```
encode country, gen (cntry)

xtset cntry year

gen FDI2= FDI^2

tabstat GHG,      by (cntry) stats(max min mean median)

gen Ln_GHG= ln(GHG)

xtline Ln_GHG

tabstat FDI,      by (cntry) stats(max min mean median)

tabstat GDP_per_capita ,      by (cntry) stats(max min mean median)

gen Ln_GDP_per_capita= ln(GDP_per_capita)

tabstat Energy_Intensity ,      by (cntry) stats(max min mean median)

tabstat Energy_Consumption ,      by (cntry) stats(max min mean median)

xtline Energy_Consumption

gen Ln_Energy_Consumption=ln( Energy_Consumption )

tabstat Renewable_Production ,      by (cntry) stats(max min mean median

gen Ln_Renewable_Production =ln( Renewable_Production )

tabstat Renewable_comsuption ,      by (cntry) stats(max min mean median)

tabstat Population ,      by (cntry) stats(max min mean median)

gen Ln_Population =ln( Population )

tabstat Urbanisation ,      by (cntry) stats(max min mean median)

xtunitroot ips Ln_GHG, demean lags(aic)

xtunitroot ips FDI2, demean lags(aic)

xtunitroot ips FDI, demean lags(aic)
```

xtunitroot ips Ln_GDP_per_capita , demean lags(aic)

xtunitroot ips Energy_Intensity , demean lags(aic)

xtunitroot ips Ln_Energy_Consumption , demean lags(aic)

xtunitroot ips d.Ln_GHG, demean lags(aic)

xtunitroot ips d.FDI2, demean lags(aic)

xtunitroot ips d.FDI, demean lags(aic)

xtunitroot ips d.Energy_Intensity , demean lags(aic)

xtunitroot ips d.Ln_GDP_per_capita , demean lags(aic)

xtunitroot ips d.Ln_Energy_Consumption , demean lags(aic)

xtcointtest kao Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption

xtcointtest pedroni Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption

xtcdf Ln_GHG FDI2 FDI Ln_GDP_per_capita Ln_Energy_Consumption Ln_Renewable_Production

xtcips Ln_GHG, maxlags(1) bglags(1)

xtcips FDI2, maxlags(1) bglags(1)

xtcips FDI, maxlags(1) bglags(1)

xtcips Ln_GDP_per_capita , maxlags(1) bglags(1)

xtcips Energy_Intensity , maxlags(1) bglags(1)

xtcips Ln_Energy_Consumption if year<2020 , maxlags(1) bglags(1)

xtcips d.Ln_GHG, maxlags(1) bglags(1)

xtcips d.FDI2, maxlags(1) bglags(1)

xtcips d.FDI, maxlags(1) bglags(1)

xtcips d.Ln_GDP_per_capita , maxlags(1) bglags(1)

```
xtcips d.Energy_Intensity , maxlags(1) bglags(1)

xtcips d.Ln_Energy_Consumption if year<2020 , maxlags(1) bglags(1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==1, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==2, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==3, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==4, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==5, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==6, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==7, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==8, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==9, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==10, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==11, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==13, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==14, maxlags(1 1 1 1 1 1)
```

```
ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==15, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==16, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==18, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==19, maxlags(1 1 1 1 1 1)

ardl Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption if cntry==20, maxlags(1 1 1 1 1 1)

xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) pmg

drop __ec

xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) mg

hausman mg pmg, sigmamore

save "C:\Users\dell\Desktop\thesis data.dta", replace

drop if cntry==1|cntry==2| cntry==3|cntry==4|cntry==11|cntry==13|cntry==16|cntry==20

xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) mg

xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) pmg

hausman mg pmg

use "C:\Users\dell\Desktop\thesis data.dta", clear

xtset cntry year

drop if cntry==5|cntry==6| cntry==7|cntry==8|cntry==9|cntry==10|cntry==14|cntry==15|cntry==18|cntry==19
```

```
xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) mg

xtpmg2 d(Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption), lr(l.Ln_GHG FDI2 FDI Ln_GDP_per_capita Energy_Intensity Ln_Energy_Consumption) pmg

hausman mg pmg, sigmamore

use "C:\Users\dell\Desktop\thesis data.dta", clear

xtset cntry year

drop if cntry==2|cntry==14

xtunitroot ips Ln_Renewable_Production,demean lags(0)

xtunitroot ips FDI ,demean lags(0)

xtunitroot ips Energy_Intensity ,demean lags(0)

xtunitroot ips Ln_Population ,demean lags(0)

xtunitroot ips Renewable_comsuption ,demean lags(0)

xtunitroot ips Urbanisation ,demean lags(0)

xtunitroot ips d.Ln_Renewable_Production,demean lags(0)

xtunitroot ips d.FDI ,demean lags(0)

xtunitroot ips d.Energy_Intensity ,demean lags(0)

xtunitroot ips d.Ln_Population ,demean lags(0)

xtunitroot ips d.Renewable_comsuption ,demean lags(0)

xtunitroot ips d.Urbanisation ,demean lags(0)

xtreg Ln_Renewable_Production d.FDI Energy_Intensity d.Ln_Population d.Renewable_comsuption Urbanisation, fe

est store fe
```

```
xtreg Ln_Renewable_Production d.FDI Energy_Intensity d.Ln_Population d.Renewable_comsuption Urbanisation, re

est store re

hausman fe re, sigmamore

xtreg Ln_Renewable_Production d.FDI Energy_Intensity d.Ln_Population d.Renewable_comsuption Urbanisation, fe

xtcsd, pesaran abs

xttest3

gen d_FDI=d.FDI

gen d_ln_Population=d.Ln_Population

gen d_Renewable_Consumption=d.Renewable_comsuption

xtserial Ln_Renewable_Production d_FDI Energy_Intensity d_ln_Population d_Renewable_Consumption Urbanisation

xtreg Ln_Renewable_Production d.FDI Energy_Intensity d.Ln_Population d.Renewable_comsuption Urbanisation, fe r
```