APPENDIX

MATLAB Program for Wind Potential Projection up to 2050 A.D. in India using Bass Model.

```
a=4.407;
b=0.3385;
c=-0.000449;
m=766.73;
p1=a/m;
q1=b+p1;
th=q1/p1;
p = (0.97*p1) / (1+0.4*(1+th)*p1);
q = (0.97*q1) / (1+0.4*(1+4*th)*q1);
t=0:20;
n = (45).*(((1-exp(-(p+q).*t)). / (1+ (q/p).*exp(-(p+q).*t))));
disp (p);
disp (q);
disp (n);
plot (t, n);
```

MATLAB Program for Small Hydro Potential Projection up to 2050 A.D. in India using Bass Model.

```
a=1.748;
b=0.0974;
c=-0.0043;
m=34.3;
p1=a/m;
q1=b+p1;
th=q1/p1;
p = (0.97*p1) / (1+0.4*(1+th)*p1);
q = (0.97*q1) / (1+0.4*(1+4*th)*q1);
t=0:50;
n = (45).*(((1-exp(-(p+q).*t)). / (1+ (q/p).*exp(-(p+q).*t))));
disp (p);
disp (q);
disp (n);
plot (t, n);
```
MATLAB Program for Biomass Potential Projection up to 2050A.D. in India using Bass Model.

\[ a=377; \]
\[ b=0.2582; \]
\[ c=-0.0002; \]
\[ m=2282.2; \]
\[ pl=a/m; \]
\[ ql=b+pl; \]
\[ th=ql/pl; \]
\[ p=(0.97*pl)/(1+0.4*(1+th)*pl); \]
\[ q=(0.97*ql)/(1+0.4*(1+4*th)*ql); \]
\[ t=0:50; \]
\[ n=(45).*((1-exp(-(p+q).*t))./(1+(q/p).*exp(-(p+q).*t))); \]
\[ disp (p); \]
\[ disp (q); \]
\[ disp (n); \]
\[ plot (t, n); \]

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MATLAB Program for Bagasse based Cogeneration Potential Projection up to 2050A.D. in India using Bass Model.

\[ a=0.491; \]
\[ b=0.9835; \]
\[ c=-1.5427; \]
\[ m=0.96677; \]
\[ pl=a/m; \]
\[ ql=b+pl; \]
\[ th=ql/pl; \]
\[ p=(0.97*pl)/(1+0.4*(1+th)*pl); \]
\[ q=(0.97*ql)/(1+0.4*(1+4*th)*ql); \]
\[ t=0:50; \]
\[ n=(45).*((1-exp(-(p+q).*t))./(1+(q/p).*exp(-(p+q).*t))); \]
\[ disp (p); \]
\[ disp (q); \]
\[ disp (n); \]
\[ plot (t, n); \]
MATLAB Program for Wind Potential Projection up to 2050 A.D. in India using Pearl Model.

\[ b=4.8131; \]
\[ k=0.3175; \]
\[ t=0:50; \]
\[ r=45.*(1. / (1+b.*exp (-k.*t))); \]
\[ disp(r); \]
\[ plot (t, r); \]

MATLAB Program for Small Hydro Potential Projection up to 2050 A.D. in India using Pearl Model.

\[ b=4.8882; \]
\[ k=0.073; \]
\[ t=0:50; \]
\[ r=15.*(1. / (1+b.*exp (-k.*t))); \]
\[ disp(r); \]
\[ plot (t, r); \]

MATLAB Program for Biomass Potential Projection up to 2050 A.D. in India using Pearl Model.

\[ b=42.8253; \]
\[ k=0.2443; \]
\[ t=0:50; \]
\[ r=16.881.*(1. / (1+b.*exp (-k.*t))); \]
\[ disp(r); \]
\[ plot (t, r); \]
MATLAB Program for Cogeneration (bagasse) Potential Projection up to 2050A.D. in India using Pearl Model.

\[
b=178.01013; \\
k=0.5797; \\
t=0:50; \\
r=5.*(1. / (1+b.*exp (-k.*t))); \\
disp(r); \\
plot(t, r);
\]

MATLAB Program for Wind Potential Projection up to 2050A.D. in India using Logistic Model

\[
a=-3.4969; \\
b=0.1289; \\
m=45; \\
t=0:50; \\
n=m.*(1. / (1+exp (-a+b.*t)))); \\
disp(n); \\
plot(t, n);
\]

MATLAB Program for Small Hydro Potential Projection up to 2050A.D. in India using Logistic Model

\[
a=-2.2249; \\
b=0.0306; \\
m=5; \\
t=0:50; \\
n=m.*(1. / (1+exp (-a+b.*t)))); \\
disp(n); \\
plot(t, n);
\]
MATLAB Program for Biomass Potential Projection up to 2050 A.D. in India using Logistic Model.

\[ a = -3.4689; \]
\[ b = 0.31026; \]
\[ m = 16.881; \]
\[ t = 0:50; \]
\[ n = m \cdot \left(1 / \left(1 + \exp \left(-\left(a + b \cdot t\right)\right)\right)\right); \]
\[ \text{disp} (n); \]
\[ \text{plot} (t, n); \]

MATLAB Program for Bagasse based Cogeneration Potential Projection up to 2050 A.D. in India using Logistic Model.

\[ a = -2.8543; \]
\[ b = 0.2919; \]
\[ m = 5; \]
\[ t = 0:50; \]
\[ n = m \cdot \left(1 / \left(1 + \exp \left(-\left(a + b \cdot t\right)\right)\right)\right); \]
\[ \text{disp} (n); \]
\[ \text{plot} (t, n); \]