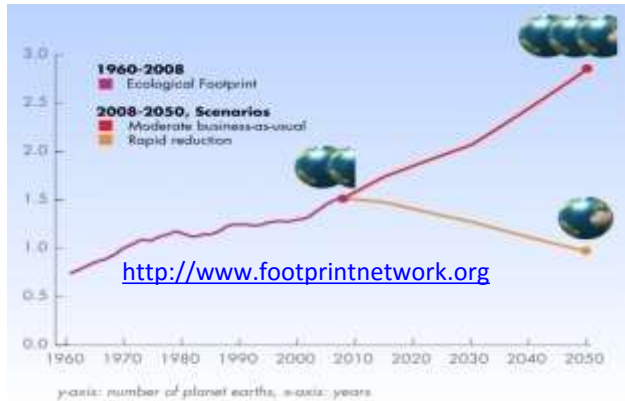


PAT Scheme: A component of
NMEEE for enhancement of Energy
Efficiency in Designated Sectors

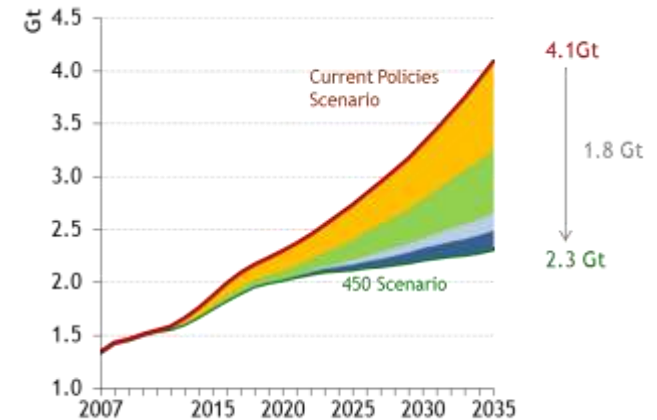
Perform, Achieve and Trade (PAT) – WHY?



- **National Action Plan on Climate Change (NAPCC)**

- **Nation Mission for Enhanced Energy Efficiency (NMEEE)**

- **Perform Achieve and Trade (PAT):** a regulatory instrument to reduce specific energy consumption in energy intensive industries, with an associated market based mechanism to enhance the cost effectiveness through certification of excess energy saving which can be traded.

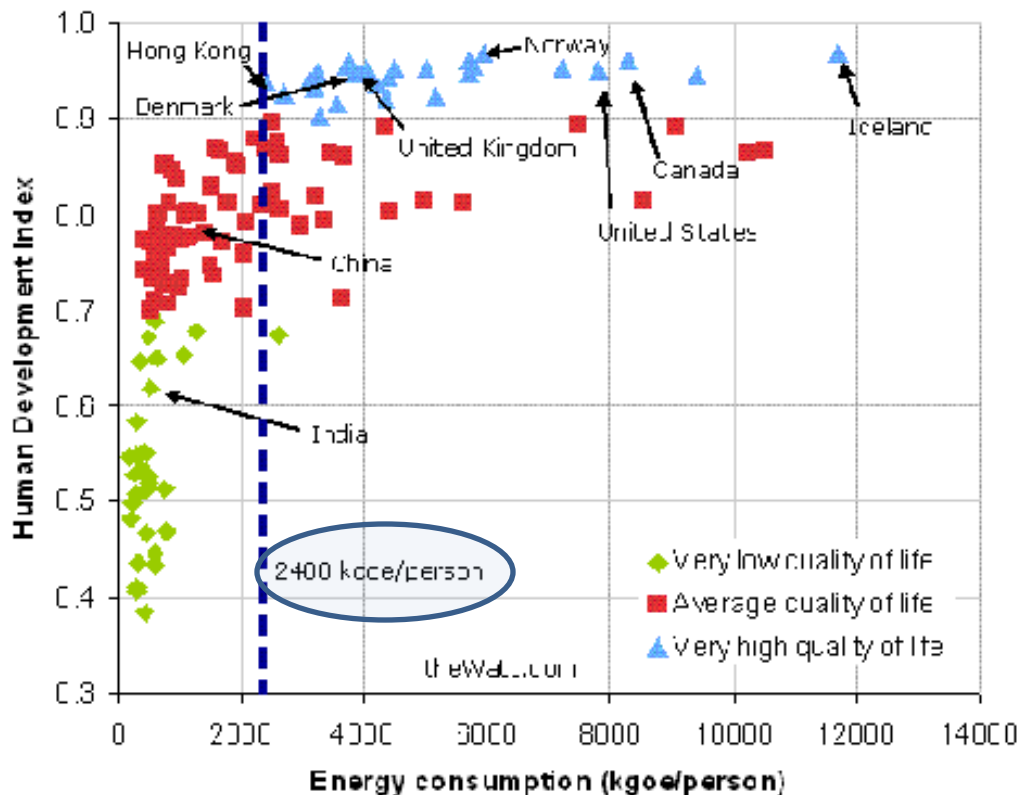


Share of cumulative abatement between 2010-2035

■ Efficiency	51%
■ Renewables	32%
■ Biofuels	1%
■ Nuclear	8%
■ CCS	8%

Energy and Development

How much energy is required ?



- A minimum energy consumption of **2400 kgoe/year/cap** is needed today to achieve HDI of **0.9**
- Countries which “develop” later achieve transition at lower energy levels
- Probable that transition may occur at 1500 kgoe in the future
- Enhanced energy efficiency is essential to enable early transition

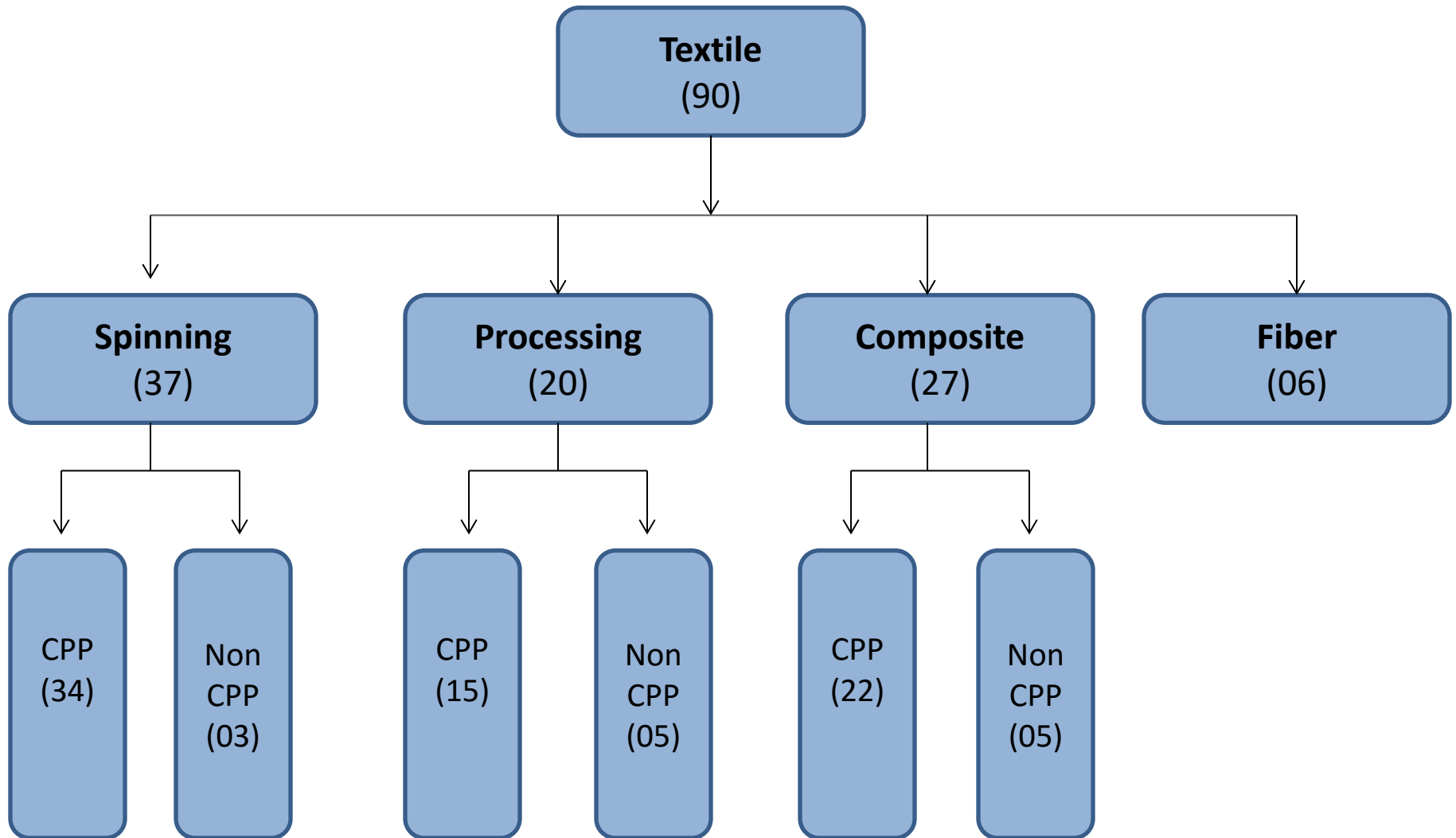
Indian Textile Industry

- Textile sector contributes about 14% to the industrial production
- Textile sector also contributes about 4% to the GDP and 11% to the country's export earnings
- The textile sector is the second largest provider of employment after agriculture.
- The report of the Planning Commission on boosting India's manufacturing exports during 12th Five Year Plan (2012-17), envisages India's exports of Textiles and Clothing at USD 64.11 billion by the end of March 2017

Textile Sector- Categorization

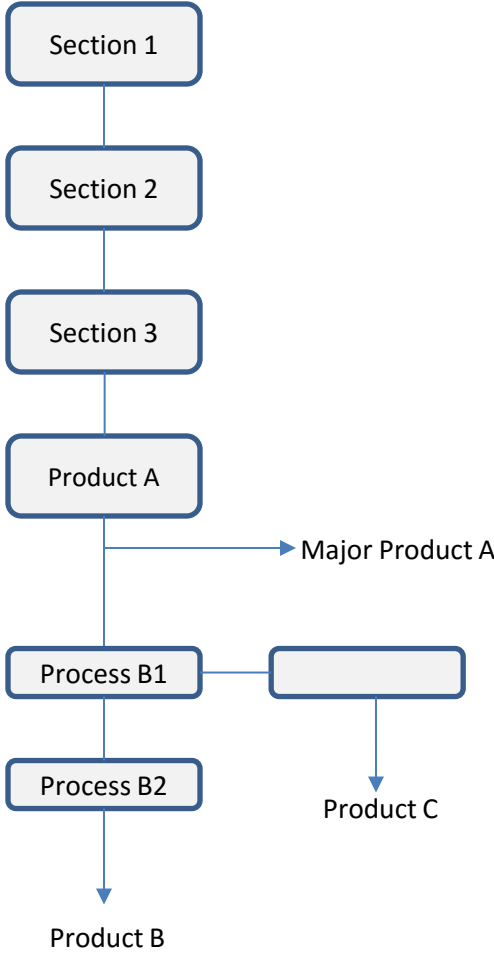
Sr No	Sub-Sector	Section	Major Product	Speciality Processing
1	Spinning	Ring Frame	Yarn @40s Count	TFO, Doubling, Open End, Dying
2	Processing	Processing	Fabric	Printing, Finishing
3	Composite	Spinning, Weaving, Knitting, Processing	Fabric	Printing, Finishing
4	Fibre		Fibre	

Grouping of Textile DCs

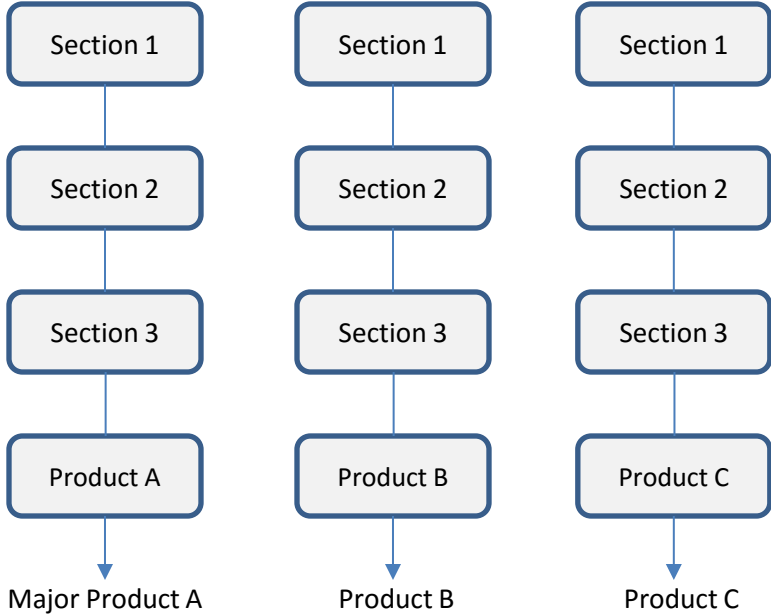


Product Mix

Series Production

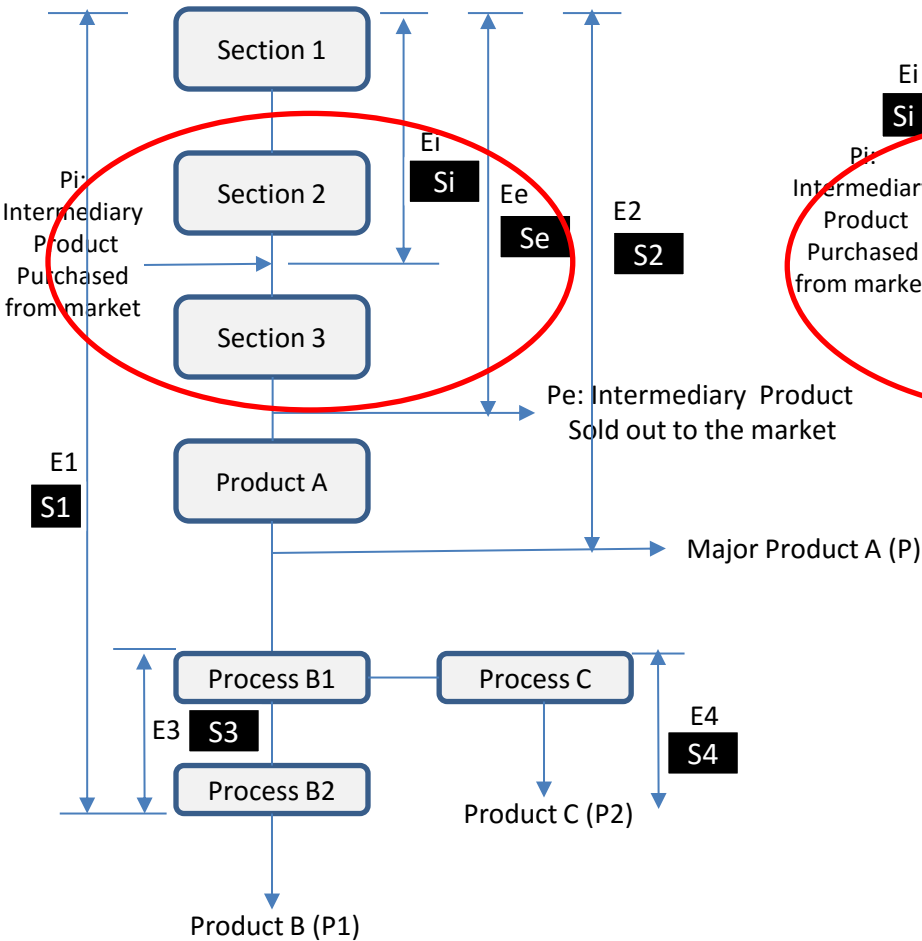


Parallel Production

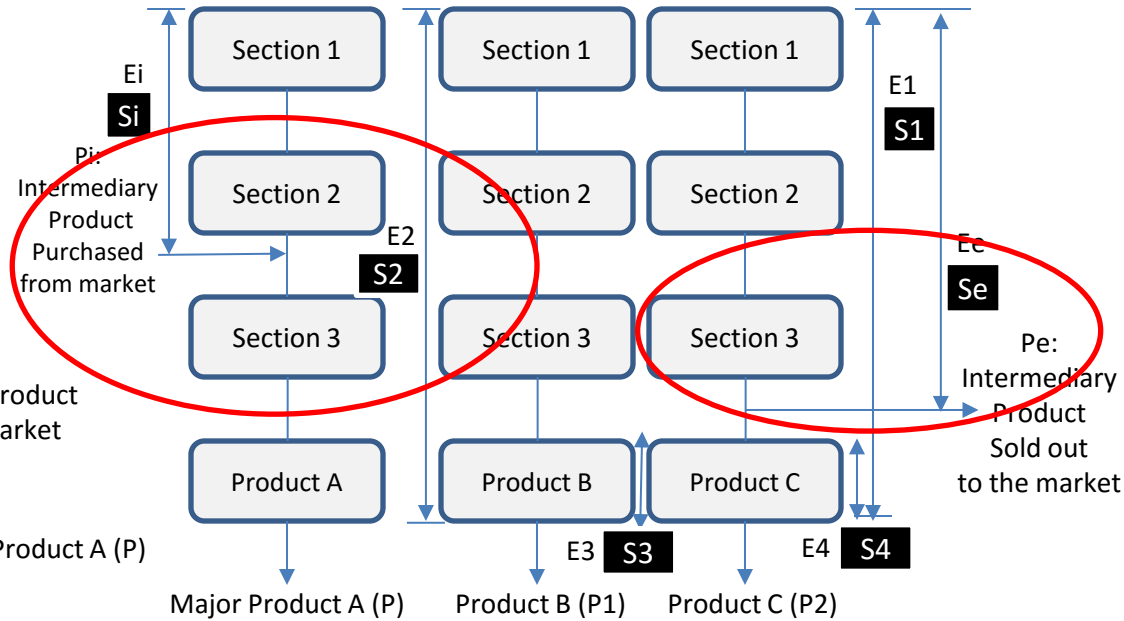


Product Mix-Intermediary Product

Series Production



Parallel Production



Si, Se S1,S2,S3,S4 are SEC of Process
 Pi, Pe, P,P1,P2 are Production
 Ei,Ee,E1,E2,E3,E4 are Energy

- ❑ Notional Energy for Import(E_i) = $P_i \times S_i$
- ❑ Notional Energy for Export(E_e) = $P_e \times S_e$
- ❑ Total Energy (E) = $E_1 + E_i - E_e$
- ❑ SEC for Major Product: $S_2 = E_2 / P$
- ❑ Equivalent Product(P_{eq}) = $P + P_1 \times (S_3 / S_2) + P_2 \times (S_4 / S_2)$
- ❑ $SEC = E / P_{eq}$

PAT-WHERE?

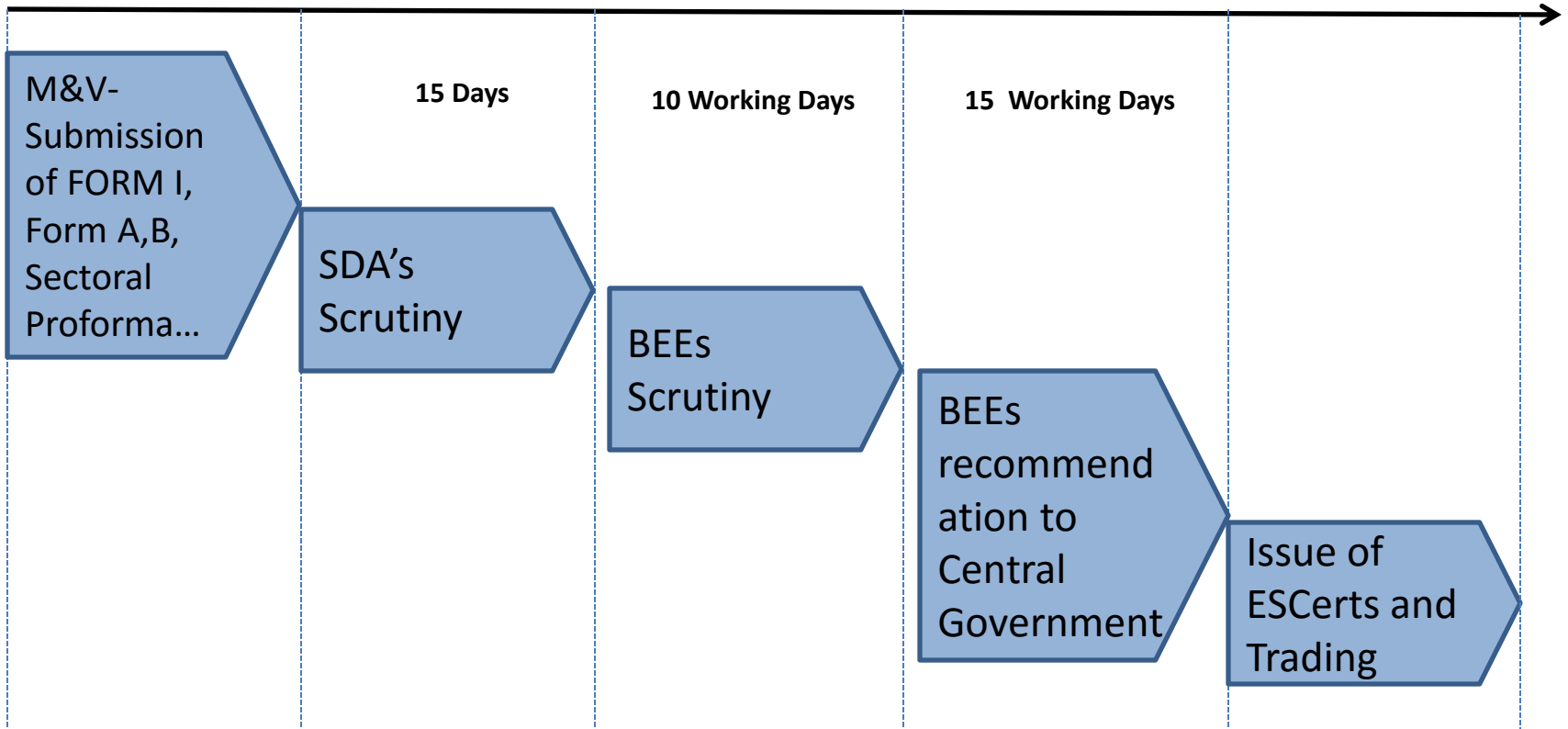
- Reporting Formats – FORM I and Sector Specific Pro forma
- Normalization
- Integration
- Communication
- Adoption
- Evaluation

Timeline for issuance of ESCerts

1st April

30th June

30th Nov.



Normalization Factors

- Normalisation is a very important and rational process of modifying energy data in order to account for changes in quantifiable variables that impacts energy performance and static factors to compare energy performance under equivalent conditions
- There are several factors that need to be taken into consideration in the assessment year such as change in product mix, change in fuel quality, import/export of electricity etc.
- The undue advantage or disadvantage could not be imposed on a DC while assessing the performance in the assessment year as compared to the baseline year for any change in above factors.

Normalization Factors- Broad Categorization in Textile Plant

- **Product Mix**
 - Import & Export of Intermediary product
 - Value added product
 - Major Product(For Series and Parallel Production)
 - Weaving & Knitting Production
 - Finished Fabric for Composite Sub Group
 - a) Cotton
 - b) Polyester Cotton
 - c) Lycra
 - d) Non Cellulosic Product (100% Synthetic)
 - e) Wool based product
- **Fuel Quality in CPP**
- **Low PLF in CPP**
- **Power Mix** (Imported & Exported from/ to the grid and self-generation from the captive power plant)
- **Capacity Utilization**
 - Start/Stop
- **Environmental Concern** (Additional Environmental Equipment requirement due to major change in government policy on Environment)
- **Biomass/Alternate Fuel Unavailability**
- **Construction Phase or Project Activities**
- **Addition of New Line/Unit** (In Process & Power Generation)
- **Unforeseen Circumstances**
- **Renewable Energy**

Thank you !