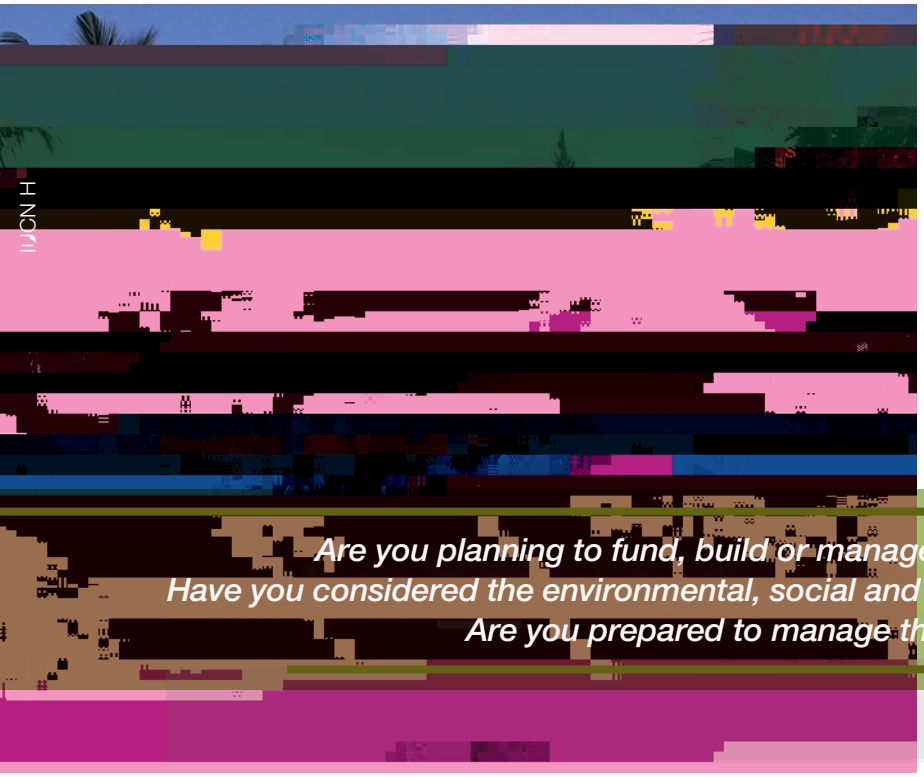
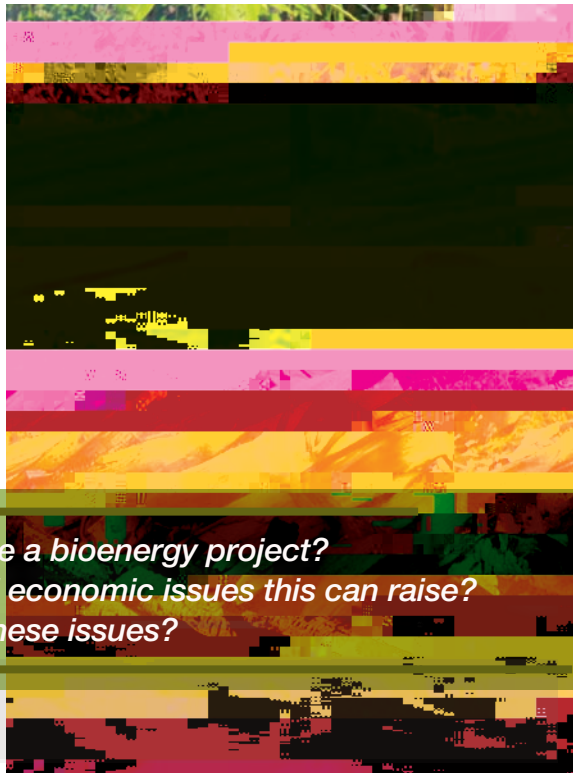
B m

: lm





Are you planning to fund, build or manage a bioenergy project?
Have you considered the environmental, social and economic issues this can raise?
Are you prepared to manage these issues?

TYPICAL BIOENERGY PROJECTS

Na al ma ial can be ed o od ce eng , o iding an al na i e o fo il f el. Th ge ed a oache o bioeng can be di ided among :

- **Biomass** olid ma ial ed ec l , ch a b ning, ind ec l in a boil , o od ce elec ici , eam, hea a combina ion.
- **Biofuels** h e ma ial h e oce ed o make li id ch a alcohol and oil hich can be ed in ehicle h gen a .
- **Biogas** - h e decom o i ion elea e me hane o h ga e , hich hen can be ed ec l fo cooking and ligh ing, h b i e fo od c like LPG.

Bioeng ojec ha e con ica ed in ac ion i h he en onmen . om choo ing he , elec ing he i e, o an and oce ing, each age of he lifec cle ma ha e diffen , i e- eci c i e and akehold . o ing, h e ing and an ing bioeng can be imil o o h ge- cale comm cial ag ic l e, hile oce ing and e ch a elec ici gen a ion ma be imil o ind ial ac i ie.

Deci ion-making need o be in ed a ed i h olicie ch a land, a , oil, food eco i and biodi i .

Second generation: eng o ce d i ed om inedible , ood ag ic l a e id e, ch a cell lo e, lignin, Ja ha oil, of en i h m e con le oce ing.

Ba ic, i oce ed, f el ch a ood ch coal fo cooking e no al a di c ed a fo mal bioeng ojec , ho e e a in an fo man e le' li elihood .

BIOENERGY PROJECT DEVELOPMENT

Planning

Environmental impacts

The demand f bioen g can enco age con ,7ion of eco,7 ,7 em,7 o land, ir od ce,7 ecie,7 delib a el acciden all and omo e iga ion and chemical ,7e. The lo en g den,7i of bioen g con ed o fo,7,7il f el,7 mean,7 in ea,7ed ma ial r ,7: a li le o gb eld,7 of cocon lan a ion,7 e needed f eno gh cocon oil o o ide he ,7ame en g a,7 a ical f el ck. oce,7,7ing he bioma,7,7 b ec comb ,7 ion, ,7 h ic acid, me hanol o h chemical,7, can ea e ,7olid a,7 e and oll e and a . All he,7e can affec he eco,7 ,7 em,7 ha o ide bioen g and o h ,7 ice,7.

Social impacts

Bioen g b ild,7 on e i,7 ing a ic l al ,7kill,7 o b ild a ,7elf-,7 f cien en g ,7 l , ic l ir emo e ea,7. Unlike ,7ol ind o , bioen g ,7 all need,7 a b ,7ine,7,7 comm ni oach and can in ol e man e can -5 7.iic 2e 2e 3648 TMion.n(2e P648 T-80(o

FOR FURTHER INFORMATION

Th e i,7 a a,7 amo n of inf ma ion 'o h e', hich of er e ec,7 he ,7 ec i e of he ,7 akehold ,7 ho ed he inf ma ion - e enco age o ead o ef ll . Inf ma ion can gen all be o ed in o:

X Gen ali,7 , m l i ,7 akehold o ,7 (like he Ro nd able on S ,7 ainable Biof el,7)

Y V io ,7 ool,7 licable f bioen g , om UN olic ool,7 o gh o eed i,7k a,7,7e,7,7men,7; IUCN con iled a ef ence doc men in 2008.

Z In -go nmen al gani,7a ion,7 (,7 ch a,7 Food and A ic l e gani,7a ion In na ional En g Agenc) ha e od ced ,7ef l ef ence,7.

[gani,7a ion,7 and ind ,7 o ,7 ,7 ch a,7 S ,7 ainable A ic l e Ne k, Bon,7 o he Ro nd able on S ,7 ainable Palm Oil ha e ge ed inf ma ion on eci c a ec,7 of bioen g , ,7 ch a,7 a eci c , eci c ,7 in he chain.

] A,7 al a ,7, com liance i h h ele an EIA and o h legi,7la ion f o co r i,7 e,7,7en ial.

Z F link,7 and m e de ailed inf ma ion, lea,7e i,7i IUCN',7 eb,7i e: h ://o .l /9T,7ZG