

### 23. Agricultural fuel mix

The Farm Fuel Mix allows some of the demand for fuels in agriculture to be shifted towards renewable sources for emissions or energy security.

#### The last decade

In 2010, 92% of agricultural mechanised power came from diesel, with the remaining 8% coming from electrical irrigation pumps. As off grid-solar in Bangladesh has expanded, manufacturers are looking into the potential of irrigation pumps as a new market.

#### Assumptions of model

The model assumes that only irrigation pumps can be converted to run off local solar panels. Electric tractors and power tillers are infeasible due to battery density at this moment.

#### Levels

##### Level 1

Diesel continues to supply 91.7% of the fuel, with electric pumps taking 8.3% of the market

##### Level 2

By 2050, electric pumps are 60% of the population. Solar is at 8% and diesel the remaining 32%.

##### Level 3

By 2050, electric pumps are 80% of the population. Solar at 8% and diesel the remaining 12%.

##### Level 4

By 2050, electric pumps are 40% of the population. Solar dominates at 50% and diesel the remaining 10%.

#### Interaction with other levers

While this lever sets the ratio of of fuel types used, a second 'farm mechanisation index' lever controls the expansion of demand.

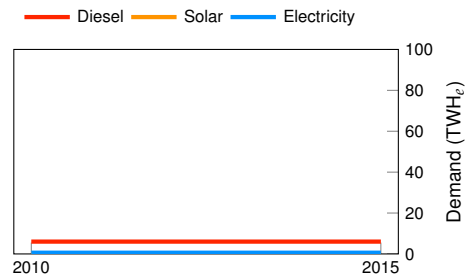


Figure 23.1: Maximum demand under Level 1 scenario

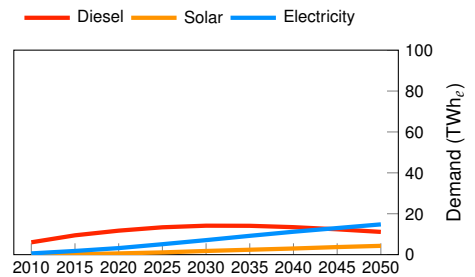


Figure 23.2: Maximum demand under Level 2 scenario

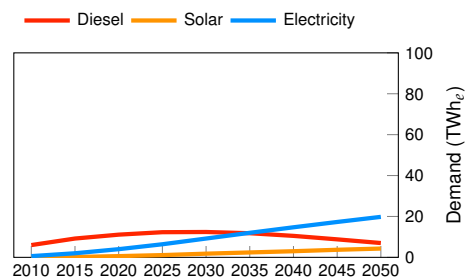


Figure 23.3: Maximum demand under Level 3 scenario

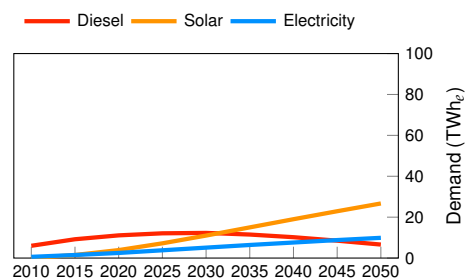


Figure 23.4: Maximum demand under Level 4 scenario