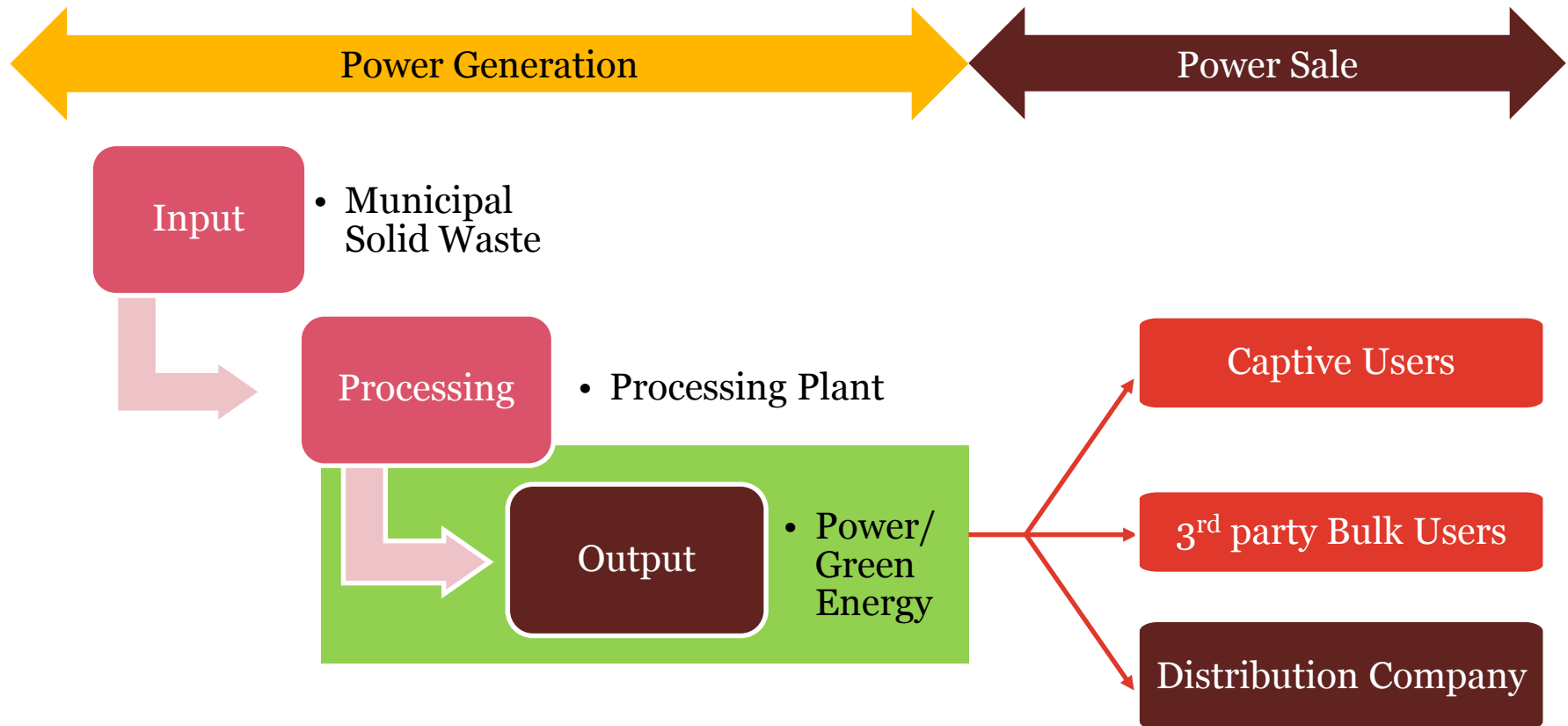
Section 2

Electricity tariff: A big challenge

Why electricity tariffs are important for WtE projects?



Why does electricity tariff becomes an issue?

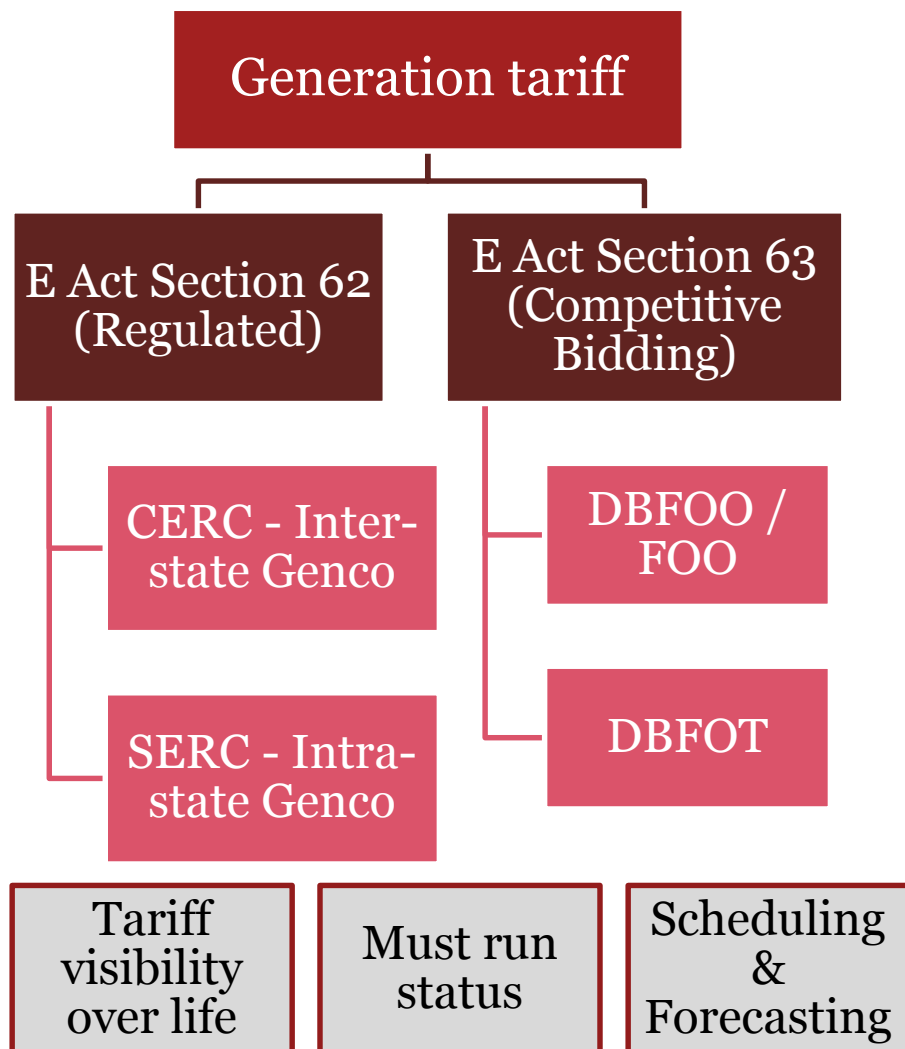


- Captive/ 3rd party bulk users can bilaterally decide on electricity tariffs. However, licensed electricity distribution company cannot...

Section 3

How is the tariff determined?

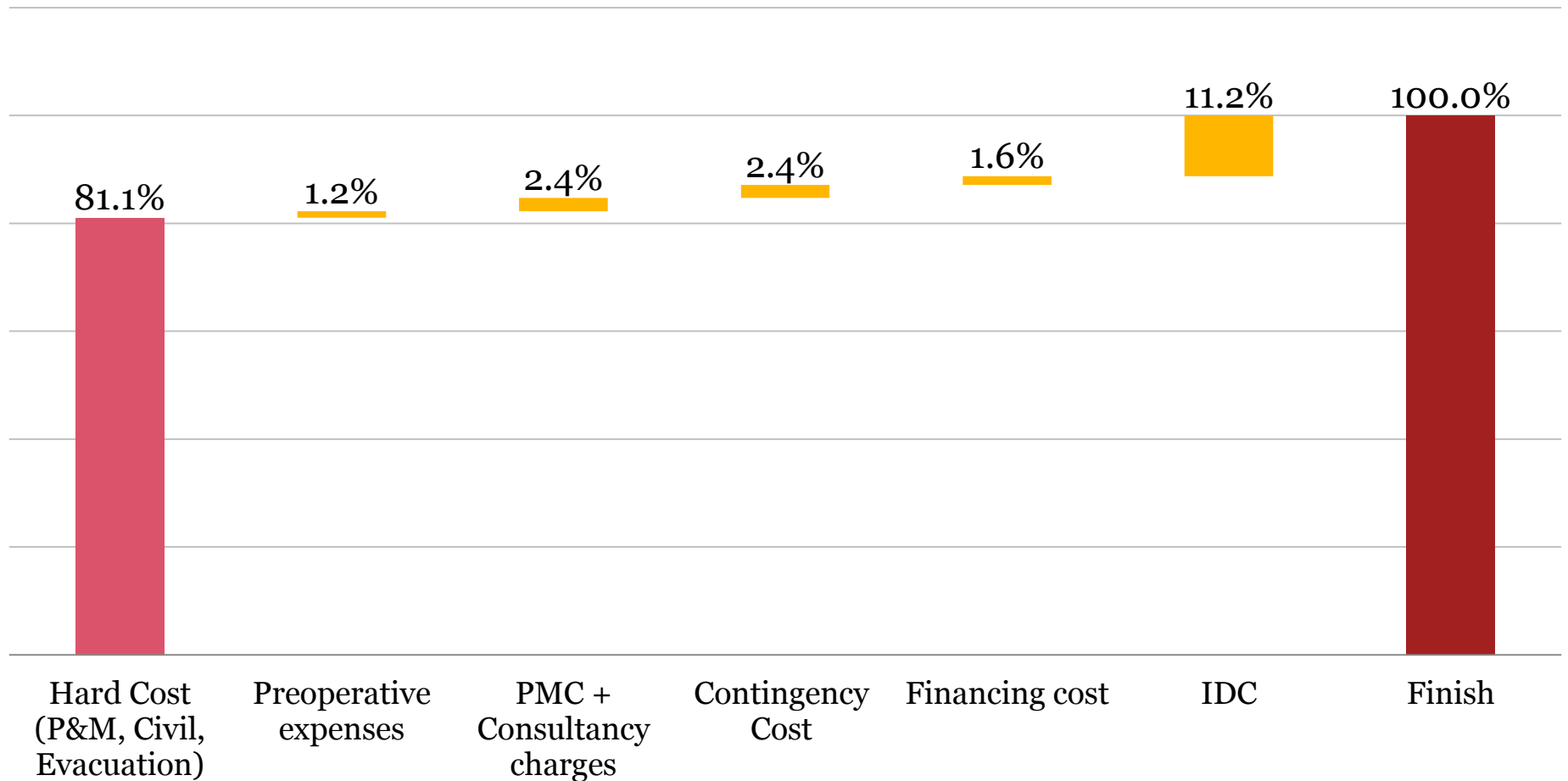
Tariff determination framework



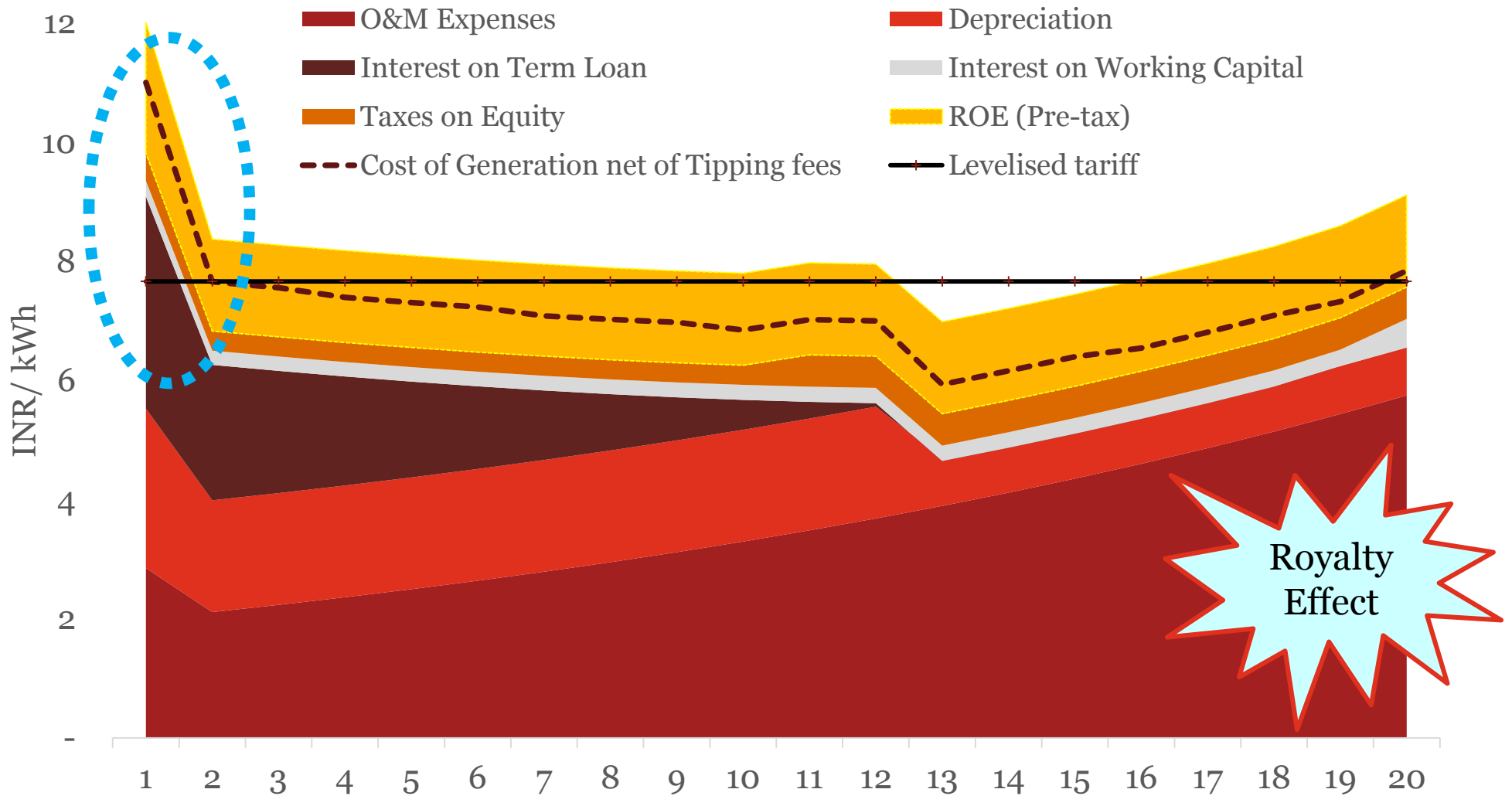
National Tariff Policy 2015

- *Distribution Licensee(s) shall compulsorily procure 100% power produced from all the Waste-to-Energy plants in the State, in the ratio of their procurement of power from all sources including their own, at the tariff determined by the Appropriate Commission under Section 62 of the Act.*
- *States shall endeavor to procure power from renewable energy sources through competitive bidding to keep the tariff low, except from the waste to energy plants.*

Capital cost composition of WtE plant



Cost and tariff profile of WtE plant over years



Tariff framework for RE generating plant (WtE)

Generic Tariff

- Provides tariff visibility over the life, if CoD is achieved within 'Control Period' (typically 2-3 years)
- Defines the norms for various operational and financial parameters; they might get revised with a new Control Period
- Developer may directly enter into a PPA with the utility, without having to go through the regulatory process

Specific Factors



Project Specific Tariff

- Envisaged for new RE technologies which are,
 - with new technology
 - in nascent stage
 - not many projects
- Ideal for those projects with parameters different from the generic norms
- Required elaborate regulatory process in determining tariff
- After notification of tariff, developer may execute PPA with the utility

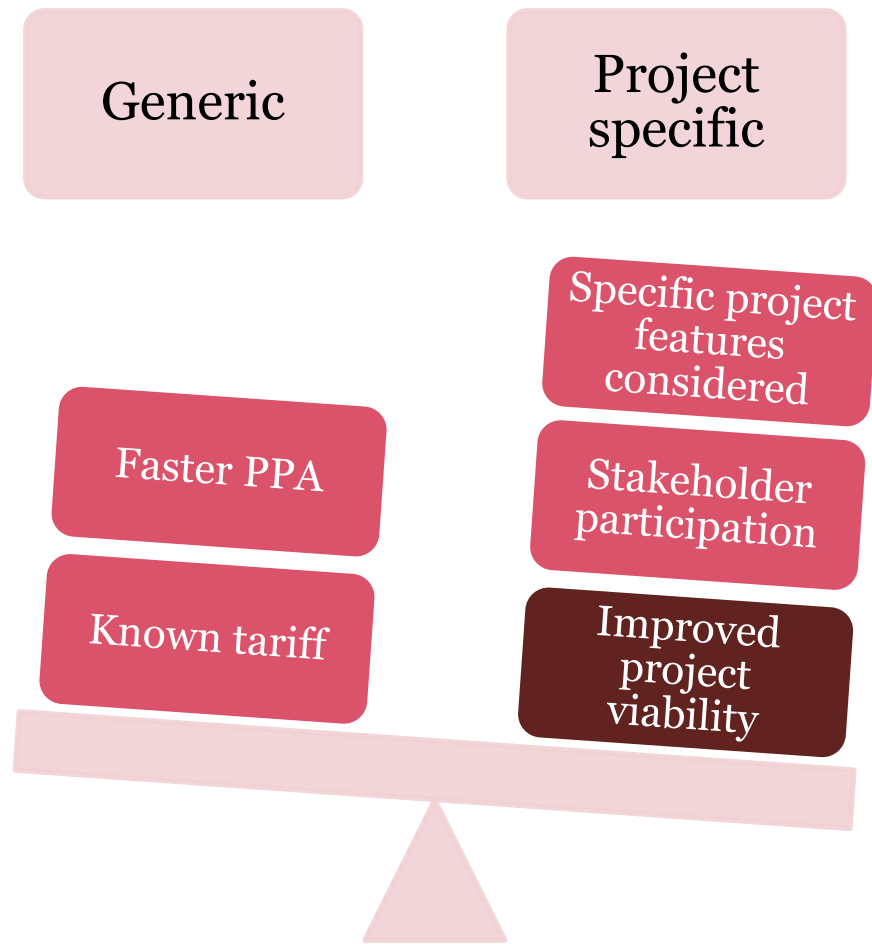
State Electricity Regulator's view on project specific tariff for WtE projects

“Generic Tariff assumes project parameters and allows the developer to earn higher returns by performing beyond those specified in such tariff order.

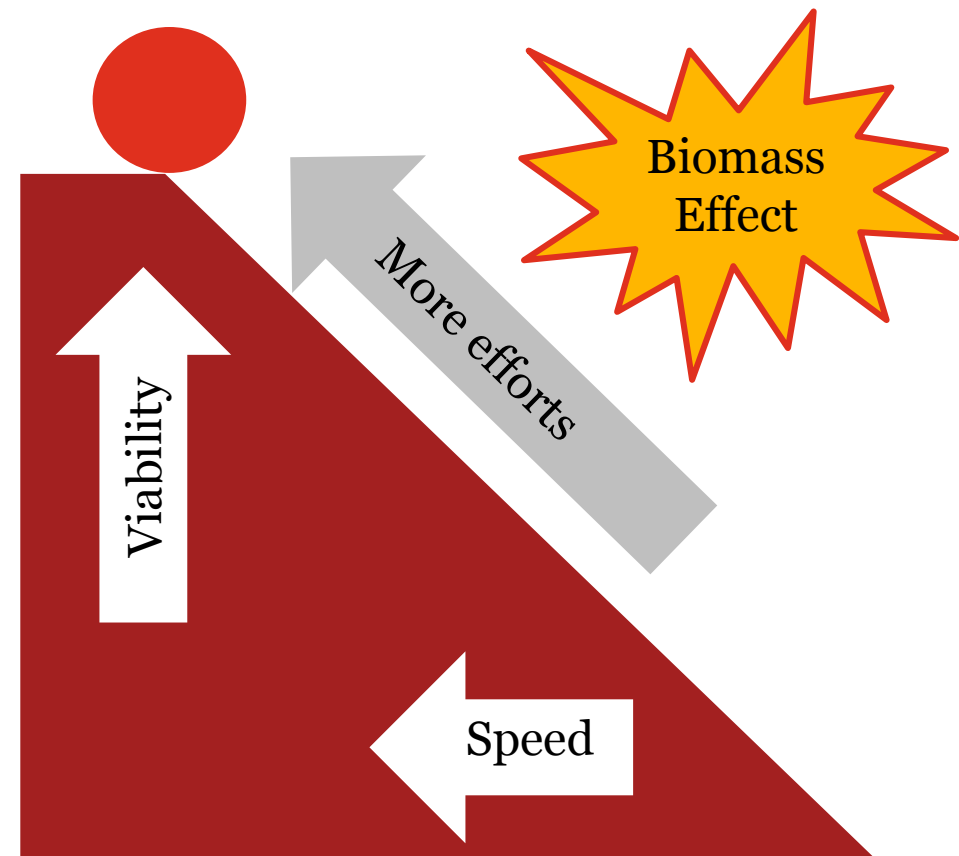
However, project specific tariff aims to support the viability of new and innovative technologies which are yet to prove commercial sustainability.

Determining generic tariff for such projects is not always in the best interest of long term solution for commercial viability and eco-friendly solution to waste management puzzle of growing urban areas.

Generic tariff Vs. Project specific tariff



Project specific tariff is worth putting effort to improve viability

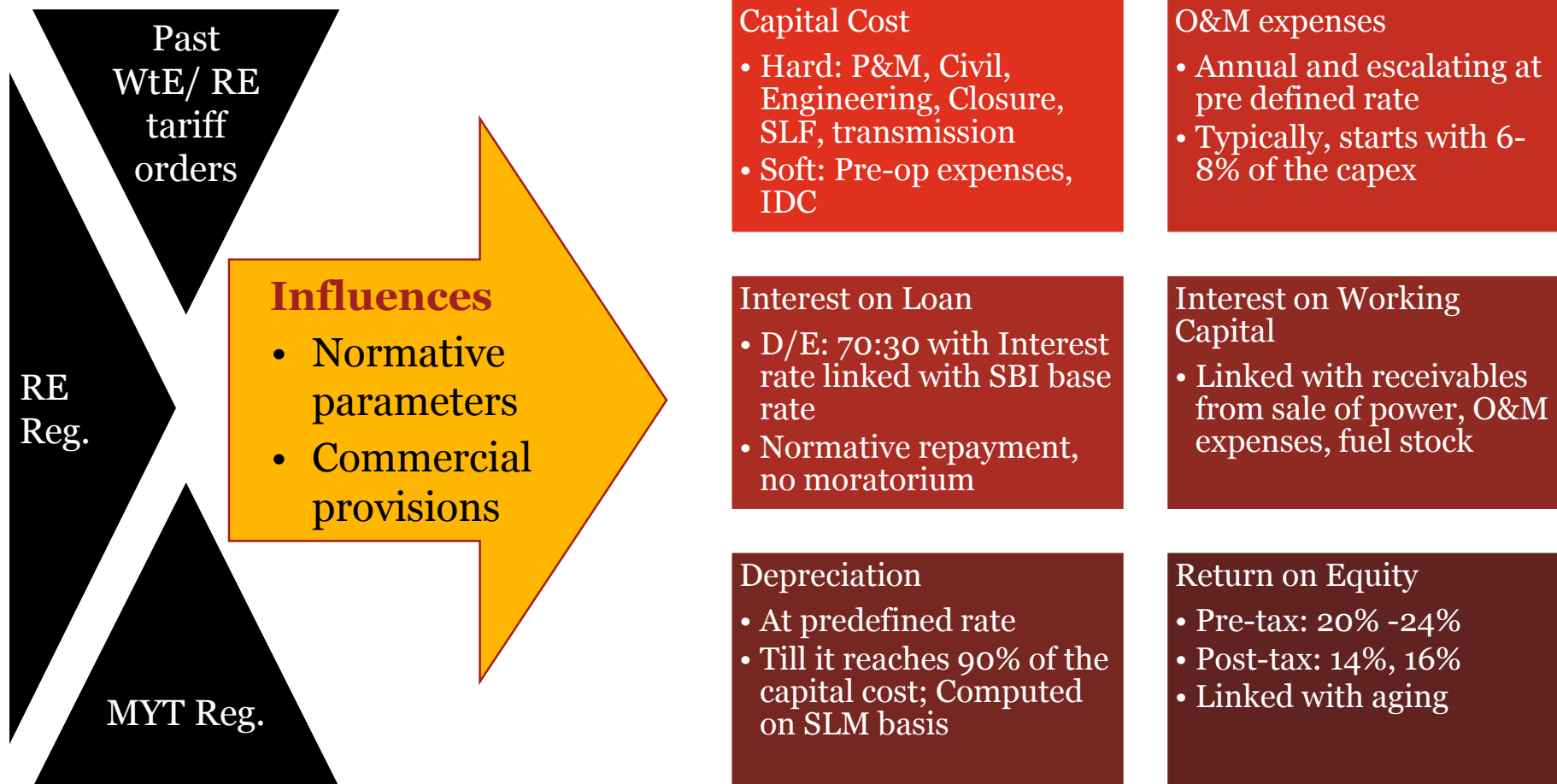


Section 4

Process of getting project specific tariff

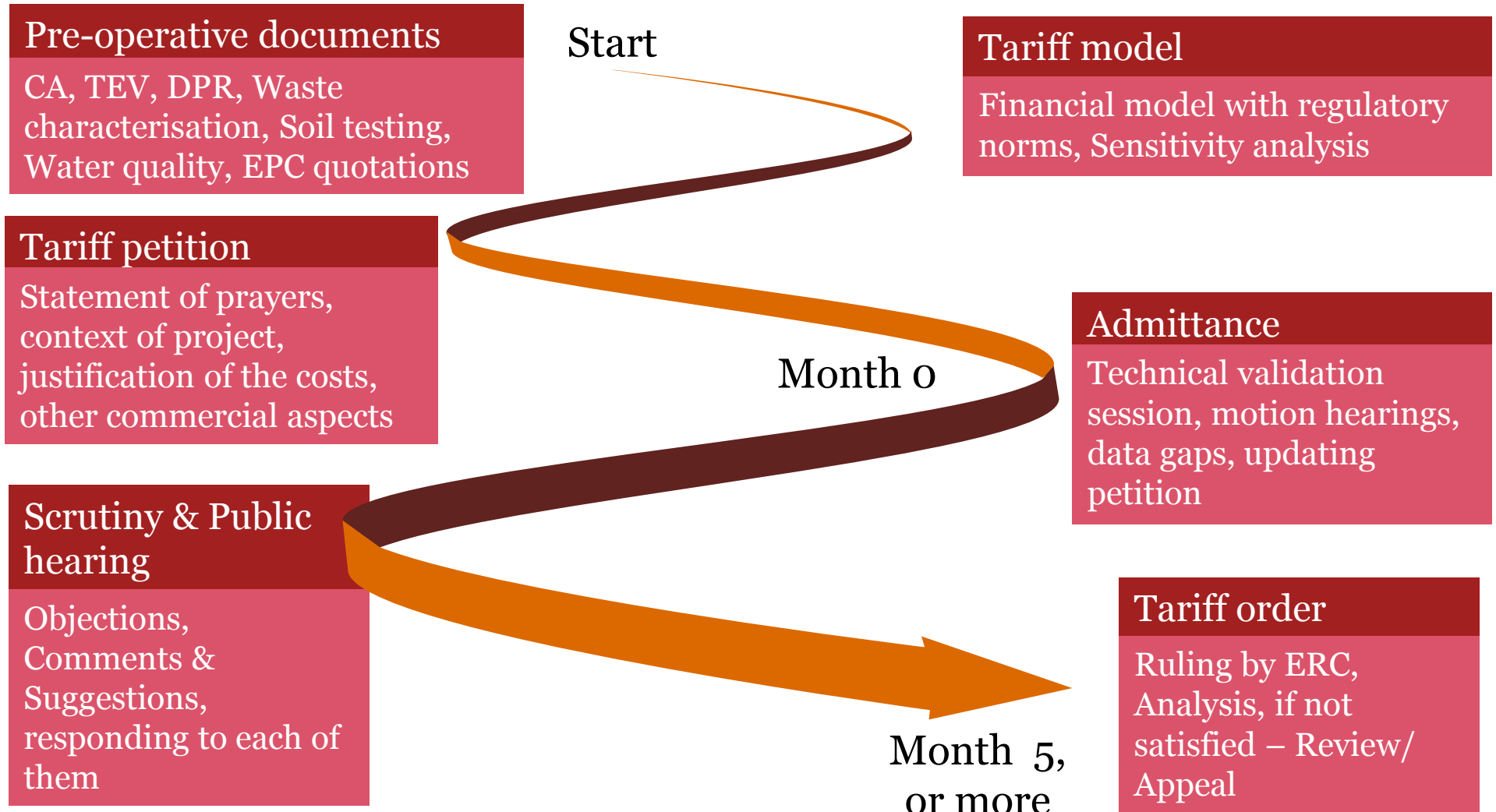
Project Specific Tariff

Determination of Norms



Project Specific Tariff

Typical Regulatory Process

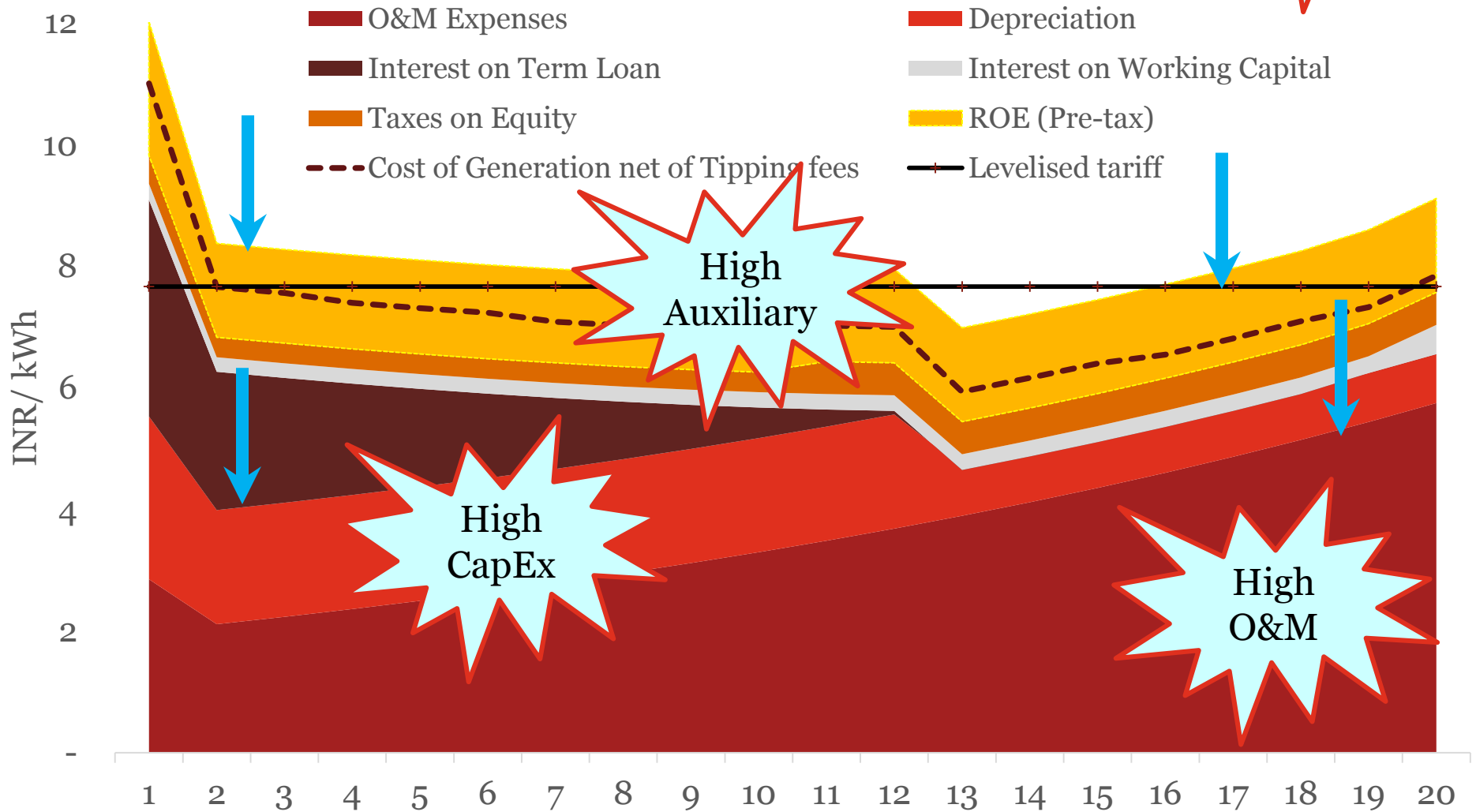


Section 5

Key regulatory challenges

Challenges regarding project parameters

Biomass syndrome



Challenges with Electricity Regulatory Commission

Compared with dissimilar WtE projects – almost every commission

Outdated norms, ignoring current project specific aspects - MP

Limited tariff visibility – MP, UP

Delay in tariff petition admittance – PPA first, or tariff first? - Gujarat

Minimal scrutiny, less informed decision - Orissa

Provisional tariff which can change in future – Orissa

Reserved tipping fees are considered received in full - Bihar

Ignored *Post Closure* capex and liabilities – Bihar

Dependency on other agencies for evacuation infrastructure – Bihar

Reduced tariffs to unviable levels, untimely tariff review – AP

WtE projects treated as inferior to other RE while correcting norms – AP

Tariff driven confusion on Technologies - CERC

Challenges with Electricity Utilities

Noncommittal
power offtake by
utilities - Orissa

Negotiating
tendencies of
utilities – Gujarat

In spite of tariff &
compulsive offtake
in place, delaying
PPA – Gujarat

Competitive
bidding based on
tariff – AP

*When there is a WILL,
there is a WAY...*

We support those, with the WILL to overcome those challenges...

Government/ Regulators

Developing policy
and incentives

Capacity building

Urban Local Bodies

Developing PPP
projects

Bid process
management

Demonstration
projects

Investors/ PPP developers

Bid transaction
advisory

Tariff regulatory
support

PPA and Commercial
aspects

Funding

Deals, M&A

Working together for cleaner and greener future....

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